APPENDIX A

Air Quality and Greenhouse Gas Assessment

Little Portugal Gateway Mixed-Use Project Initial Study/MND

LITTLE PORTUGAL GATEWAY AIR QUALITY & GREENHOUSE GAS ASSESSMENT

San José, California

December 18, 2019

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Introduction

The purpose of this report is to address air quality impacts, to evaluate community risk from toxic air contaminant (TAC) sources, and compute greenhouse gas emissions associated with the Little Portugal Gateway located at 1661, 1663, 1665 Alum Rock Avenue in San José, California. The air quality impacts and GHG emissions would be associated with demolition of the existing uses at the site, construction of the new buildings and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with construction and operation of the project were predicted using models. In addition, the potential construction and operation health risk impacts to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed school were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Project Description

The approximately 0.9-acre site currently consists of commercial, industrial and residential land uses. The project site is zoned Commercial General (CG), Commercial Pedestrian (CP), and Two-Family Residential (R2). The site is designated as an Urban Village in the Envision San José 2040 General Plan.

The project proposes to remove the existing buildings and construct a six-story mixed-use development with 123 apartment units, approximately 13,900 square feet (sf) of retail space, and two underground parking levels. The apartment units would consist of 87 one bedroom, 31 two bedroom, and five studio units. The proposed development would include retail space, a leasing office, and lobby on the ground floor, a gym, community room and residential units on the second floor, and residential units on the third through sixth floors. The proposed building would include an outdoor kitchen, lounge seating, shuffleboard court (on the rooftop), group dining areas, on the second and rooftop levels. The maximum height of the proposed building would be 70 feet above ground surface at the top of the roof and 80 feet above the ground surface at the top of the gable roofs on the eastern and western corners of the building.

The proposed development would include 170 parking spaces, with 134 designated for residential parking and 36 spaces designated for retail parking. Parking would be provided at two underground levels and at ground level. Bicycle parking would be included on the ground floor and basement parking level 1. The project would construct a new eight-inch sanitary sewer line and water lines which would connect to an existing sanitary sewer manhole and an existing 16-inch water line on Alum Rock Avenue, respectively.

Electricity would be provided by San José Clean Energy, natural gas would be provided by Pacific Gas & Electric, and solid waste would be collected by Green Team of San José.

Setting

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

Air Pollutants of Concern

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

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

Toxic Air Contaminants

Toxic air contaminants (TAC) 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 [DPM] 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.

Regulatory Agencies

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[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

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

or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[2] The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

[2] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.
[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[4] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.
CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

[4] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[5] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize air pollutant emissions from new and existing development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and State law.

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

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

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

Applicable Goals – Construction Air Emissions

Goal MS-13 Minimize air pollutant emissions during demolition and construction activities

Applicable Policies – Construction Air Emissions

MS-13.1 Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.

Applicable Actions – Construction Air Emissions

MS-13.4 Adopt and periodically update dust, particulate, and exhaust control standard measures for demolition and grading activities to include on project plans as conditions of approval based upon construction mitigation measures in the BAAQMD CEQA Guidelines.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For this project, the closest sensitive receptors would be residents of single-family home adjacent to the western boundary of the project site, along North 34th Street. There are additional residences at farther distances.

Significance Thresholds

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

Table 1. Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions		Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) and adjusted to 2.6 metric tons per capita (for 2030)*	

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

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

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

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

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project assuming full build-out conditions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*.

Construction Period Emissions

CalEEMod provided annual emissions for construction. CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was based on information provided by the project applicant. The project land uses and construction hauling information entered into CalEEMod is as follows:

Project Land Uses

- 123 dwelling unites entered as "Apartments Mid Rise" on 0.93-acres
- 13,897 sf entered as "Strip Mall"
- 156 parking spaces entered as "Enclosed Parking with Elevator"
- 14 parking spaces entered as "Parking Lot"

Construction Hauling Information

- 10,821 sf of building demolition
- 350 tons of pavement demolished and hauled
- 36,644 cubic yards of soil exported during grading

Summary of Computed Construction Emissions

The project estimated start date is July 2020, with construction lasting approximately 18 months for a total of 394 workdays. Average daily emissions were computed by dividing the total construction emissions by the total number of construction days. Table 2 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	1.0 tons	1.7 tons	0.028 tons	0.026 tons
Average daily emissions (pounds)[1]	5.3 lbs./day	8.8 lbs./day	0.14 lbs./day	0.13 lbs./day
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	**No**	**No**	**No**	**No**
[1]Assumes 394 workdays				

However, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD *CEQA Air Quality Guidelines* consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

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

During any construction period 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. Additional measures are identified to reduce construction equipment exhaust emissions. 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 miles per hour (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.

9. Implement exhaust control measures outlined in *Mitigation Measure AQ-2* that require use of diesel-powered equipment that meets U.S. EPA Tier 4 emission standards or electrically powered equipment.

Effectiveness of Mitigation Measure AQ-1

The measures above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

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

Model Year

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

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. The traffic consultants provided daily trip generation rates for this project, which included specific trip reductions.[6] For each land use type, the forecasted daily trip rate (with trip reductions applied) was divided by the quantity of that land use to identify the adjusted weekday daily trip rate. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

For the mid-rise apartments, the following trip generation rates were used: 4.11 daily weekday trips per dwelling unit, 3.95 Saturday trips per dwelling unit, and 3.62 Sunday trips per dwelling

[6] Hexagon Traffic Consultant, 2019. *Little Portugal Mixed-Use Development.* December.

unit. For the strip mall component, the following rates were used: 27.92 daily weekday trips per square foot, 26.48 Saturday trips per square foot, and 12.87 Sunday trips per square foot.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of electricity delivered.[7] The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model.[8] However, the project would use electricity supplied by San Jose Clean Energy (SJCE) that will be 100-percent carbon free by 2021 before the project becomes operational.[9]

Other Inputs

Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be powered by natural gas.

Existing Land Use

The existing site consists of six one-to-two-story buildings including a restaurant, a tire store, an automobile sales and repair business and a garage to the rear of the property, an apartment building, and a carport. The project traffic study did not provide trip generation rates for the existing site and did not credit the existing trips since a majority of the existing uses use on-street parking. Therefore, to be conservative and to match with the traffic report, the existing land uses were not accounted for in this report.

[7] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[8] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers See: https://www.ca-ilg.org/sites/main/files/file-attachments/ghg_emission_factor_guidance.pdf
[9] Kerrie Romanow and Rosalynn Hughey, 2019. *Building reach Code for New Construction Memorandum*. August. Web: https://sanjose.legistar.com/LegislationDetail.aspx?ID=4090015&GUID=278596A7-1A2B-4248-B794-7A34E2279E85

Summary of Computed Operational Emissions

As shown in Table 4, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

Table 3. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emission (tons)	0.8 tons	0.7 tons	0.6 tons	0.2 tons
BAAQMD Thresholds (tons /year)	***10 tons***	***10 tons***	***15 tons***	***10 tons***
Exceed Threshold?	*No*	*No*	*No*	*No*
2023 Project Operational Emissions (*pounds/day*)	4.4 lbs.	3.8 lbs.	3.5 lbs.	1.0 lbs.
BAAQMD Thresholds (pounds/day)	***54* lbs.**	***54* lbs.**	***82* lbs.**	***54* lbs.**
Exceed Threshold?	*No*	*No*	*No*	*No*
[1] Assumes 365-day operation.				

Impact AIR-2: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e. temporary short-term construction emissions). The project would generate some traffic, consisting of mostly light-duty vehicles that are not a source of substantial TACs or $PM_{2.5}$. A community risk assessment was prepared to address the effects of project construction impacts on the surrounding off-site sensitive receptors. There are also several sources of TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC upon the existing sensitive receptors was also assessed. Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1*.

Additionally, a community risk assessment was completed to address the impact of the existing sources of TACS upon the project's future residents. We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generate 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 as shown in Table 2. However, construction exhaust emissions may pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk associated with DPM and exposure to $PM_{2.5}$. A health risk assessment of the project construction activities was conducted to evaluate potential health effects to nearby sensitive

receptors from construction emissions of DPM and $PM_{2.5}$.[10] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. The CalEEMod model provided total annual $PM_{2.5}$ exhaust emissions (assumed to be DPM) for the off-road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles). DPM emissions from the entire project over the 2020-2022 construction period would be 0.0238 tons (48 pounds). A trip length of one mile was used to represent vehicle travel while at or near the construction sites. For modeling purposes, it was assumed that emissions from on-road vehicles would occur at the construction sites. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts emissions of 0.2740 tons (55 pounds) of fugitive $PM_{2.5}$ from the entire construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was also 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.[11] 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 8:00 a.m. to 5:00 p.m. per the project applicant's construction schedule.

The modeling used a five-year data set (2006 - 2010) of hourly meteorological data from the San José International Airport that was prepared for use with the AERMOD model by BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2020-2022 period 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), 4.5 meters (14.8 feet), and 7.6 meters (24.9 feet) were used to represent the breathing heights of nearby residents on the first, second, and third floors, respectively.

[10] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[11] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

Predicted Construction Health Risks

The maximum-modeled DPM and $PM_{2.5}$ concentrations occurred southeast of the construction site at an apartment building across Alum Rock Avenue. The location where the maximum $PM_{2.5}$ and DPM concentrations (i.e. maximum cancer risk) occurred is identified in Figure 1. Results of the assessment for project construction impacts indicated that the maximum incremental residential infant/child cancer risk at the maximally exposed individual (MEI) receptor would exceed the BAAQMD significance threshold of 10 per million. The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions and the maximum computed hazard index (HI) based on the maximum DPM concentration do not exceed their BAAQMD significant thresholds. Table 4 lists the results.

Construction health risks were also computed at San Antonio Elementary School, which is approximately 860 feet southeast of the project site. The infant/child two to nine years old sensitivity parameters for the ages of were used, assuming the students are between the ages of five to ten years old. The increased cancer risk was computed to be 0.10 per million. The $PM_{2.5}$ concertation was computed to be <0.01 $\mu g/m^3$ and HI value was computed to be <0.01. These values do not exceed the BAAQMD single-source significance thresholds.

Table 4. Construction Risk Impacts at the Offsite Residential MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction			
Unmitigated	**21.2 (infant)**	0.25	0.01
Mitigated	2.4 (infant)	0.06	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?			
Unmitigated	***Yes***	*No*	*No*
Mitigated	*No*	*No*	*No*

Figure 1. Project Construction Site and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts

Community Risks from Project Operation

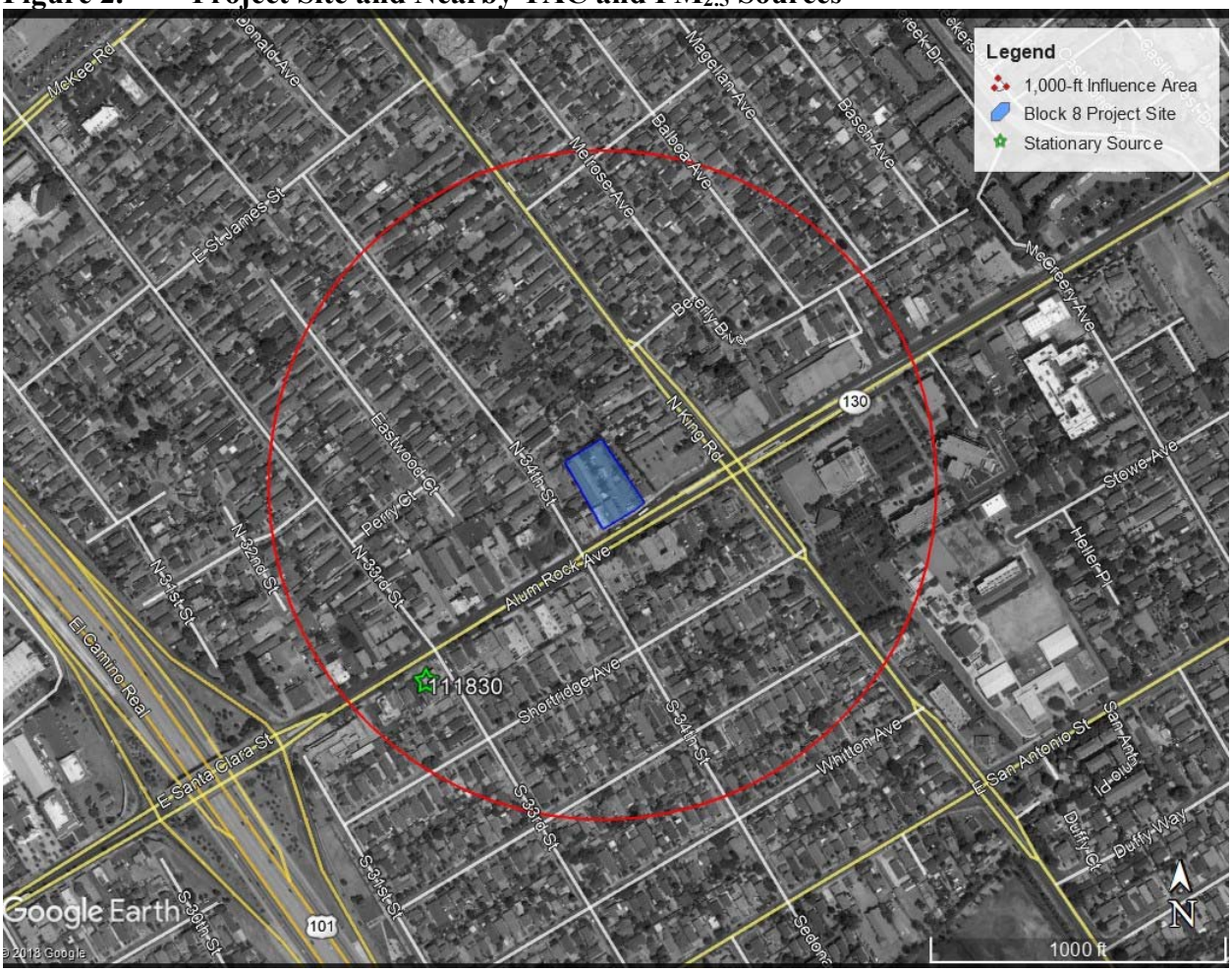
Operation of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels. When operating, the project would generate automobile traffic (primarily light-duty vehicles) and infrequent truck traffic; however, these emissions are anticipated to result in fairly low impacts in terms of TAC or $PM_{2.5}$ exposure. No stationary sources of TACs, such as diesel-powered emergency generators, are proposed as part of the project.

Cumulative Community Risks at the Off-Site MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site. These sources can include freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. A review of the project area indicates that traffic on Alum Rock Avenue and North King Road would have average daily traffic (ADT) volumes that would exceed 10,000 vehicles per day. Other nearby streets are assumed to have less than 10,000 vehicles per day. A review of BAAQMD's stationary source Google Earth map tool identified one

sources with the potential to affect the project site. Figure 2 shows the sources affecting the project site. Details of the modeling and community risk calculations are included in *Attachment 4.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Local Roadways – North King Road & Alum Rock Avenue

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. However, an updated version of the emissions factor model, EMFAC2014, is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018. The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

The two following roadways were identified as having over 10,000 vehicles per day: North King Road and Alum Rock Avenue. The ADT on North King Roads was estimated to be 13,510 vehicles and the ADT on Alum Rock Avenue was estimated to be 12,860 vehicles. This estimate was based on the peak-hour traffic volumes included in the project's traffic analysis for background plus project conditions.[12] The AM and PM peak-hour volumes were averaged and then multiplied by 10 to estimate the ADT.

The BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County was used for both roadways. North King Roads was identified as a north-south directional roadway with the MEI west of the roadway. Alum Rock Avenue was identified as an east-west directional roadway with the project sensitive receptors south of the roadway. Estimated risk values for both roadways are listed in Table 5. Note that BAAQMD has found that non-cancer hazards from all local roadways would be below 0.03.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identifies the location of nearby stationary sources and their estimated risk and hazard impacts. In addition, *BAAQMD's Permitted Stationary Sources 2017* GIS website[13] was used to locate updated nearby permitted stationary sources. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data.[14] Those data were input into BAAQMD's *Risk and Hazards Emissions Screening Calculator* which computes the cancer risk, annual $PM_{2.5}$ concentrations, and HI using adjustments to account for new OEHHA guidance and distance from the sources. One stationary source was identified as a Shell gas station. The off-site residential MEI would be approximately 800 feet (245 meters) away from the Shell Station. Note that the BAAQMD's *Risk and Hazards Emissions Screening Calculator* uses meters instead of feet to measure distance. Results are listed in Table 5.

Summary of Computed Cumulative Community Risks

Table 5 reports both the project and cumulative community risk impacts. The project would have a *significant* impact with respect to community risk caused by project construction activities since the increased cancer risk exceeds the BAAQMD single-source threshold of greater than 10.0 per million. However, *Mitigation Measure AQ-2* would reduce this risk to a level below the threshold. The cumulative increased cancer risk, annual $PM_{2.5}$ concentration, hazard risk values, which includes unmitigated and mitigated, would not exceed the cumulative risk threshold.

[12] Hexagon Traffic Consultant, 2019. *Little Portugal Mixed-Use Development.*
[13] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[14] Correspondence with Areana Flores, BAAQMD, October 10, 2019.

Table 5. Impacts from Combined Sources at the Offsite Residential MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction			
Unmitigated	**21.2 (infant)**	0.25	0.01
Mitigated	2.4 (infant)	0.06	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Alum Rock Avenue, MEI 10-ft south (ADT 12,860)	6.5	0.24	<0.03
North King Road, MEI 370-ft west (ADT 13,150)	0.9	0.03	<0.03
Shell Station (Plant #111830, Gas Station), MEI 800-ft	0.01	-	<0.01
Cumulative Total			
Unmitigated	28.6	0.52	<0.08
Mitigated	9.8	0.33	<0.08
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:**

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 60-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 engines. Exceptions could be made for equipment that includes CARB-certified Level 3 Diesel Particulate Filters or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to recompute emissions associated with his mitigation measure assuming that all equipment met U.S. EPA Tier 4 interim standards. With the implementation of Mitigation Measure AQ-2, risk levels would not exceed the BAAQMD significance thresholds. The computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 2.4 in one million or less, the maximum annual $PM_{2.5}$ concentration would be reduced to 0.06 $\mu g/m^3$ and the HI value would be less than 0.01. As a result, impacts would be reduced to *less-than-significant* with respect to community risk caused by construction activities.

Non-CEQA Impacts: Exposure of Project Residences to Existing TACs Source

The project would locate new sensitive receptors (i.e., residents) near existing sources of TACs and $PM_{2.5}$.

Community Risk at the Project Site

Additionally, a health risk assessment was completed to analyze the impact existing TAC sources would have on the new proposed sensitive receptors that that project would introduce. Per *CBIA v. BAAQMD*, lead agencies are not required to analyze the impacts of existing conditions on a project's future residents. However, a community risk assessment was completed for the project's receptors for informational purposes only. The same TAC sources identified above were used in this HRA assessment. All results are listed in Table 6.

Local Roadways – North King Road & Alum Rock Avenue

The roadway analysis was done in the same manner as described above for the off-site residential MEI. The sensitive receptors introduced by the project would be 20 feet north of Alum Rock Avenue and 280 feet west of North King Road.

Stationary Sources

The stationary source analysis was done in the same manner as described above for the off-site residential MEI. The sensitive receptors introduced by the project would be approximately 750 feet (230 meters) away from the Shell Station.

Cumulative Community Health Risk at Project Site

Community risk impacts from the combined sources upon the project site are reported in Table 6. The TAC sources are compared against the BAAQMD single-source threshold and then combined and compared against the BAAQMD cumulative-source threshold. As shown, none of the sources exceed the BAAQMD single-source or cumulative-source thresholds.

Table 6. Impacts from Combined Sources at the Project Site

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Alum Rock Avenue, Project Site 20-ft north (ADT 12,860)	5.2	0.15	<0.03
North King Road, Project Site 280-ft west (ADT 13,150)	1.2	0.03	<0.03
Shell Station (Plant #111830, Gas Station), MEI 750-ft	0.02	-	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Cumulative Total	6.42	0.18	<0.07
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold? *Single-Source/Cumulative Source*	*No/No*	*No/No*	*No/No*

Greenhouse Gas Emissions

Setting

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

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

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

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

Recent Regulatory Actions

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

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

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

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

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

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

SB 350 Renewable Portfolio Standards

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

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

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

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

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

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

GHG Emissions

The U.S. EPA reported that in 2017, total gross nationwide GHG emissions were 6,457 MMT. These emissions were lower than peak levels of 7,370 MMT that were emitted in 2008. Relative to 1990 levels, these emissions were CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions[15]. In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was completed for the year 2011, where emissions were 87 MMT [16]. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 MT or 4.6 MT per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based the projected 2030 statewide population and employment levels[17]. The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold.

Climate Smart San José

Climate Smart San José is a plan to reduce air pollution, save water, and create a stronger and healthier community. The City approved goals and milestones in February 2018 to ensure the City can substantially reduce GHG emissions through reaching the following goals and milestones:

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San Jose Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San Jose by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The California Energy Commission (CEC) updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and

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

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

[17] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

combat climate change. The 2019 CAL Green standards include substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a "reach code" that requires development projects to exceed the minimum Building Energy Efficiency requirements.[18] The City's reach code applies only to new residential and non-residential construction in San José. It incentivizes all-electric construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. The project will use SJCE as the electricity provider. Note that it is assumed the project would use natural gas, although the City's new reach code would discourage this source of energy. Assuming the project will be operational by 2023 at the earliest, the 100% carbon-free SJCE-provided electricity assumption was applied to the energy mitigation section of the project modeling. The CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents and retail. A population estimate for the project was not provided. Therefore, the following rates were used to estimate the service population for the project: 3.20 person per household[19] and one employee per 250 sf of commercial/retail space.[20] Based on the project's proposed 123 apartment units and 13,897 sf of retail, there would be 394 residents and 56 employees for the retail component. The total service population for the project would be 449 persons.

Construction Emissions

[18] City of San Jose Transportation and Environmental Committee, *Building Reach Code for New Construction Memorandum,* August 2019.
[19] State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019. Sacramento, California, May 2019. Web: http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/
[20] Strategic Economics. 2016. *San Jose Market Overview and Employment Lands Analysis*. January 20.

GHG unmitigated emissions associated with construction were computed to be 503 MT of CO_2e for the total construction period using CalEEMod and EMFAC2017. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 7, the annual emissions resulting from operation of the proposed project are predicted to be 725 MT of CO_2e for the year 2023 and 622 MT of CO_{2e} for the year 2030. The Service Population Emissions for the year 2023 would be 1.9 and 1.7 MT CO_{2e}/year/service population for the year 2030. Note that the emissions of the existing uses that would be replaced are not accounted for in this assessment.

To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. The 2023 and 2030 per capita emissions do not exceed the "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population. Additionally, the 2030 total metric tons (622 MT CO_2e/year) do not exceed the bright line threshold of 660 MT CO_2e/year. Therefore, the project does not exceed GHG emissions in the opening or future years.

Table 7. Annual Project GHG Emissions (CO_2e) in Metric Tons and Per Capita

Source Category	Proposed Project in 2023	Proposed Project in 2030
Area	6	6
Energy Consumption	59	59
Mobile	609	506
Solid Waste Generation	36	36
Water Usage	15	15
Total (MT CO_{2e}/year)	725	622
Significance Threshold	***660 MT CO_2e/year***	
Service Population Emissions (MT CO_{2e}/year/service population)	1.6	1.4
Significance Threshold	***2.6 in 2030***	
Exceeds both threshold?	*No*	*No*

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for the project.

Attachment 3 contains the construction health risk assessment information. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 4 includes the screening community risk calculations from sources affecting the MEI and the sensitive receptors that would be introduced by the proposed project.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (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 California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[21] 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.[22] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[23] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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 and duration of exposure. 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 for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[21] 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.
[22] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[23] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

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

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

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

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

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate(L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate is used for worker exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child		Adult
	Age Range →	3rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	631	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	861	745	335
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14*
Exposure Frequency (days/year)		350	350	350	350	350*
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73*

* For worker exposures (adult) the exposure duration and frequency are 25 years 250 days/year and FAH is not applicable.

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. 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). The HI value represents the maximum concentration at which no adverse health effects to the respiratory system are anticipated to occur. 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 residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) 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 the California Environmental Quality Act (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 nearby local roadways, 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 on the roads.

Attachment 2: CalEEMod Modeling Output

Little Portugal Mixed Use Project AQ

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	156.00	Space	0.00	68,234.00	0
Parking Lot	14.00	Space	0.00	16,970.00	0
Apartments Mid Rise	123.00	Dwelling Unit	0.93	115,380.00	352
Strip Mall	13.90	1000sqft	0.00	13,897.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 Rate

Land Use - Project Land Uses

Construction Phase - Project Applicant Schedule, Start and End Dates used

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment -

Trips and VMT - 70 trips for 350 tons of pave demo hauling

Demolition - 10821-sqft of building demo

Grading - 36,644-cy of soil exported

Vehicle Trips - Multifamily Housing w/reduction: 4.11, 3.95, 3.62; Shopping Center: 27.92, 26.48, 12.87

Woodstoves - No wood hearths, assuming natural gas

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs and tier 4 interim mitigation

Energy Mitigation - SJCE reach roade 100% carbon free energy in 2021 and beyond

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	155.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	2.00	67.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	1.00	13.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	18.45	39.36
tblFireplaces	NumberWood	20.91	0.00
tblGrading	MaterialExported	0.00	36,644.00
tblLandUse	LandUseSquareFeet	62,400.00	68,234.00
tblLandUse	LandUseSquareFeet	5,600.00	16,970.00
tblLandUse	LandUseSquareFeet	123,000.00	115,380.00
tblLandUse	LandUseSquareFeet	13,900.00	13,897.00
tblLandUse	LotAcreage	1.40	0.00
tblLandUse	LotAcreage	0.13	0.00

tblLandUse	LotAcreage	3.24	0.93
tblLandUse	LotAcreage	0.32	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.50
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	1.00	1.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	1,070.00	1,140.00
tblTripsAndVMT	HaulingTripNumber	4,581.00	4,580.00
tblVehicleTrips	ST_TR	6.39	3.95
tblVehicleTrips	ST_TR	42.04	26.48
tblVehicleTrips	SU_TR	5.86	3.62
tblVehicleTrips	SU_TR	20.43	12.87

tblVehicleTrips	WD_TR	6.65	4.11
tblVehicleTrips	WD_TR	44.32	27.92
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0621	1.1731	0.4427	3.0000e-003	0.1268	0.0155	0.1423	0.0434	0.0144	0.0578	0.0000	285.2346	285.2346	0.0201	0.0000	285.7362
2021	0.9871	0.5666	0.6508	2.3700e-003	0.1500	0.0123	0.1623	0.0404	0.0117	0.0521	0.0000	217.2642	217.2642	0.0121	0.0000	217.5663
2022	7.0000e-005	4.9000e-004	7.5000e-004	0.0000	5.0000e-005	2.0000e-005	8.0000e-005	1.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.1237	0.1237	3.0000e-005	0.0000	0.1243
Maximum	**0.9871**	**1.1731**	**0.6508**	**3.0000e-003**	**0.1500**	**0.0155**	**0.1623**	**0.0434**	**0.0144**	**0.0578**	**0.0000**	**285.2346**	**285.2346**	**0.0201**	**0.0000**	**285.7362**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0428	1.0172	0.4704	3.0000e-003	0.1007	3.8500e-003	0.1046	0.0265	3.7100e-003	0.0302	0.0000	285.2345	285.2345	0.0201	0.0000	285.7361
2021	0.9691	0.4910	0.6675	2.3700e-003	0.1500	2.9700e-003	0.1530	0.0404	2.8700e-003	0.0432	0.0000	217.2641	217.2641	0.0121	0.0000	217.5663
2022	3.0000e-005	4.1000e-004	8.2000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1237	0.1237	3.0000e-005	0.0000	0.1243
Maximum	**0.9691**	**1.0172**	**0.6675**	**3.0000e-003**	**0.1500**	**3.8500e-003**	**0.1530**	**0.0404**	**3.7100e-003**	**0.0432**	**0.0000**	**285.2345**	**285.2345**	**0.0201**	**0.0000**	**285.7361**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.56**	**13.31**	**-4.07**	**0.00**	**9.43**	**75.47**	**15.46**	**20.13**	**74.82**	**33.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2020**	**9-30-2020**	0.7609	0.6481
2	**10-1-2020**	**12-31-2020**	0.4470	0.3884
3	**1-1-2021**	**3-31-2021**	0.1647	0.1446
4	**4-1-2021**	**6-30-2021**	0.4311	0.4050
5	**7-1-2021**	**9-30-2021**	0.5829	0.5534
6	**10-1-2021**	**12-31-2021**	0.3668	0.3491
7	**1-1-2022**	**3-31-2022**	0.0012	0.0010
		Highest	0.7609	0.6481

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	0.6288	0.0148	0.9170	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5400e-003	9.0000e-005	6.4741
Energy	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	198.1801	198.1801	0.0151	3.9600e-003	199.7383
Mobile	0.1724	0.6334	1.9056	6.6400e-003	0.6278	5.2200e-003	0.6331	0.1681	4.8600e-003	0.1729	0.0000	608.8573	608.8573	0.0200	0.0000	609.3564
Waste						0.0000	0.0000		0.0000	0.0000	14.4489	0.0000	14.4489	0.8539	0.0000	35.7965
Water						0.0000	0.0000		0.0000	0.0000	3.1996	9.0535	12.2532	0.0119	7.1500e-003	14.6805
Total	**0.8071**	**0.6988**	**2.8448**	**7.0400e-003**	**0.6278**	**0.0147**	**0.6426**	**0.1681**	**0.0144**	**0.1824**	**17.6485**	**822.4998**	**840.1483**	**0.9024**	**0.0112**	**866.0457**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6288	0.0148	0.917	8.00E-05		5.41E-03	5.41E-03		5.41E-03	5.41E-03	0	6.4088	6.4088	1.54E-03	9.00E-05	6.4741
Energy	5.91E-03	0.0506	0.0222	3.20E-04		4.08E-03	4.08E-03		4.08E-03	4.08E-03	0	58.4648	58.4648	1.12E-03	1.07E-03	58.8122
Mobile	0.1724	0.6334	1.9056	6.64E-03	0.6278	5.22E-03	0.6331	0.1681	4.86E-03	0.1729	0	608.8573	608.8573	0.02	0	609.3564
Waste						0	0		0	0	14.4489	0	14.4489	0.8539	0	35.7965
Water						0	0		0	0	3.1996	9.0535	12.2532	0.0119	7.15E-03	14.6805
Total	**0.8071**	**0.6988**	**2.8448**	**7.04E-03**	**0.6278**	**0.0147**	**0.6426**	**0.1681**	**0.0144**	**0.1824**	**17.6485**	**682.7844**	**700.4329**	**0.8885**	**8.31E-03**	**725.1196**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**16.99**	**16.63**	**1.55**	**25.80**	**16.27**

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	7/1/2020	7/15/2020	5	11	
2	Site Preparation	Site Preparation	7/15/2020	7/31/2020	5	13	
3	Grading	Grading	8/3/2020	11/3/2020	5	67	
4	Trenching	Trenching	11/3/2020	12/3/2020	5	23	
5	Building Construction	Building Construction	11/3/2020	11/3/2021	5	262	
6	Architectural Coating	Architectural Coating	5/3/2021	12/3/2021	5	155	
7	Paving	Paving	12/3/2021	1/3/2022	5	22	

Acres of Grading (Site Preparation Phase): 2.44

Acres of Grading (Grading Phase): 12.56

Acres of Paving: 0

Residential Indoor: 233,645; Residential Outdoor: 77,882; Non-Residential Indoor: 20,846; Non-Residential Outdoor: 6,949; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	1.50	81	0.73
Demolition	Excavators	1	1.50	158	0.38
Demolition	Rubber Tired Dozers	1	1.50	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Site Preparation	Graders	1	3.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	2.50	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Excavators	1	2.00	158	0.38
Grading	Graders	1	1.00	187	0.41

Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Scrapers	1	1.00	367	0.48
Grading	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Trenching	Excavators	1	2.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	1	1.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Aerial Lifts	1	1.00	63	0.31
Architectural Coating	Air Compressors	1	3.00	78	0.48
Paving	Cement and Mortar Mixers	1	1.00	9	0.56
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	1.00	97	0.37

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	4	10.00	0.00	1,140.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	4,580.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	129.00	29.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0205	0.0146	2.0000e-005		1.0800e-003	1.0800e-003		1.0100e-003	1.0100e-003	0.0000	2.1715	2.1715	5.6000e-004	0.0000	2.1855
Total	**2.0900e-003**	**0.0205**	**0.0146**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0100e-003**	**1.0100e-003**	**0.0000**	**2.1715**	**2.1715**	**5.6000e-004**	**0.0000**	**2.1855**

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	4.7400e-003	0.1654	0.0339	4.5000e-004	9.6600e-003	5.4000e-004	0.0102	2.6600e-003	5.1000e-004	3.1700e-003	0.0000	43.4744	43.4744	1.9900e-003	0.0000	43.5241
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	1.8000e-004	1.3000e-004	1.3800e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3743
Total	**4.9200e-003**	**0.1655**	**0.0353**	**4.5000e-004**	**0.0101**	**5.4000e-004**	**0.0106**	**2.7800e-003**	**5.1000e-004**	**3.2900e-003**	**0.0000**	**43.8484**	**43.8484**	**2.0000e-003**	**0.0000**	**43.8984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-004	8.8300e-003	0.0159	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1715	2.1715	5.6000e-004	0.0000	2.1855
Total	**4.2000e-004**	**8.8300e-003**	**0.0159**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.1715**	**2.1715**	**5.6000e-004**	**0.0000**	**2.1855**

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	4.7400e-003	0.1654	0.0339	4.5000e-004	9.6600e-003	5.4000e-004	0.0102	2.6600e-003	5.1000e-004	3.1700e-003	0.0000	43.4744	43.4744	1.9900e-003	0.0000	43.5241
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	1.8000e-004	1.3000e-004	1.3800e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3741	0.3741	1.0000e-005	0.0000	0.3743
Total	**4.9200e-003**	**0.1655**	**0.0353**	**4.5000e-004**	**0.0101**	**5.4000e-004**	**0.0106**	**2.7800e-003**	**5.1000e-004**	**3.2900e-003**	**0.0000**	**43.8484**	**43.8484**	**2.0000e-003**	**0.0000**	**43.8984**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Fugitive Dust					0.0135	0.0000	0.0135	6.8600e-003	0.0000	6.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6900e-003	0.0419	0.0165	4.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	3.3892	3.3892	1.1000e-003	0.0000	3.4166
Total	**3.6900e-003**	**0.0419**	**0.0165**	**4.0000e-005**	**0.0135**	**1.8400e-003**	**0.0154**	**6.8600e-003**	**1.6900e-003**	**8.5500e-003**	**0.0000**	**3.3892**	**3.3892**	**1.1000e-003**	**0.0000**	**3.4166**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.3000e-003	0.0000	4.1000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3537	0.3537	1.0000e-005	0.0000	0.3539
Total	**1.7000e-004**	**1.2000e-004**	**1.3000e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3537**	**0.3537**	**1.0000e-005**	**0.0000**	**0.3539**

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					6.0900e-003	0.0000	6.0900e-003	1.5400e-003	0.0000	1.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	0.0110	0.0216	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.3892	3.3892	1.1000e-003	0.0000	3.4166

Total	**6.6000e-004**	**0.0110**	**0.0216**	**4.0000e-005**	**6.0900e-003**	**6.0000e-005**	**6.1500e-003**	**1.5400e-003**	**6.0000e-005**	**1.6000e-003**	**0.0000**	**3.3892**	**3.3892**	**1.1000e-003**	**0.0000**	**3.4166**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.3000e-003	0.0000	4.1000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3537	0.3537	1.0000e-005	0.0000	0.3539
Total	**1.7000e-004**	**1.2000e-004**	**1.3000e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3537**	**0.3537**	**1.0000e-005**	**0.0000**	**0.3539**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0340	0.0000	0.0340	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0145	0.1610	0.1026	2.0000e-004		7.1800e-003	7.1800e-003		6.6100e-003	6.6100e-003	0.0000	17.2424	17.2424	5.5800e-003	0.0000	17.3818
Total	**0.0145**	**0.1610**	**0.1026**	**2.0000e-004**	**0.0340**	**7.1800e-003**	**0.0411**	**0.0149**	**6.6100e-003**	**0.0215**	**0.0000**	**17.2424**	**17.2424**	**5.5800e-003**	**0.0000**	**17.3818**

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	0.0190	0.6645	0.1361	1.8000e-003	0.0388	2.1600e-003	0.0410	0.0107	2.0700e-003	0.0127	0.0000	174.6601	174.6601	7.9900e-003	0.0000	174.8599
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	1.4500e-003	1.0400e-003	0.0109	3.0000e-005	3.4500e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.9621	2.9621	7.0000e-005	0.0000	2.9639
Total	**0.0205**	**0.6656**	**0.1470**	**1.8300e-003**	**0.0423**	**2.1800e-003**	**0.0445**	**0.0116**	**2.0900e-003**	**0.0137**	**0.0000**	**177.6222**	**177.6222**	**8.0600e-003**	**0.0000**	**177.8237**

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					0.0153	0.0000	0.0153	3.3500e-003	0.0000	3.3500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1900e-003	0.0639	0.1200	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	17.2423	17.2423	5.5800e-003	0.0000	17.3817
Total	**3.1900e-003**	**0.0639**	**0.1200**	**2.0000e-004**	**0.0153**	**3.2000e-004**	**0.0156**	**3.3500e-003**	**3.2000e-004**	**3.6700e-003**	**0.0000**	**17.2423**	**17.2423**	**5.5800e-003**	**0.0000**	**17.3817**

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	0.0190	0.6645	0.1361	1.8000e-003	0.0388	2.1600e-003	0.0410	0.0107	2.0700e-003	0.0127	0.0000	174.6601	174.6601	7.9900e-003	0.0000	174.8599
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	1.4500e-003	1.0400e-003	0.0109	3.0000e-005	3.4500e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.9621	2.9621	7.0000e-005	0.0000	2.9639
Total	**0.0205**	**0.6656**	**0.1470**	**1.8300e-003**	**0.0423**	**2.1800e-003**	**0.0445**	**0.0116**	**2.0900e-003**	**0.0137**	**0.0000**	**177.6222**	**177.6222**	**8.0600e-003**	**0.0000**	**177.8237**

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0130	0.0160	2.0000e-005		7.2000e-004	7.2000e-004		6.6000e-004	6.6000e-004	0.0000	2.0888	2.0888	6.8000e-004	0.0000	2.1057
Total	**1.3100e-003**	**0.0130**	**0.0160**	**2.0000e-005**		**7.2000e-004**	**7.2000e-004**		**6.6000e-004**	**6.6000e-004**	**0.0000**	**2.0888**	**2.0888**	**6.8000e-004**	**0.0000**	**2.1057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4400e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	**1.9000e-004**	**1.4000e-004**	**1.4400e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3911**	**0.3911**	**1.0000e-005**	**0.0000**	**0.3913**

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	3.8000e-004	0.0104	0.0180	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.0888	2.0888	6.8000e-004	0.0000	2.1057
Total	**3.8000e-004**	**0.0104**	**0.0180**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.0888**	**2.0888**	**6.8000e-004**	**0.0000**	**2.1057**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4400e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	**1.9000e-004**	**1.4000e-004**	**1.4400e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3911**	**0.3911**	**1.0000e-005**	**0.0000**	**0.3913**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0279	0.0197	3.0000e-005		1.4500e-003	1.4500e-003		1.3500e-003	1.3500e-003	0.0000	2.9624	2.9624	8.7000e-004	0.0000	2.9841
Total	**3.0900e-003**	**0.0279**	**0.0197**	**3.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.9624**	**2.9624**	**8.7000e-004**	**0.0000**	**2.9841**

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	2.4700e-003	0.0710	0.0189	1.7000e-004	4.1000e-003	3.5000e-004	4.4500e-003	1.1900e-003	3.4000e-004	1.5200e-003	0.0000	16.3010	16.3010	7.5000e-004	0.0000	16.3197
Worker	9.2100e-003	6.6200e-003	0.0694	2.1000e-004	0.0220	1.4000e-004	0.0221	5.8500e-003	1.3000e-004	5.9800e-003	0.0000	18.8640	18.8640	4.6000e-004	0.0000	18.8755
Total	**0.0117**	**0.0776**	**0.0883**	**3.8000e-004**	**0.0261**	**4.9000e-004**	**0.0266**	**7.0400e-003**	**4.7000e-004**	**7.5000e-003**	**0.0000**	**35.1649**	**35.1649**	**1.2100e-003**	**0.0000**	**35.1952**

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	6.5000e-004	0.0140	0.0217	3.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.9624	2.9624	8.7000e-004	0.0000	2.9841

Total	**6.5000e-004**	**0.0140**	**0.0217**	**3.0000e-005**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**	**0.0000**	**2.9624**	**2.9624**	**8.7000e-004**	**0.0000**	**2.9841**

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	2.4700e-003	0.0710	0.0189	1.7000e-004	4.1000e-003	3.5000e-004	4.4500e-003	1.1900e-003	3.4000e-004	1.5200e-003	0.0000	16.3010	16.3010	7.5000e-004	0.0000	16.3197
Worker	9.2100e-003	6.6200e-003	0.0694	2.1000e-004	0.0220	1.4000e-004	0.0221	5.8500e-003	1.3000e-004	5.9800e-003	0.0000	18.8640	18.8640	4.6000e-004	0.0000	18.8755
Total	**0.0117**	**0.0776**	**0.0883**	**3.8000e-004**	**0.0261**	**4.9000e-004**	**0.0266**	**7.0400e-003**	**4.7000e-004**	**7.5000e-003**	**0.0000**	**35.1649**	**35.1649**	**1.2100e-003**	**0.0000**	**35.1952**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0141	0.1291	0.0976	1.8000e-004		6.3800e-003	6.3800e-003		5.9600e-003	5.9600e-003	0.0000	15.0886	15.0886	4.3800e-003	0.0000	15.1982
Total	**0.0141**	**0.1291**	**0.0976**	**1.8000e-004**		**6.3800e-003**	**6.3800e-003**		**5.9600e-003**	**5.9600e-003**	**0.0000**	**15.0886**	**15.0886**	**4.3800e-003**	**0.0000**	**15.1982**

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	0.0104	0.3263	0.0869	8.6000e-004	0.0209	7.2000e-004	0.0216	6.0400e-003	6.9000e-004	6.7300e-003	0.0000	82.2548	82.2548	3.5800e-003	0.0000	82.3444
Worker	0.0435	0.0301	0.3231	1.0300e-003	0.1120	7.1000e-004	0.1127	0.0298	6.5000e-004	0.0304	0.0000	92.7398	92.7398	2.1100e-003	0.0000	92.7925
Total	**0.0539**	**0.3564**	**0.4100**	**1.8900e-003**	**0.1329**	**1.4300e-003**	**0.1344**	**0.0358**	**1.3400e-003**	**0.0372**	**0.0000**	**174.9946**	**174.9946**	**5.6900e-003**	**0.0000**	**175.1369**

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	3.3200e-003	0.0713	0.1105	1.8000e-004		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	15.0886	15.0886	4.3800e-003	0.0000	15.1981
Total	**3.3200e-003**	**0.0713**	**0.1105**	**1.8000e-004**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**15.0886**	**15.0886**	**4.3800e-003**	**0.0000**	**15.1981**

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	0.0104	0.3263	0.0869	8.6000e-004	0.0209	7.2000e-004	0.0216	6.0400e-003	6.9000e-004	6.7300e-003	0.0000	82.2548	82.2548	3.5800e-003	0.0000	82.3444
Worker	0.0435	0.0301	0.3231	1.0300e-003	0.1120	7.1000e-004	0.1127	0.0298	6.5000e-004	0.0304	0.0000	92.7398	92.7398	2.1100e-003	0.0000	92.7925
Total	**0.0539**	**0.3564**	**0.4100**	**1.8900e-003**	**0.1329**	**1.4300e-003**	**0.1344**	**0.0358**	**1.3400e-003**	**0.0372**	**0.0000**	**174.9946**	**174.9946**	**5.6900e-003**	**0.0000**	**175.1369**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8500e-003	0.0650	0.0810	1.3000e-004		3.7600e-003	3.7600e-003		3.7500e-003	3.7500e-003	0.0000	11.3230	11.3230	1.1400e-003	0.0000	11.3516
Total	**0.9113**	**0.0650**	**0.0810**	**1.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.7500e-003**	**3.7500e-003**	**0.0000**	**11.3230**	**11.3230**	**1.1400e-003**	**0.0000**	**11.3516**

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	6.2100e-003	4.3000e-003	0.0461	1.5000e-004	0.0160	1.0000e-004	0.0161	4.2500e-003	9.0000e-005	4.3400e-003	0.0000	13.2293	13.2293	3.0000e-004	0.0000	13.2368
Total	**6.2100e-003**	**4.3000e-003**	**0.0461**	**1.5000e-004**	**0.0160**	**1.0000e-004**	**0.0161**	**4.2500e-003**	**9.0000e-005**	**4.3400e-003**	**0.0000**	**13.2293**	**13.2293**	**3.0000e-004**	**0.0000**	**13.2368**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5100e-003	0.0502	0.0834	1.3000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	11.3230	11.3230	1.1400e-003	0.0000	11.3515
Total	**0.9050**	**0.0502**	**0.0834**	**1.3000e-004**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**11.3230**	**11.3230**	**1.1400e-003**	**0.0000**	**11.3515**

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	6.2100e-003	4.3000e-003	0.0461	1.5000e-004	0.0160	1.0000e-004	0.0161	4.2500e-003	9.0000e-005	4.3400e-003	0.0000	13.2293	13.2293	3.0000e-004	0.0000	13.2368
Total	**6.2100e-003**	**4.3000e-003**	**0.0461**	**1.5000e-004**	**0.0160**	**1.0000e-004**	**0.0161**	**4.2500e-003**	**9.0000e-005**	**4.3400e-003**	**0.0000**	**13.2293**	**13.2293**	**3.0000e-004**	**0.0000**	**13.2368**

3.8 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1500e-003	0.0115	0.0130	2.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	1.7325	1.7325	5.5000e-004	0.0000	1.7461
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1500e-003**	**0.0115**	**0.0130**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**1.7325**	**1.7325**	**5.5000e-004**	**0.0000**	**1.7461**

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	4.2000e-004	2.9000e-004	3.1200e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8962	0.8962	2.0000e-005	0.0000	0.8967
Total	**4.2000e-004**	**2.9000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8962**	**0.8962**	**2.0000e-005**	**0.0000**	**0.8967**

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	3.1000e-004	8.3700e-003	0.0144	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.7325	1.7325	5.5000e-004	0.0000	1.7461

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-004**	**8.3700e-003**	**0.0144**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.7325**	**1.7325**	**5.5000e-004**	**0.0000**	**1.7461**

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	4.2000e-004	2.9000e-004	3.1200e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8962	0.8962	2.0000e-005	0.0000	0.8967
Total	**4.2000e-004**	**2.9000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0900e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8962**	**0.8962**	**2.0000e-005**	**0.0000**	**0.8967**

3.8 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0000e-005	4.8000e-004	6.1000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0825	0.0825	3.0000e-005	0.0000	0.0832
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**4.8000e-004**	**6.1000e-004**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0825**	**0.0825**	**3.0000e-005**	**0.0000**	**0.0832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0411	0.0411	0.0000	0.0000	0.0412
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0411**	**0.0411**	**0.0000**	**0.0000**	**0.0412**

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	1.0000e-005	4.0000e-004	6.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0825	0.0825	3.0000e-005	0.0000	0.0832
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**4.0000e-004**	**6.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0825**	**0.0825**	**3.0000e-005**	**0.0000**	**0.0832**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0411	0.0411	0.0000	0.0000	0.0412
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0411**	**0.0411**	**0.0000**	**0.0000**	**0.0412**

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	0.1724	0.6334	1.9056	6.6400e-003	0.6278	5.2200e-003	0.6331	0.1681	4.8600e-003	0.1729	0.0000	608.8573	608.8573	0.0200	0.0000	609.3564
Unmitigated	0.1724	0.6334	1.9056	6.6400e-003	0.6278	5.2200e-003	0.6331	0.1681	4.8600e-003	0.1729	0.0000	608.8573	608.8573	0.0200	0.0000	609.3564

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	505.53	485.85	445.26	1,141,197	1,141,197
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	388.09	368.07	178.89	547,241	547,241
Total	893.62	853.92	624.15	1,688,438	1,688,438

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Parking Lot	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Strip Mall	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	139.7154	139.7154	0.0140	2.8900e-003	140.9261
NaturalGas Mitigated	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	58.4648	58.4648	1.1200e-003	1.0700e-003	58.8122
NaturalGas Unmitigated	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	58.4648	58.4648	1.1200e-003	1.0700e-003	58.8122

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.06265e+006	5.7300e-003	0.0490	0.0208	3.1000e-004		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	56.7072	56.7072	1.0900e-003	1.0400e-003	57.0442
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	32935.9	1.8000e-004	1.6100e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7576	1.7576	3.0000e-005	3.0000e-005	1.7680
Total		**5.9100e-003**	**0.0506**	**0.0222**	**3.2000e-004**		**4.0800e-003**	**4.0800e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**58.4648**	**58.4648**	**1.1200e-003**	**1.0700e-003**	**58.8122**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.06265e+006	5.7300e-003	0.0490	0.0208	3.1000e-004		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	56.7072	56.7072	1.0900e-003	1.0400e-003	57.0442
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	32935.9	1.8000e-004	1.6100e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7576	1.7576	3.0000e-005	3.0000e-005	1.7680
Total		**5.9100e-003**	**0.0506**	**0.0222**	**3.2000e-004**		**4.0800e-003**	**4.0800e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**58.4648**	**58.4648**	**1.1200e-003**	**1.0700e-003**	**58.8122**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	507787	66.7952	6.6800e-003	1.3800e-003	67.3740
Enclosed Parking with Elevator	399851	52.5972	5.2600e-003	1.0900e-003	53.0529
Parking Lot	5939.5	0.7813	8.0000e-005	2.0000e-005	0.7881
Strip Mall	148559	19.5417	1.9500e-003	4.0000e-004	19.7111
Total		**139.7154**	**0.0140**	**2.8900e-003**	**140.9261**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6288	0.0148	0.9170	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5400e-003	9.0000e-005	6.4741
Unmitigated	0.6288	0.0148	0.9170	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5400e-003	9.0000e-005	6.4741

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	0.0902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-004	4.2400e-003	1.8100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9137	4.9137	9.0000e-005	9.0000e-005	4.9429
Landscaping	0.0277	0.0106	0.9152	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4951	1.4951	1.4400e-003	0.0000	1.5312
Total	**0.6288**	**0.0148**	**0.9170**	**8.0000e-005**		**5.4000e-003**	**5.4000e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**6.4088**	**6.4088**	**1.5300e-003**	**9.0000e-005**	**6.4741**

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	0.0902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-004	4.2400e-003	1.8100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9137	4.9137	9.0000e-005	9.0000e-005	4.9429
Landscaping	0.0277	0.0106	0.9152	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4951	1.4951	1.4400e-003	0.0000	1.5312
Total	**0.6288**	**0.0148**	**0.9170**	**8.0000e-005**		**5.4000e-003**	**5.4000e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**6.4088**	**6.4088**	**1.5300e-003**	**9.0000e-005**	**6.4741**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.2532	0.0119	7.1500e-003	14.6805
Unmitigated	12.2532	0.0119	7.1500e-003	14.6805

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	10.8655	0.0106	6.3300e-003	13.0165
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.02961 / 0.63105	1.3877	1.3600e-003	8.1000e-004	1.6639
Total		**12.2532**	**0.0119**	**7.1400e-003**	**14.6805**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.01395 / 5.05227	10.8655	0.0106	6.3300e-003	13.0165
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.02961 / 0.63105	1.3877	1.3600e-003	8.1000e-004	1.6639
Total		**12.2532**	**0.0119**	**7.1400e-003**	**14.6805**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.4489	0.8539	0.0000	35.7965
Unmitigated	14.4489	0.8539	0.0000	35.7965

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	28.4542
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.6	2.9637	0.1752	0.0000	7.3424
Total		**14.4489**	**0.8539**	**0.0000**	**35.7965**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	56.58	11.4852	0.6788	0.0000	28.4542
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.6	2.9637	0.1752	0.0000	7.3424
Total		**14.4489**	**0.8539**	**0.0000**	**35.7965**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Little Portugal Mixed Use Project AQ 2030 - Santa Clara County, Annual

Little Portugal Mixed Use Project AQ 2030

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	156.00	Space	0.00	68,234.00	0
Parking Lot	14.00	Space	0.00	16,970.00	0
Apartments Mid Rise	123.00	Dwelling Unit	0.93	115,380.00	352
Strip Mall	13.90	1000sqft	0.00	13,897.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 Rate

Land Use - Project Land Uses

Construction Phase - Project Applicant Schedule, Start and End Dates used

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment -

Trips and VMT - 70 trips for 350 tons of pave demo hauling

Demolition - 10821-sqft of building demo

Grading - 36,644-cy of soil exported

Vehicle Trips - Multifamily Housing w/reduction: 4.11, 3.95, 3.62; Shopping Center: 27.92, 26.48, 12.87

Woodstoves - No wood hearths, assuming natural gas

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs and tier 4 interim mitigation

Energy Mitigation - SJCE reach roade 100% carbon free energy in 2021 and beyond

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	155.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	2.00	67.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	1.00	13.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	18.45	39.36
tblFireplaces	NumberWood	20.91	0.00
tblGrading	MaterialExported	0.00	36,644.00
tblLandUse	LandUseSquareFeet	62,400.00	68,234.00
tblLandUse	LandUseSquareFeet	5,600.00	16,970.00
tblLandUse	LandUseSquareFeet	123,000.00	115,380.00
tblLandUse	LandUseSquareFeet	13,900.00	13,897.00
tblLandUse	LotAcreage	1.40	0.00

tblLandUse	LotAcreage	0.13	0.00
tblLandUse	LotAcreage	3.24	0.93
tblLandUse	LotAcreage	0.32	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.50
tblOffRoadEquipment	UsageHours	1.00	1.50
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	1,070.00	1,140.00
tblTripsAndVMT	HaulingTripNumber	4,581.00	4,580.00
tblVehicleTrips	ST_TR	6.39	3.95
tblVehicleTrips	ST_TR	42.04	26.48
tblVehicleTrips	SU_TR	5.86	3.62

tblVehicleTrips	SU_TR	20.43	12.87
tblVehicleTrips	WD_TR	6.65	4.11
tblVehicleTrips	WD_TR	44.32	27.92
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6285	0.0148	0.9144	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5200e-003	9.0000e-005	6.4738
Energy	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	198.1801	198.1801	0.0151	3.9600e-003	199.7383
Mobile	0.1207	0.5170	1.3082	5.4900e-003	0.6277	3.7300e-003	0.6314	0.1680	3.4600e-003	0.1715	0.0000	505.4556	505.4556	0.0149	0.0000	505.8282

Waste						0.0000	0.0000		0.0000	0.0000	14.4489	0.0000	14.4489	0.8539	0.0000	35.7965
Water						0.0000	0.0000		0.0000	0.0000	3.1996	9.0535	12.2532	0.0119	7.1500e-003	14.6805
Total	**0.7551**	**0.5823**	**2.2448**	**5.8900e-003**	**0.6277**	**0.0132**	**0.6409**	**0.1680**	**0.0130**	**0.1809**	**17.6485**	**719.0981**	**736.7466**	**0.8973**	**0.0112**	**762.5172**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6285	0.0148	0.9144	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5200e-003	9.0000e-005	6.4738
Energy	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	58.4648	58.4648	1.1200e-003	1.0700e-003	58.8122
Mobile	0.1207	0.5170	1.3082	5.4900e-003	0.6277	3.7300e-003	0.6314	0.1680	3.4600e-003	0.1715	0.0000	505.4556	505.4556	0.0149	0.0000	505.8282
Waste						0.0000	0.0000		0.0000	0.0000	14.4489	0.0000	14.4489	0.8539	0.0000	35.7965
Water						0.0000	0.0000		0.0000	0.0000	3.1996	9.0535	12.2532	0.0119	7.1500e-003	14.6805
Total	**0.7551**	**0.5823**	**2.2448**	**5.8900e-003**	**0.6277**	**0.0132**	**0.6409**	**0.1680**	**0.0130**	**0.1809**	**17.6485**	**579.3827**	**597.0313**	**0.8834**	**8.3100e-003**	**621.5911**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**19.43**	**18.96**	**1.56**	**25.80**	**18.48**

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	0.1207	0.5170	1.3082	5.4900e-003	0.6277	3.7300e-003	0.6314	0.1680	3.4600e-003	0.1715	0.0000	505.4556	505.4556	0.0149	0.0000	505.8282
Unmitigated	0.1207	0.5170	1.3082	5.4900e-003	0.6277	3.7300e-003	0.6314	0.1680	3.4600e-003	0.1715	0.0000	505.4556	505.4556	0.0149	0.0000	505.8282

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	505.53	485.85	445.26	1,141,197	1,141,197
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	388.09	368.07	178.89	547,241	547,241
Total	893.62	853.92	624.15	1,688,438	1,688,438

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Enclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

Parking Lot	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	139.7154	139.7154	0.0140	2.8900e-003	140.9261
NaturalGas Mitigated	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	58.4648	58.4648	1.1200e-003	1.0700e-003	58.8122
NaturalGas Unmitigated	5.9100e-003	0.0506	0.0222	3.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	58.4648	58.4648	1.1200e-003	1.0700e-003	58.8122

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.06265e+006	5.7300e-003	0.0490	0.0208	3.1000e-004		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	56.7072	56.7072	1.0900e-003	1.0400e-003	57.0442

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	32935.9	1.8000e-004	1.6100e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7576	1.7576	3.0000e-005	3.0000e-005	1.7680
Total		**5.9100e-003**	**0.0506**	**0.0222**	**3.2000e-004**		**4.0800e-003**	**4.0800e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**58.4648**	**58.4648**	**1.1200e-003**	**1.0700e-003**	**58.8122**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.06265e+006	5.7300e-003	0.0490	0.0208	3.1000e-004		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	56.7072	56.7072	1.0900e-003	1.0400e-003	57.0442
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	32935.9	1.8000e-004	1.6100e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7576	1.7576	3.0000e-005	3.0000e-005	1.7680
Total		**5.9100e-003**	**0.0506**	**0.0222**	**3.2000e-004**		**4.0800e-003**	**4.0800e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**58.4648**	**58.4648**	**1.1200e-003**	**1.0700e-003**	**58.8122**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	507787	66.7952	6.6800e-003	1.3800e-003	67.3740
Enclosed Parking with Elevator	399851	52.5972	5.2600e-003	1.0900e-003	53.0529

Parking Lot	5939.5	0.7813	8.0000e-005	2.0000e-005	0.7881
Strip Mall	148559	19.5417	1.9500e-003	4.0000e-004	19.7111
Total		**139.7154**	**0.0140**	**2.8900e-003**	**140.9261**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

Mitigated	0.6285	0.0148	0.9144	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5200e-003	9.0000e-005	6.4738
Unmitigated	0.6285	0.0148	0.9144	8.0000e-005		5.4100e-003	5.4100e-003		5.4100e-003	5.4100e-003	0.0000	6.4088	6.4088	1.5200e-003	9.0000e-005	6.4738

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	0.0902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-004	4.2400e-003	1.8100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9137	4.9137	9.0000e-005	9.0000e-005	4.9429
Landscaping	0.0274	0.0105	0.9126	5.0000e-005		5.0700e-003	5.0700e-003		5.0700e-003	5.0700e-003	0.0000	1.4951	1.4951	1.4300e-003	0.0000	1.5309
Total	**0.6285**	**0.0148**	**0.9144**	**8.0000e-005**		**5.4100e-003**	**5.4100e-003**		**5.4100e-003**	**5.4100e-003**	**0.0000**	**6.4088**	**6.4088**	**1.5200e-003**	**9.0000e-005**	**6.4737**

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	0.0902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5104					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-004	4.2400e-003	1.8100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9137	4.9137	9.0000e-005	9.0000e-005	4.9429

Landscaping	0.0274	0.0105	0.9126	5.0000e-005		5.0700e-003	5.0700e-003		5.0700e-003	5.0700e-003	0.0000	1.4951	1.4951	1.4300e-003	0.0000	1.5309
Total	**0.6285**	**0.0148**	**0.9144**	**8.0000e-005**		**5.4100e-003**	**5.4100e-003**		**5.4100e-003**	**5.4100e-003**	**0.0000**	**6.4088**	**6.4088**	**1.5200e-003**	**9.0000e-005**	**6.4737**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.2532	0.0119	7.1500e-003	14.6805
Unmitigated	12.2532	0.0119	7.1500e-003	14.6805

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	10.8655	0.0106	6.3300e-003	13.0165
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.02961 / 0.63105	1.3877	1.3600e-003	8.1000e-004	1.6639

Total		**12.2532**	**0.0119**	**7.1400e-003**	**14.6805**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.01395 / 5.05227	10.8655	0.0106	6.3300e-003	13.0165
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.02961 / 0.63105	1.3877	1.3600e-003	8.1000e-004	1.6639
Total		**12.2532**	**0.0119**	**7.1400e-003**	**14.6805**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.4489	0.8539	0.0000	35.7965
Unmitigated	14.4489	0.8539	0.0000	35.7965

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	28.4542
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.6	2.9637	0.1752	0.0000	7.3424
Total		**14.4489**	**0.8539**	**0.0000**	**35.7965**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	56.58	11.4852	0.6788	0.0000	28.4542
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	14.6	2.9637	0.1752	0.0000	7.3424
Total		**14.4489**	**0.8539**	**0.0000**	**35.7965**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Little Portugal Mixed Use Project TAC - Santa Clara County, Annual

Little Portugal Mixed Use Project TAC

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	123.00	Dwelling Unit	0.93	115,380.00	352
Strip Mall	13.90	1000sqft	0.00	13,897.00	0
Enclosed Parking with Elevator	156.00	Space	0.00	68,234.00	0
Parking Lot	14.00	Space	0.00	16,970.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 Rate

Land Use - Project Land Uses

Construction Phase - Project Applicant Schedule, Start and End Dates used

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Off-road Equipment -

Off-road Equipment - Project Applicant equipment list

Off-road Equipment - Project Applicant equipment list

Grading - 36,644-cy of soil exported

Demolition - 10821-sqft of building demo

Trips and VMT - 70 trips for 350 tons of pave demo hauling, TAC trip length of 1 mile for localized air emissions

Vehicle Trips - NEED TRAFFIC

Construction Off-road Equipment Mitigation - BMPs and tier 4 interim mitigation

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	155.00
tblConstructionPhase	NumDays	100.00	262.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	2.00	67.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	NumDays	1.00	13.00
tblConstructionPhase	PhaseEndDate	12/18/2020	12/3/2021
tblConstructionPhase	PhaseEndDate	12/4/2020	11/3/2021
tblConstructionPhase	PhaseEndDate	7/14/2020	7/15/2020
tblConstructionPhase	PhaseEndDate	7/17/2020	11/3/2020
tblConstructionPhase	PhaseEndDate	12/11/2020	1/3/2022
tblConstructionPhase	PhaseEndDate	7/15/2020	7/31/2020
tblConstructionPhase	PhaseStartDate	12/12/2020	5/3/2021
tblConstructionPhase	PhaseStartDate	7/18/2020	11/3/2020
tblConstructionPhase	PhaseStartDate	7/16/2020	8/3/2020
tblConstructionPhase	PhaseStartDate	12/5/2020	12/3/2021
tblGrading	MaterialExported	0.00	36,644.00
tblLandUse	LandUseSquareFeet	123,000.00	115,380.00
tblLandUse	LandUseSquareFeet	62,400.00	68,234.00
tblLandUse	LandUseSquareFeet	5,600.00	16,970.00

tblLandUse	LotAcreage	3.24	0.93
tblLandUse	LotAcreage	0.32	0.00
tblLandUse	LotAcreage	1.40	0.00
tblLandUse	LotAcreage	0.13	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	3.00

tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.50
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	1.00	1.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	1,070.00	1,140.00
tblTripsAndVMT	HaulingTripNumber	4,581.00	4,580.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00

tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00

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					
2020	0.0358	0.6026	0.2514	7.9000e-004	0.0530	0.0127	0.0657	0.0233	0.0117	0.0350	0.0000	72.7755	72.7755	0.0133	0.0000	73.1090
2021	0.9484	0.4146	0.3421	7.3000e-004	0.0150	0.0111	0.0261	4.0900e-003	0.0106	0.0147	0.0000	66.1656	66.1656	8.9100e-003	0.0000	66.3884
2022	5.0000e-005	4.8000e-004	6.5000e-004	0.0000	0.0000	2.0000e-005	3.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0872	0.0872	3.0000e-005	0.0000	0.0878
Maximum	**0.9484**	**0.6026**	**0.3421**	**7.9000e-004**	**0.0530**	**0.0127**	**0.0657**	**0.0233**	**0.0117**	**0.0350**	**0.0000**	**72.7755**	**72.7755**	**0.0133**	**0.0000**	**73.1090**

Mitigated Construction

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

Year	tons/yr										MT/yr					
2020	0.0164	0.4467	0.2792	7.9000e-004	0.0269	1.0100e-003	0.0279	6.4200e-003	1.0000e-003	7.4200e-003	0.0000	72.7754	72.7754	0.0133	0.0000	73.1090
2021	0.9304	0.3390	0.3587	7.3000e-004	0.0150	1.7600e-003	0.0168	4.0900e-003	1.7400e-003	5.8300e-003	0.0000	66.1656	66.1656	8.9100e-003	0.0000	66.3884
2022	2.0000e-005	4.0000e-004	7.2000e-004	0.0000	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0872	0.0872	3.0000e-005	0.0000	0.0878
Maximum	**0.9304**	**0.4467**	**0.3587**	**7.9000e-004**	**0.0269**	**1.7600e-003**	**0.0279**	**6.4200e-003**	**1.7400e-003**	**7.4200e-003**	**0.0000**	**72.7754**	**72.7754**	**0.0133**	**0.0000**	**73.1090**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.79**	**22.75**	**-7.49**	**0.00**	**38.36**	**88.34**	**51.28**	**61.60**	**87.70**	**73.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2020**	**9-30-2020**	0.3877	0.2750
2	**10-1-2020**	**12-31-2020**	0.2401	0.1815
3	**1-1-2021**	**3-31-2021**	0.1084	0.0882
4	**4-1-2021**	**6-30-2021**	0.3775	0.3514
5	**7-1-2021**	**9-30-2021**	0.5277	0.4982
6	**10-1-2021**	**12-31-2021**	0.3423	0.3246
7	**1-1-2022**	**3-31-2022**	0.0011	0.0009
		Highest	0.5277	0.4982

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	7/1/2020	7/15/2020	5	11	
2	Site Preparation	Site Preparation	7/15/2020	7/31/2020	5	13	
3	Grading	Grading	8/3/2020	11/3/2020	5	67	
4	Building Construction	Building Construction	11/3/2020	11/3/2021	5	262	
5	Trenching	Trenching	11/3/2020	12/3/2020	5	23	

6	Architectural Coating	Architectural Coating	5/3/2021	12/3/2021	5	155	
7	Paving	Paving	12/3/2021	1/3/2022	5	22	

Acres of Grading (Site Preparation Phase): 2.44

Acres of Grading (Grading Phase): 12.56

Acres of Paving: 0

Residential Indoor: 233,645; Residential Outdoor: 77,882; Non-Residential Indoor: 20,846; Non-Residential Outdoor: 6,949; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	3.00	78	0.48
Paving	Cement and Mortar Mixers	1	1.00	9	0.56
Demolition	Concrete/Industrial Saws	1	1.50	81	0.73
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	1	1.00	89	0.20
Site Preparation	Graders	1	3.00	187	0.41
Paving	Pavers	1	1.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.50	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Demolition	Excavators	1	1.50	158	0.38
Site Preparation	Rubber Tired Dozers	1	2.50	247	0.40
Grading	Scrapers	1	1.00	367	0.48
Grading	Excavators	1	2.00	158	0.38

Grading	Graders	1	1.00	187	0.41
Building Construction	Welders	1	1.00	46	0.45
Trenching	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Trenching	Excavators	1	2.00	158	0.38
Architectural Coating	Aerial Lifts	1	1.00	63	0.31
Paving	Paving Equipment	1	1.00	132	0.36

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	4	10.00	0.00	1,140.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	4,580.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	129.00	29.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	26.00	0.00	0.00	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

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0205	0.0146	2.0000e-005		1.0800e-003	1.0800e-003		1.0100e-003	1.0100e-003	0.0000	2.1739	2.1739	5.6000e-004	0.0000	2.1878
Total	**2.0900e-003**	**0.0205**	**0.0146**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0100e-003**	**1.0100e-003**	**0.0000**	**2.1739**	**2.1739**	**5.6000e-004**	**0.0000**	**2.1878**

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	1.2400e-003	0.0588	9.6000e-003	8.0000e-005	4.9000e-004	6.0000e-005	5.5000e-004	1.4000e-004	5.0000e-005	1.9000e-004	0.0000	7.4032	7.4032	7.9000e-004	0.0000	7.4228
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	3.0000e-005	3.6000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0447	0.0447	0.0000	0.0000	0.0448
Total	**1.3000e-003**	**0.0588**	**9.9600e-003**	**8.0000e-005**	**5.3000e-004**	**6.0000e-005**	**5.9000e-004**	**1.5000e-004**	**5.0000e-005**	**2.0000e-004**	**0.0000**	**7.4479**	**7.4479**	**7.9000e-004**	**0.0000**	**7.4676**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-004	8.8400e-003	0.0159	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1739	2.1739	5.6000e-004	0.0000	2.1878

Total	**4.2000e-004**	**8.8400e-003**	**0.0159**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.1739**	**2.1739**	**5.6000e-004**	**0.0000**	**2.1878**

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	1.2400e-003	0.0588	9.6000e-003	8.0000e-005	4.9000e-004	6.0000e-005	5.5000e-004	1.4000e-004	5.0000e-005	1.9000e-004	0.0000	7.4032	7.4032	7.9000e-004	0.0000	7.4228
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	3.0000e-005	3.6000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0447	0.0447	0.0000	0.0000	0.0448
Total	**1.3000e-003**	**0.0588**	**9.9600e-003**	**8.0000e-005**	**5.3000e-004**	**6.0000e-005**	**5.9000e-004**	**1.5000e-004**	**5.0000e-005**	**2.0000e-004**	**0.0000**	**7.4479**	**7.4479**	**7.9000e-004**	**0.0000**	**7.4676**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0135	0.0000	0.0135	6.8600e-003	0.0000	6.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0416	0.0164	4.0000e-005		1.8200e-003	1.8200e-003		1.6800e-003	1.6800e-003	0.0000	3.3713	3.3713	1.0900e-003	0.0000	3.3985
Total	**3.6700e-003**	**0.0416**	**0.0164**	**4.0000e-005**	**0.0135**	**1.8200e-003**	**0.0154**	**6.8600e-003**	**1.6800e-003**	**8.5400e-003**	**0.0000**	**3.3713**	**3.3713**	**1.0900e-003**	**0.0000**	**3.3985**

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	6.0000e-005	3.0000e-005	3.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0423	0.0423	0.0000	0.0000	0.0423
Total	**6.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0423**	**0.0423**	**0.0000**	**0.0000**	**0.0423**

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					6.0900e-003	0.0000	6.0900e-003	1.5400e-003	0.0000	1.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6000e-004	0.0110	0.0215	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.3713	3.3713	1.0900e-003	0.0000	3.3985
Total	**6.6000e-004**	**0.0110**	**0.0215**	**4.0000e-005**	**6.0900e-003**	**6.0000e-005**	**6.1500e-003**	**1.5400e-003**	**6.0000e-005**	**1.6000e-003**	**0.0000**	**3.3713**	**3.3713**	**1.0900e-003**	**0.0000**	**3.3985**

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	6.0000e-005	3.0000e-005	3.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0423	0.0423	0.0000	0.0000	0.0423
Total	**6.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0423**	**0.0423**	**0.0000**	**0.0000**	**0.0423**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0340	0.0000	0.0340	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0145	0.1613	0.1029	2.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	17.2815	17.2815	5.5900e-003	0.0000	17.4212
Total	**0.0145**	**0.1613**	**0.1029**	**2.0000e-004**	**0.0340**	**7.2000e-003**	**0.0412**	**0.0149**	**6.6200e-003**	**0.0215**	**0.0000**	**17.2815**	**17.2815**	**5.5900e-003**	**0.0000**	**17.4212**

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	4.9700e-003	0.2362	0.0386	3.1000e-004	1.9900e-003	2.2000e-004	2.2100e-003	5.5000e-004	2.1000e-004	7.6000e-004	0.0000	29.7425	29.7425	3.1600e-003	0.0000	29.8216
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	4.8000e-004	2.2000e-004	2.8600e-003	0.0000	3.2000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3542	0.3542	2.0000e-005	0.0000	0.3545
Total	**5.4500e-003**	**0.2364**	**0.0414**	**3.1000e-004**	**2.3100e-003**	**2.2000e-004**	**2.5400e-003**	**6.4000e-004**	**2.1000e-004**	**8.5000e-004**	**0.0000**	**30.0967**	**30.0967**	**3.1800e-003**	**0.0000**	**30.1761**

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					0.0153	0.0000	0.0153	3.3500e-003	0.0000	3.3500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-003	0.0641	0.1202	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	17.2815	17.2815	5.5900e-003	0.0000	17.4212
Total	**3.2000e-003**	**0.0641**	**0.1202**	**2.0000e-004**	**0.0153**	**3.2000e-004**	**0.0156**	**3.3500e-003**	**3.2000e-004**	**3.6700e-003**	**0.0000**	**17.2815**	**17.2815**	**5.5900e-003**	**0.0000**	**17.4212**

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	4.9700e-003	0.2362	0.0386	3.1000e-004	1.9900e-003	2.2000e-004	2.2100e-003	5.5000e-004	2.1000e-004	7.6000e-004	0.0000	29.7425	29.7425	3.1600e-003	0.0000	29.8216
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	4.8000e-004	2.2000e-004	2.8600e-003	0.0000	3.2000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3542	0.3542	2.0000e-005	0.0000	0.3545
Total	**5.4500e-003**	**0.2364**	**0.0414**	**3.1000e-004**	**2.3100e-003**	**2.2000e-004**	**2.5400e-003**	**6.4000e-004**	**2.1000e-004**	**8.5000e-004**	**0.0000**	**30.0967**	**30.0967**	**3.1800e-003**	**0.0000**	**30.1761**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0279	0.0197	3.0000e-005		1.4500e-003	1.4500e-003		1.3500e-003	1.3500e-003	0.0000	2.9624	2.9624	8.7000e-004	0.0000	2.9841
Total	**3.0900e-003**	**0.0279**	**0.0197**	**3.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.9624**	**2.9624**	**8.7000e-004**	**0.0000**	**2.9841**

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	1.1800e-003	0.0417	0.0116	5.0000e-005	5.8000e-004	7.0000e-005	6.4000e-004	1.7000e-004	6.0000e-005	2.3000e-004	0.0000	5.0053	5.0053	4.9000e-004	0.0000	5.0175
Worker	3.0700e-003	1.4100e-003	0.0182	3.0000e-005	2.0600e-003	3.0000e-005	2.0900e-003	5.5000e-004	3.0000e-005	5.8000e-004	0.0000	2.2554	2.2554	1.0000e-004	0.0000	2.2579
Total	**4.2500e-003**	**0.0431**	**0.0298**	**8.0000e-005**	**2.6400e-003**	**1.0000e-004**	**2.7300e-003**	**7.2000e-004**	**9.0000e-005**	**8.1000e-004**	**0.0000**	**7.2607**	**7.2607**	**5.9000e-004**	**0.0000**	**7.2754**

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	6.5000e-004	0.0140	0.0217	3.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.9624	2.9624	8.7000e-004	0.0000	2.9841
Total	**6.5000e-004**	**0.0140**	**0.0217**	**3.0000e-005**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**	**0.0000**	**2.9624**	**2.9624**	**8.7000e-004**	**0.0000**	**2.9841**

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	1.1800e-003	0.0417	0.0116	5.0000e-005	5.8000e-004	7.0000e-005	6.4000e-004	1.7000e-004	6.0000e-005	2.3000e-004	0.0000	5.0053	5.0053	4.9000e-004	0.0000	5.0175
Worker	3.0700e-003	1.4100e-003	0.0182	3.0000e-005	2.0600e-003	3.0000e-005	2.0900e-003	5.5000e-004	3.0000e-005	5.8000e-004	0.0000	2.2554	2.2554	1.0000e-004	0.0000	2.2579
Total	**4.2500e-003**	**0.0431**	**0.0298**	**8.0000e-005**	**2.6400e-003**	**1.0000e-004**	**2.7300e-003**	**7.2000e-004**	**9.0000e-005**	**8.1000e-004**	**0.0000**	**7.2607**	**7.2607**	**5.9000e-004**	**0.0000**	**7.2754**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0141	0.1291	0.0976	1.8000e-004		6.3800e-003	6.3800e-003		5.9600e-003	5.9600e-003	0.0000	15.0886	15.0886	4.3800e-003	0.0000	15.1982
Total	**0.0141**	**0.1291**	**0.0976**	**1.8000e-004**		**6.3800e-003**	**6.3800e-003**		**5.9600e-003**	**5.9600e-003**	**0.0000**	**15.0886**	**15.0886**	**4.3800e-003**	**0.0000**	**15.1982**

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	5.3600e-003	0.2019	0.0544	2.6000e-004	2.9300e-003	1.7000e-004	3.1000e-003	8.6000e-004	1.6000e-004	1.0200e-003	0.0000	25.2491	25.2491	2.3400e-003	0.0000	25.3077
Worker	0.0143	6.3200e-003	0.0835	1.2000e-004	0.0105	1.4000e-004	0.0106	2.8100e-003	1.3000e-004	2.9400e-003	0.0000	11.0969	11.0969	4.4000e-004	0.0000	11.1078
Total	**0.0197**	**0.2082**	**0.1379**	**3.8000e-004**	**0.0134**	**3.1000e-004**	**0.0137**	**3.6700e-003**	**2.9000e-004**	**3.9600e-003**	**0.0000**	**36.3460**	**36.3460**	**2.7800e-003**	**0.0000**	**36.4155**

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	3.3200e-003	0.0713	0.1105	1.8000e-004		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	15.0886	15.0886	4.3800e-003	0.0000	15.1981
Total	**3.3200e-003**	**0.0713**	**0.1105**	**1.8000e-004**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**15.0886**	**15.0886**	**4.3800e-003**	**0.0000**	**15.1981**

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	5.3600e-003	0.2019	0.0544	2.6000e-004	2.9300e-003	1.7000e-004	3.1000e-003	8.6000e-004	1.6000e-004	1.0200e-003	0.0000	25.2491	25.2491	2.3400e-003	0.0000	25.3077
Worker	0.0143	6.3200e-003	0.0835	1.2000e-004	0.0105	1.4000e-004	0.0106	2.8100e-003	1.3000e-004	2.9400e-003	0.0000	11.0969	11.0969	4.4000e-004	0.0000	11.1078
Total	**0.0197**	**0.2082**	**0.1379**	**3.8000e-004**	**0.0134**	**3.1000e-004**	**0.0137**	**3.6700e-003**	**2.9000e-004**	**3.9600e-003**	**0.0000**	**36.3460**	**36.3460**	**2.7800e-003**	**0.0000**	**36.4155**

3.6 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0130	0.0160	2.0000e-005		7.2000e-004	7.2000e-004		6.6000e-004	6.6000e-004	0.0000	2.0922	2.0922	6.8000e-004	0.0000	2.1091
Total	**1.3100e-003**	**0.0130**	**0.0160**	**2.0000e-005**		**7.2000e-004**	**7.2000e-004**		**6.6000e-004**	**6.6000e-004**	**0.0000**	**2.0922**	**2.0922**	**6.8000e-004**	**0.0000**	**2.1091**

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	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0468
Total	**6.0000e-005**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0468**	**0.0468**	**0.0000**	**0.0000**	**0.0468**

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	3.8000e-004	0.0105	0.0180	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.0922	2.0922	6.8000e-004	0.0000	2.1091
Total	**3.8000e-004**	**0.0105**	**0.0180**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.0922**	**2.0922**	**6.8000e-004**	**0.0000**	**2.1091**

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	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0468

Total	**6.0000e-005**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0468**	**0.0468**	**0.0000**	**0.0000**	**0.0468**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8400e-003	0.0650	0.0810	1.3000e-004		3.7600e-003	3.7600e-003		3.7500e-003	3.7500e-003	0.0000	11.3147	11.3147	1.1400e-003	0.0000	11.3432
Total	**0.9113**	**0.0650**	**0.0810**	**1.3000e-004**		**3.7600e-003**	**3.7600e-003**		**3.7500e-003**	**3.7500e-003**	**0.0000**	**11.3147**	**11.3147**	**1.1400e-003**	**0.0000**	**11.3432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0400e-003	9.0000e-004	0.0119	2.0000e-005	1.5000e-003	2.0000e-005	1.5200e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	1.5830	1.5830	6.0000e-005	0.0000	1.5845
Total	**2.0400e-003**	**9.0000e-004**	**0.0119**	**2.0000e-005**	**1.5000e-003**	**2.0000e-005**	**1.5200e-003**	**4.0000e-004**	**2.0000e-005**	**4.2000e-004**	**0.0000**	**1.5830**	**1.5830**	**6.0000e-005**	**0.0000**	**1.5845**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5100e-003	0.0502	0.0833	1.3000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	11.3147	11.3147	1.1400e-003	0.0000	11.3432
Total	**0.9050**	**0.0502**	**0.0833**	**1.3000e-004**		**5.3000e-004**	**5.3000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**11.3147**	**11.3147**	**1.1400e-003**	**0.0000**	**11.3432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0400e-003	9.0000e-004	0.0119	2.0000e-005	1.5000e-003	2.0000e-005	1.5200e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	1.5830	1.5830	6.0000e-005	0.0000	1.5845
Total	**2.0400e-003**	**9.0000e-004**	**0.0119**	**2.0000e-005**	**1.5000e-003**	**2.0000e-005**	**1.5200e-003**	**4.0000e-004**	**2.0000e-005**	**4.2000e-004**	**0.0000**	**1.5830**	**1.5830**	**6.0000e-005**	**0.0000**	**1.5845**

3.8 Paving - 2021

Unmitigated Construction On-Site

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

Off-Road	1.1400e-003	0.0114	0.0129	2.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	1.7261	1.7261	5.5000e-004	0.0000	1.7397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1400e-003**	**0.0114**	**0.0129**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**1.7261**	**1.7261**	**5.5000e-004**	**0.0000**	**1.7397**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	6.0000e-005	8.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073
Total	**1.4000e-004**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1072**	**0.1072**	**0.0000**	**0.0000**	**0.1073**

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	3.1000e-004	8.3300e-003	0.0144	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.7261	1.7261	5.5000e-004	0.0000	1.7397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-004**	**8.3300e-003**	**0.0144**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.7261**	**1.7261**	**5.5000e-004**	**0.0000**	**1.7397**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	6.0000e-005	8.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1072	0.1072	0.0000	0.0000	0.1073
Total	**1.4000e-004**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1072**	**0.1072**	**0.0000**	**0.0000**	**0.1073**

3.8 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0000e-005	4.7000e-004	6.1000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0822	0.0822	3.0000e-005	0.0000	0.0829
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**4.7000e-004**	**6.1000e-004**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0822**	**0.0822**	**3.0000e-005**	**0.0000**	**0.0829**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.9200e-003	4.9200e-003	0.0000	0.0000	4.9300e-003
Total	**1.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.9200e-003**	**4.9200e-003**	**0.0000**	**0.0000**	**4.9300e-003**

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	1.0000e-005	4.0000e-004	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0822	0.0822	3.0000e-005	0.0000	0.0829
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**4.0000e-004**	**6.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0822**	**0.0822**	**3.0000e-005**	**0.0000**	**0.0829**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.9200e-003	4.9200e-003	0.0000	0.0000	4.9300e-003
Total	**1.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.9200e-003**	**4.9200e-003**	**0.0000**	**0.0000**	**4.9300e-003**

Attachment 3: Construction Health Risk Modeling Calculations

Little Portugal Gateway, San Jose, CA

DPM Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2020	Construction	0.0127	CON_DPM	25.4	0.00773	9.74E-04	3,781	2.58E-07
2021-2022*	Construction	0.0111	CON_DPM	22.2	0.00677	8.53E-04	3,781	2.26E-07

Construction Hours

hr/day = 9 (8am - 5pm)

days/yr = 365

hours/year = 3285

*Includes one month of activity in 2022 (January 2022)

PM2.5 Fugitive Dust Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2020	Construction	CON_FUG	0.02330	46.6	0.01419	1.79E-03	3,781	4.73E-07
2021-2022*	Construction	CON_FUG	0.00409	8.2	0.00249	3.14E-04	3,781	8.30E-08

Construction Hours

hr/day = 9 (8am - 5pm)

days/yr = 365

hours/year = 3285

*Includes one month of activity in 2022 (January 2022)

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2020-2021	Construction	0.0010	CON_DPM	2.0	0.00061	7.75E-05	3,781	2.05E-08
2020-2022	Construction	0.0018	CON_DPM	3.5	0.00107	1.35E-04	3,781	3.57E-08

Construction Hours

hr/day = 9 (8am - 5pm)

days/yr = 365

hours/year = 3285

*Includes one month of activity in 2022 (January 2022)

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2020-2021	Construction	CON_FUG	0.00642	12.8	0.00391	4.92E-04	3,781	1.30E-07
2020-2022	Construction	CON_FUG	0.00409	8.2	0.00249	3.14E-04	3,781	8.30E-08

Construction Hours

hr/day = 9 (8am - 5pm)

days/yr = 365

hours/year = 3285

*Includes one month of activity in 2022 (January 2022)

Little Portugal Gateway, San Jose, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2020	0.0658	0.1817	11.70	0.19	0.013	0.25
2021*	0.0577	0.0319	9.47	0.17	0.012	0.09
Total	-	-	**21.2**	**0.4**	-	-
Maximum	0.0658	0.1817	**-**	**-**	**0.013**	**0.25**

*Includes one month of activity in 2022 (January 2022)

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2020	0.0052	0.0499	0.93	0.02	0.001	0.06
2021*	0.0091	0.0319	1.50	0.03	0.002	0.04
Total	-	-	**2.4**	**0.0**	-	-
Maximum	0.0091	0.0499	**-**	**-**	**0.002**	**0.06**

*Includes one month of activity in 2022 (January 2022)

Maximum Impacts at San Antonio Elementary School

Construction Year	Unmitigated Emissions: Maximum Concentrations: Exhaust PM2.5/DPM ($\mu g/m^3$)	Unmitigated Emissions: Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2020	0.0014	0.0026	**0.06**	**0.0003**	**0.004**
2021*	0.0012	0.0004	**0.05**	**0.0002**	**0.002**
Total	-	-	**0.1**	-	-
Maximum	0.0014	0.0026	**-** **-**	**0.000**	**0.00**

*Includes one month of activity in 2022 (January 2022)

Little Portugal Gateway, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				
						Infant/Child		Modeled		Adult	
	Exposure		DPM Conc (ug/m3)		Age	Cancer	DPM Conc (ug/m3)		Age	Cancer	
Exposure	Duration				Sensitivity	Risk			Sensitivity	Risk	
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	
0	0.25	-0.25 - 0*	2020	0.0658	10	0.89	2020	0.0658	-	-	
1	1	0 - 1	2020	0.0658	10	10.81	2020	0.0658	1	0.19	
2	1	1 - 2	2021**	0.0577	10	9.47	2021**	0.0577	1	0.17	
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00	
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00	
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00	
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00	
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00	
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00	
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00	
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00	
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00	
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00	
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00	
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00	
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00	
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00	
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00	
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00	
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00	
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00	
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00	
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00	
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00	
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00	
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00	
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00	
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00	
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00	
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00	
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00	
Total Increased Cancer Risk						**21.2**				**0.35**	

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.013	0.1817	0.248
0.012	0.0319	0.090
0.013	**0.182**	**0.248**

* Third trimester of pregnancy

**Includes one month of activity in 2022 (January 2022)

Little Portugal Gateway, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult
							Modeled			
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)
0	0.25	-0.25 - 0*	2020	0.0052	10	0.071124418	2020	0.0052	-	-
1	1	0 - 1	2020	0.0052	10	0.86	2020	0.0052	1	0.02
2	1	1 - 2	2021**	0.0091	10	1.50	2021**	0.0091	1	0.03
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						**2.4**				**0.04**

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.001	0.0499	0.055
0.002	0.0319	0.041
0.002	**0.050**	**0.055**

* Third trimester of pregnancy

**Includes one month of activity in 2022 (January 2022)

Little Portugal Gateway, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information			
							Modeled			
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**
0	0.25	-0.25 - 0*	2020	0.0625	10	0.85	2020	0.0625	-	-
1	1	0 - 1	2020	0.0625	10	10.26	2020	0.0625	1	0.18
2	1	1 - 2	2021**	0.0547	10	8.99	2021**	0.0547	1	0.16
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						**20.1**				**0.34**

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.012	0.1350	0.197
0.011	0.0237	0.078
0.012	**0.135**	**0.197**

* Third trimester of pregnancy

**Includes one month of activity in 2022 (January 2022)

Little Portugal Gateway, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult			
							Modeled				Maximum		
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2020	0.0501	10	0.68	2020	0.0501	-	-			
1	1	0 - 1	2020	0.0501	10	8.23	2020	0.0501	1	0.14	0.010	0.0816	0.132
2	1	1 - 2	2021**	0.0439	10	7.21	2021**	0.0439	1	0.13	0.009	0.0143	0.058
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00	**0.010**	**0.082**	**0.132**
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**16.1**				**0.27**			

* Third trimester of pregnancy

**Includes one month of activity in 2022 (January 2022)

San Antonio Elementary School, San Jose CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Daycare - 1.0 meters - Child Exposure

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

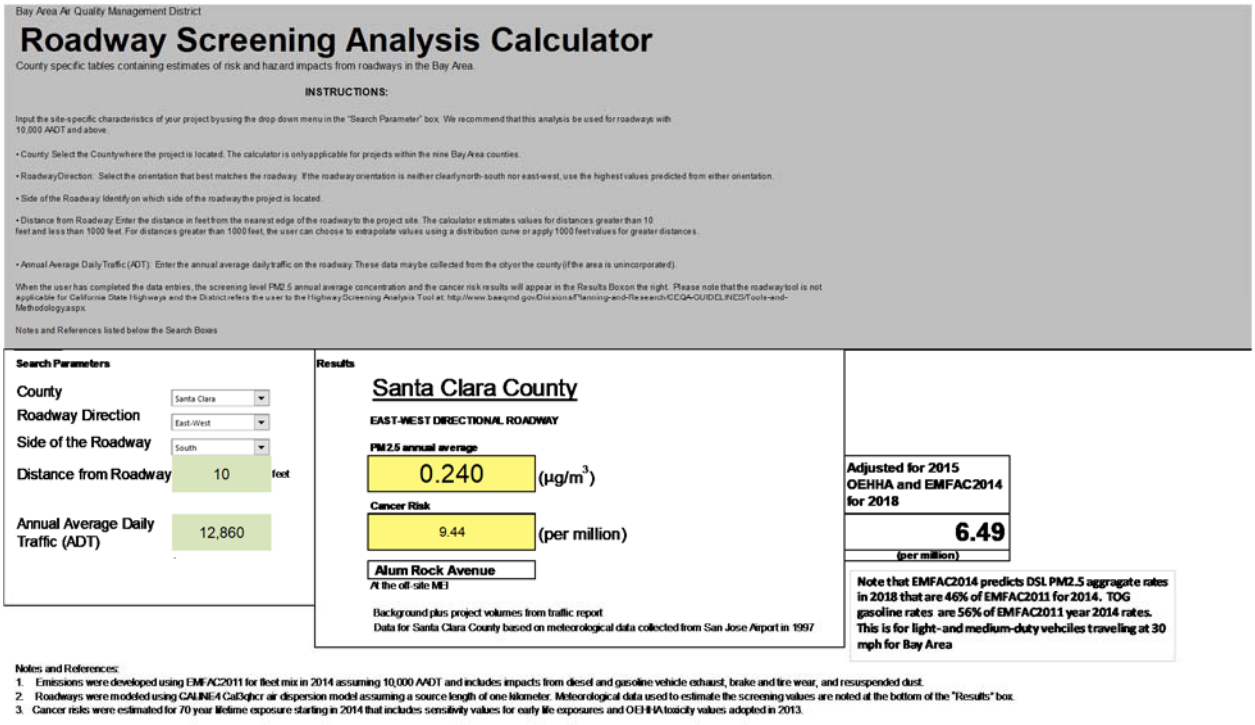
Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)	Maximum Fugitive PM2.5	Maximum Total PM2.5
1	1	2020	0.0014	3	0.1	0.0026	0.004
2	1	2021**	0.0012	3	0.05	0.0004	0.002
TOTAL					**0.10**	**0.0026**	**0.0040**

* Students assumed to be 5 to 10 years of age

**Includes one month of activity in 2022 (January 2022)

Attachment 4: Screening Community Risk Calculations



Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	10 feet
Annual Average Daily Traffic (ADT)	12,860

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average: 0.240 ($\mu g/m^3$)

Cancer Risk: 9.44 (per million)

Alum Rock Avenue
At the off-site MEI

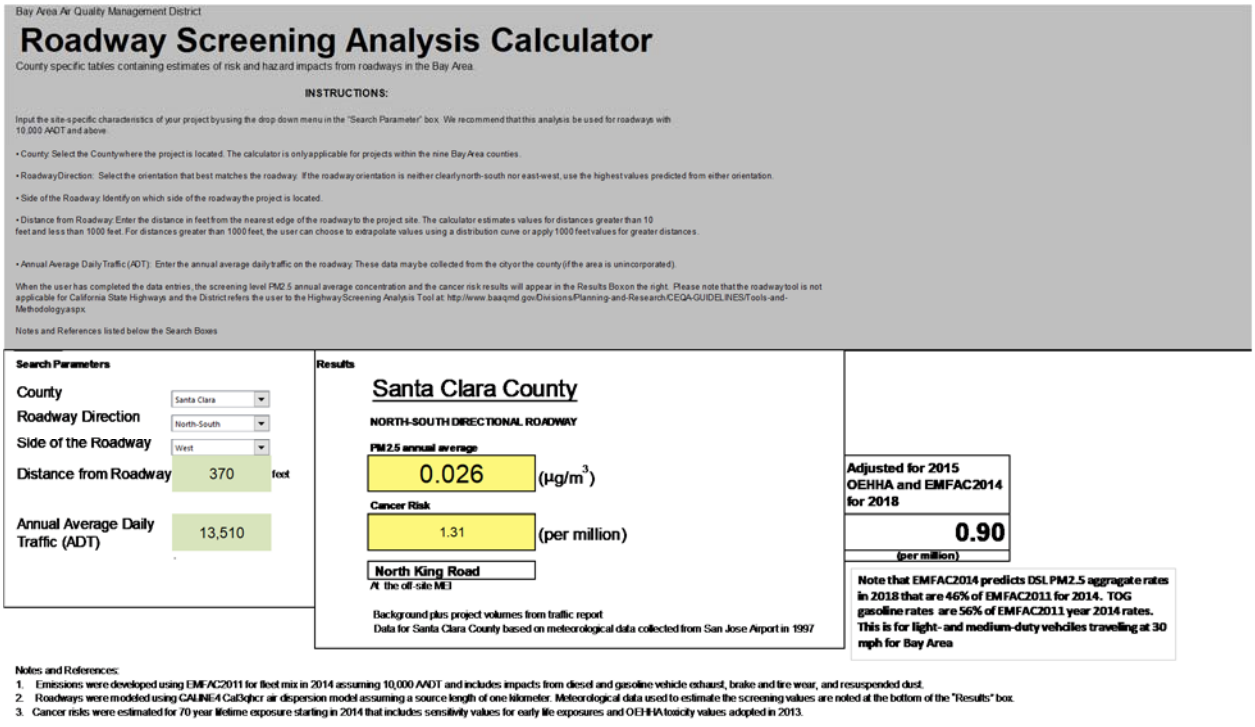
Background plus project volumes from traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

6.49 (per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:
1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CaltransCO hotspot air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.



Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	West
Distance from Roadway	370 feet
Annual Average Daily Traffic (ADT)	13,510

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average: 0.026 ($\mu g/m^3$)

Cancer Risk: 1.31 (per million)

North King Road
At the off-site MEI

Background plus project volumes from traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.90 (per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:
1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CaltransCO hotspot air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	20 feet
Annual Average Daily Traffic (ADT)	12,860

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.152 ($\mu g/m^3$)

Cancer Risk

7.51 (per million)

Alum Rock Avenue
At the Project Site

Background plus project volumes from traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

5.16
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. **Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.**
2. **Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.**
3. **Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.**

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	West
Distance from Roadway	280 feet
Annual Average Daily Traffic (ADT)	13,510

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.034 ($\mu g/m^3$)

Cancer Risk

1.75 (per million)

North King Road
At the Project Site

Background plus project volumes from traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

1.21
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BAAQMD RESPONSE TO SSIF REQUEST

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**9/30/2019**
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin
Phone	707-794-0400 x111
Email	mmcnamara@illingworthrodkin.com
Project Name	Little Portugal
Address	1661,1663, 1665 ALUM ROCK AVE
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Mixed-use
Project Size (# of units or building square feet)	123 DU and 13,897-sf of commercial
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested Table A . Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in blue section only.

6. Note that a small percentage of the stat Table B es have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
742	111830	USA Petroleum	1598 Alum Rock Ave	24.2094351	0.119516	0		GDF		Max permitted throughput for 2019: 4,400,000 gallons/year, emissions file attached.

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018

Facility ID	Facility Nar	Period Star	Period End	Device ID	Device Nar	Maximum	Hours Per I	Days Per W	Weeks Per	Category	Type	Sub Type	Material ID	Material Ty	Material Na	Density	VOC Conte	Sulfur Cont	Material Us	Usage Unit	Pollutant II	Pollutant	Factor	Factor Poll	Factor Usa	Factor Unit	Factor Basi	Material Co	Material Co	Unabated I	Unabated I	Unabated I	Emissions I	Abated An	Abated Dai	Abated Ho	Emission U	Material Us	Pollutant	Conversion Factor
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	10007	Precursor (	0.67	lbs/usage u	Thousand	lbs/1,000 g	Other			401.9993	1.104394	0.046016	lbs	401.9993	1.104394	0.046016	lbs	0.001	1	
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	333	Ethylbenze	0.00405	lbs/usage u	Thousand	lbs/1,000 g	Other			2.429996	0.006676	0.000278	lbs	2.429996	0.006676	0.000278	lbs	0.001	1	
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	307	Xylene	0.0227	lbs/usage u	Thousand	lbs/1,000 g	Other			13.61998	0.037418	0.001559	lbs	13.61998	0.037418	0.001559	lbs	0.001	1	
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	293	Toluene	0.0272	lbs/usage u	Thousand	lbs/1,000 g	Other			16.31997	0.044835	0.001868	lbs	16.31997	0.044835	0.001868	lbs	0.001	1	
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	148	Hexane	0.0112	lbs/usage u	Thousand	lbs/1,000 g	Other			6.719989	0.018462	0.000769	lbs	6.719989	0.018462	0.000769	lbs	0.001	1	
111830	Shell SS#6E	########	########	S1	GDF	24	24	7	52	Gasoline D	Gasoline Dispensing O		551	Gasoline - Unleaded		5.1			599999	Gallons	41	Benzene	0.00284	lbs/usage u	Thousand	lbs/1,000 g	Other			1.703997	0.004681	0.000195	lbs	1.703997	0.004681	0.000195	lbs	0.001	1	

Step 1:

Plant Name	Shell SS#68202
Plant No.	111830

Step 4:
Specify Source Type

Does facility have only diesel backup generators?	no
Is this analysis for a gas station?	yes

Note: Default generic distance multiplier used if source is not a generator or gas station.

Step 2:
Estimate Distance

What is the distance (m) from the facility boundary to the MEI?	245

Step 5:
Read Estimates

Total Cancer Risk	0.014	per 1,000,000
Total Chronic Hazard	0.000	
Total PM2.5 Concentration	0.000	µg/m³

Step 3:
Enter Emissions Data

Chemical Name	CAS No. (dashes removed)	Rate (lb/day)	Risk (# / 1,000,000)	Hazard (Index)	Concentration (µg/m3)
Fine Particulate Matter (PM2.5)		0.00E+00			
1,1,1-Trichloroethane	71556	0.00E+00			
1,1,2,2-Tetrachloroethane	79345	0.00E+00			
1,1,2-Trichloroethane	79005	0.00E+00			
1,1-Dichloroethane	75343	0.00E+00			
1,1-Dichloroethylene	75354	0.00E+00			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268879	0.00E+00			
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001020	0.00E+00			
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	0.00E+00			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394	0.00E+00			
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673897	0.00E+00			
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	0.00E+00			
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	0.00E+00			
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	0.00E+00			
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	0.00E+00			
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	0.00E+00			
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	0.00E+00			
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	0.00E+00			
1,2,3,7,8-Pentachlorodibenzofuran	57117416	0.00E+00			
1,2-Dibromo-3-chloropropane	96128	0.00E+00			
1,2-Dibromoethane	106934	0.00E+00			
1,2-Dichloroethane	107062	0.00E+00			
1,2-Epoxybutane	106887	0.00E+00			
1,3-Butadiene	106990	0.00E+00			
1,3-Propane sultone	1120714	0.00E+00			
1,4-Dichlorobenzene	106467	0.00E+00			
1,4-Dioxane	123911	0.00E+00			
1,6-Dinitropyrene	42397648	0.00E+00			
1,8-Dinitropyrene	42397659	0.00E+00			
1-Nitropyrene	5522430	0.00E+00			
2',3,4,4',5-PeCB	65510443	0.00E+00			
2,3',4,4',5,5'-HxCB	52663726	0.00E+00			
2,3',4,4',5-PeCB	31508006	0.00E+00			
2,3,3',4,4',5'-HxCB	69782907	0.00E+00			
2,3,3',4,4',5,5'-HpCB	39635319	0.00E+00			
2,3,3',4,4',5-HxCB	38380084	0.00E+00			
2,3,3',4,4'-PeCB	32598144	0.00E+00			
2,3,4,4',5-PeCB	74472370	0.00E+00			
2,3,4,6,7,8-hexachlorodibenzofuran	60851345	0.00E+00			
2,3,4,7,8-Pentachlorodibenzofuran	57117314	0.00E+00			
2,3,7,8-Tetrachlorodibenzo-p-dioxin and related compı	1746016	0.00E+00			
2,3,7,8-Tetrachlorodibenzofuran	51207319	0.00E+00			
2,4,6-Trichlorophenol	88062	0.00E+00			
2,4-Diaminoanisole	615054	0.00E+00			
2,4-Diaminotoluene	95807	0.00E+00			
2,4-Dinitrotoluene	121142	0.00E+00			
2-Aminoanthraquinone	117793	0.00E+00			
2-Nitrofluorene	607578	0.00E+00			
3,3',4,4',5,5'-HxCB	32774166	0.00E+00			
3,3',4,4',5-PeCB	57465288	0.00E+00			
3,3',4,4'-TCB	32598133	0.00E+00			
3,3-Dichlorobenzidine	91941	0.00E+00			
3,4,4'5-TCB	70362504	0.00E+00			
3-Methylcholanthrene	56495	0.00E+00			
4,4-Methylene bis(2-chloroaniline)	101144	0.00E+00			
4,4-Methylenedianiline	101779	0.00E+00			
4-Chloro-ortho-phenylenediamine	95830	0.00E+00			
4-Dimethylaminoazobenzene	60117	0.00E+00			
4-Nitropyrene	57835924	0.00E+00			
5-Methylchrysene	3697243	0.00E+00			
5-Nitroacenaphthene	602879	0.00E+00			
6-Nitrochrysene	7496028	0.00E+00			
7,12-Dimethylbenz(a)anthracene	57976	0.00E+00			
7H-dibenzo(c,g)carbazole	194592	0.00E+00			
Acetaldehyde	75070	0.00E+00			
Acetamide	60355	0.00E+00			
Acrolein	107028	0.00E+00			
Acrylamide	79061	0.00E+00			
Acrylic Acid	79107	0.00E+00			
Acrylonitrile	107131	0.00E+00			
Allyl chloride	107051	0.00E+00			
Ammonia	7664417	0.00E+00			
Aniline	62533	0.00E+00			
Arsenic	7440382	0.00E+00			
Arsine	7784421	0.00E+00			
Asbestos [1/(100 PCM fibers/m^3)]^-1	1332214	0.00E+00			
Benz(a)anthracene	56553	0.00E+00			
Benzene	71432	4.68E-03	5.99E-01	2.95E-03	
Benzidine	92875	0.00E+00			
Benzo(a)pyrene	50328	0.00E+00			
Benzo(b)fluoranthene	205992	0.00E+00			
Benzo(j)fluoranthene	205823	0.00E+00			
Benzo(k)fluoranthene	207089	0.00E+00			
Benzyl Chloride	100447	0.00E+00			
Beryllium	7440417	0.00E+00			
Bis(2-chloroethyl) Ether	111444	0.00E+00			
Bis(2-chloromethyl) Ether	542881	0.00E+00			
Cadmium	7440439	0.00E+00			
Caprolactam	105602	0.00E+00			
Carbon Disulfide	75150	0.00E+00			
Carbon Monoxide	630080	0.00E+00			
Carbon Tetrachloride	56235	0.00E+00			
Carbonyl Sulfide	463581	0.00E+00			
Chlorinated paraffins (Avg. chain length C12; approx. 6(	108171262	0.00E+00			
Chlorine	7782505	0.00E+00			
Chlorine Dioxide	10049044	0.00E+00			
Chlorite	7758192	0.00E+00			
Chlorobenzene	108907	0.00E+00			
Chlorodibromomethane	124481	0.00E+00			
Chloroethane (Ethyl Chloride)	75003	0.00E+00			
Chloroform	67663	0.00E+00			
Chloropicrin	76062	0.00E+00			
Chromic Trioxide	1333820	0.00E+00			
Chromium-hexavalent	18540299	0.00E+00			
Barium chromate2	10294403	0.00E+00			
Calcium chromate2	13765190	0.00E+00			
Lead chromate2	7758976	0.00E+00			

Sodium dichromate2	10588019	0.00E+00					
Strontium chromate2	7789062	0.00E+00					
CHROMIC TRIOXIDE (as chromic acid mist)	1333820	0.00E+00					
Chrysene	218019	0.00E+00					
Copper	7440508	0.00E+00					
Copper and Copper Compounds	7440508	0.00E+00					
Cresol Mixtures	1319773	0.00E+00					
Cupferron	135206	0.00E+00					
Cyanide	57125	0.00E+00					
Di(2-ethylhexyl)phthalate	117817	0.00E+00					
Dibenz(a-h)acridine	226368	0.00E+00					
Dibenz(a-h)anthracene	53703	0.00E+00					
Dibenz(a-j)acridine	224420	0.00E+00					
Dibenzo(a-e)pyrene	192654	0.00E+00					
Dibenzo(a-h)pyrene	189640	0.00E+00					
Dibenzo(a-i)pyrene	189559	0.00E+00					
Dibenzo(a-l)pyrene	191300	0.00E+00					
Diesel Exhaust Particulate	85105	0.00E+00					
Diethanolamine	111422	0.00E+00					
Dimethylformamide	68122	0.00E+00					
Direct Black 38 (Technical Grade)	1937377	0.00E+00					
Direct Blue 6 (Technical Grade)	2602462	0.00E+00					
Direct Brown 95 (Technical Grade)	16071866	0.00E+00					
Epichlorohydrin	106898	0.00E+00					
Ethylbenzene	100414	6.68E-03	7.43E-02	6.31E-06			
Ethylene Glycol	107211	0.00E+00					
Ethylene Glycol Monobutyl Ether	111762	0.00E+00					
Ethylene Glycol Monoethyl Ether	110805	0.00E+00					
Ethylene Glycol Monoethyl Ether Acetate	111159	0.00E+00					
Ethylene Glycol Monomethyl Ether	109864	0.00E+00					
Ethylene Glycol Monomethyl Ether Acetate	110496	0.00E+00					
Ethylene Oxide	75218	0.00E+00					
Ethylene Thiourea	96457	0.00E+00					
Fluorides	1101	0.00E+00					
Formaldehyde (gas)	50000	0.00E+00					
Glutaraldehyde	111308	0.00E+00					
Hexachlorobenzene	118741	0.00E+00					
Hexachlorocyclohexane (Technical Grade)	608731	0.00E+00					
Hexachlorocyclohexane- Alpha Isomer	319846	0.00E+00					
Hexachlorocyclohexane- Beta Isomer	319857	0.00E+00					
Hexachlorocyclohexane- Gamma Isomer	58899	0.00E+00					
Hydrazine	302012	0.00E+00					
		0.00E+00					
Hydrogen Chloride	7647010						
Hydrogen Cyanide	74908	0.00E+00					
Hydrogen Fluoride	7664393	0.00E+00					
Hydrogen Selenide	7783075	0.00E+00					
Hydrogen Sulfide	7783064	0.00E+00					
Indeno(1-2-3-c-d)pyrene	193395	0.00E+00					
Isophorone	78591	0.00E+00					
Isopropyl Alcohol	67630	0.00E+00					
Lead Acetate	301042	0.00E+00					
Lead and Lead Compounds	7439921	0.00E+00					
Lead Phosphate	7446277	0.00E+00					
Lead Subacetate	1335326	0.00E+00					
m-CRESOL	108394	0.00E+00					
m-XYLENE	108383	0.00E+00					
Maleic Anhydride	108316	0.00E+00					
Manganese & Manganese Compounds	7439965	0.00E+00					
Mercury (Inorganic)	7439976	0.00E+00					
Mercuric chloride	7487947	0.00E+00					
Methanol	67561	0.00E+00					
Methyl Bromide	74839	0.00E+00					
Methyl Ethyl Ketone	78933	0.00E+00					
Methyl Isocyanate	624839	0.00E+00					
Methyl Tertiary Butyl Ether	1634044	0.00E+00					
Methylene Chloride (Dichloromethane)	75092	0.00E+00					
Methylene Diphenyl Isocyanate (MDI)	101688	0.00E+00					
Michlers Ketone	90948	0.00E+00					
n-Hexane	110543	1.85E-02		4.98E-06			
n-Nitroso-n-methylethylamine	10595956	0.00E+00					
n-Nitrosodi-n-Butylamine	924163	0.00E+00					
n-Nitrosodi-n-Propylamine	621647	0.00E+00					
n-Nitrosodiethylamine	55185	0.00E+00					
n-Nitrosodimethylamine	62759	0.00E+00					
n-Nitrosodiphenylamine	86306	0.00E+00					
n-Nitrosomorpholine	59892	0.00E+00					
n-Nitrosopiperidine	100754	0.00E+00					
n-Nitrosopyrrolidine	930552	0.00E+00					
Naphthalene	91203	0.00E+00					
Nickel and Nickel Compounds	7440020	0.00E+00					
Nickel acetate	373024	0.00E+00					
Nickel carbonate	3333673	0.00E+00					
Nickel carbonyl	13463393	0.00E+00					
Nickel hydroxide	12054487	0.00E+00					
Nickelocene	1271289	0.00E+00					
Nickel Oxide	1313991	0.00E+00					
Nickel Refinery Dust	1146	0.00E+00					
Nickel Subsulfide	12035722	0.00E+00					
Nitric Acid	7697372	0.00E+00					
Nitrogen Dioxide	10102440	0.00E+00					
o-CRESOL	95487	0.00E+00					
o-XYLENE	95476	0.00E+00					
Oleum	8014957	0.00E+00					
Ozone	10028156	0.00E+00					
p-Chloro-o-toluidine	95692	0.00E+00					
p-Cresidine	120718	0.00E+00					
p-CRESOL	106445	0.00E+00					
p-Nitrosodiphenylamine	156105	0.00E+00					
p-XYLENE	106423	0.00E+00					
Pentachlorophenol	87865	0.00E+00					
Perchloroethylene	127184	0.00E+00					
Phenol	108952	0.00E+00					
Phosgene	75445	0.00E+00					
Phosphine	7803512	0.00E+00					
Phosphoric Acid	7664382	0.00E+00					
Phthalic Anhydride	85449	0.00E+00					
Polychlorinated Biphenyls	1336363	0.00E+00					
Potassium Bromate	7758012	0.00E+00					
Propylene	115071	0.00E+00					
Propylene Glycol Monomethyl Ether	107982	0.00E+00					
Propylene oxide	75569	0.00E+00					
Selenium	7782492	0.00E+00					
Selenium sulfide	7446346	0.00E+00					
Silica (crystalline, respirable)	7631869	0.00E+00					
Sodium hydroxide	1310732	0.00E+00					
Styrene	100425	0.00E+00					
Sulfates	9960	0.00E+00					
Sulfur Dioxide	7446095	0.00E+00					
Sulfuric Acid	7664939	0.00E+00					
Sulfur Trioxide	7446719	0.00E+00					
Tertiary-butyl acetate	540885	0.00E+00					
Tetrachloroethylene	127184	0.00E+00					
Thioacetamide	62555	0.00E+00					
Toluene	108883	4.48E-02		2.82E-04			

Toluene Diisocyanates	26471625	0.00E+00			
Toluene Diisocyanates (2,4 and 2, 6)	584849	0.00E+00			
Toluene Diisocyanates (2,4 and 2, 6)	91087	0.00E+00			
Trichloroethylene	79016	0.00E+00			
Triethylamine	121448	0.00E+00			
Urethane	51796	0.00E+00			
Vanadium pentoxide	1314621	0.00E+00			
Vinyl acetate	108054	0.00E+00			
Vinyl chloride	75014	0.00E+00			
Xylenes (technical mixture of m, o, p-isomers)	1330207	3.74E-02		1.01E-04	
Vanadium	7440622	0.00E+00			
		TOTAL UNADJUSTED Risk Values	**0.673**	**0.003**	**0.000**

Gasoline Dispensing Facility (GDF) Distance Multiplier Tool: This distance multiplier tool refines the screening values for cancer risk and chronic hazard index found in the District's Stationary Source Screening Analysis Tool for GDF's, to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Gas Station

Distance (meters)	Distance (feet)	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard
0	0.0	1.000		0.0000
5	16.4	1.000		0.0000
10	32.8	1.000		0.0000
15	49.2	1.000		0.0000
20	65.6	1.000		0.0000
25	82.0	0.728		0.0000
30	98.4	0.559		0.0000
35	114.8	0.445		0.0000
40	131.2	0.365		0.0000
45	147.6	0.305		0.0000
50	164.0	0.260		0.0000
55	180.4	0.225		0.0000
60	196.9	0.197		0.0000
65	213.3	0.174		0.0000
70	229.7	0.155		0.0000
75	246.1	0.139		0.0000
80	262.5	0.126		0.0000
85	278.9	0.114		0.0000
90	295.3	0.104		0.0000
95	311.7	0.096		0.0000
100	328.1	0.088		0.0000
105	344.5	0.082		0.0000
110	360.9	0.076		0.0000
115	377.3	0.071		0.0000
120	393.7	0.066		0.0000
125	410.1	0.062		0.0000
130	426.5	0.058		0.0000
135	442.9	0.055		0.0000
140	459.3	0.052		0.0000
145	475.7	0.049		0.0000
150	492.1	0.046		0.0000
155	508.5	0.044		0.0000
160	524.9	0.042		0.0000
165	541.3	0.040		0.0000
170	557.7	0.038		0.0000
175	574.1	0.036		0.0000
180	590.6	0.034		0.0000
185	607.0	0.033		0.0000
190	623.4	0.031		0.0000
195	639.8	0.030		0.0000
200	656.2	0.029		0.0000
205	672.6	0.028		0.0000
210	689.0	0.027		0.0000
215	705.4	0.026		0.0000
220	721.8	0.025		0.0000
225	738.2	0.024		0.0000
230	754.6	0.023		0.0000
235	771.0	0.022		0.0000
240	787.4	0.022		0.0000
245	803.8	0.021		0.0000
250	820.2	0.020		0.0000
255	836.6	0.020		0.0000
260	853.0	0.019		0.0000
265	869.4	0.018		0.0000
270	885.8	0.018		0.0000
275	902.2	0.017		0.0000
280	918.6	0.017		0.0000
285	935.0	0.016		0.0000
290	951.4	0.016		0.0000
295	967.8	0.015		0.0000
300	984.3	0.015		0.0000

Diesel Internal Combustion (IC) Engine Distance Multiplier Tool: This distance multiplier tool refines the screening values for cancer risk and $PM_{2.5}$ concentrations found in the District's Stationary Source Screening Analysis Tool for permitted facilities which contain only diesel IC engines, to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Diesel Backup Generator

Distance (meters)	Distance (feet)	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
0	0.0	1.000		0		0
5	16.4	1.000		0		0
10	32.8	1.000		0		0
15	49.2	1.000		0		0
20	65.6	1.000		0		0
25	82.0	0.85		0		0
30	98.4	0.73		0		0
35	114.8	0.64		0		0
40	131.2	0.58		0		0
50	164.0	0.5		0		0
60	196.9	0.41		0		0
70	229.7	0.31		0		0
80	262.5	0.28		0		0
90	295.3	0.25		0		0
100	328.1	0.22		0		0
110	360.9	0.18		0		0
120	393.7	0.16		0		0
130	426.5	0.15		0		0
140	459.3	0.14		0		0
150	492.1	0.12		0		0
160	524.9	0.1		0		0
180	590.6	0.09		0		0
200	656.2	0.08		0		0
220	721.8	0.07		0		0
240	787.4	0.06		0		0
260	853.0	0.05		0		0
280	918.6	0.04		0		0

Generic Distance Multiplier Tool: This distance multiplier tool refines the screening values to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Generic Case

Distance (meters)	Distance (feet)	Multiplier
0	0.0	1.000
5	16.4	1.000
10	32.8	0.883
15	49.2	0.855
20	65.6	0.827
25	82.0	0.801
30	98.4	0.775
35	114.8	0.750
40	131.2	0.726
45	147.6	0.702
50	164.0	0.679
55	180.4	0.658
60	196.9	0.636
65	213.3	0.616
70	229.7	0.596
75	246.1	0.577
80	262.5	0.558
85	278.9	0.540
90	295.3	0.523
95	311.7	0.506
100	328.1	0.489
105	344.5	0.474
110	360.9	0.458
115	377.3	0.444
120	393.7	0.429
125	410.1	0.415
130	426.5	0.402
135	442.9	0.389
140	459.3	0.376
145	475.7	0.364
150	492.1	0.353
155	508.5	0.341
160	524.9	0.330
165	541.3	0.319
170	557.7	0.309
175	574.1	0.299
180	590.6	0.290
185	607.0	0.280
190	623.4	0.271
195	639.8	0.262
200	656.2	0.254
205	672.6	0.246
210	689.0	0.238
215	705.4	0.230
220	721.8	0.223
225	738.2	0.216
230	754.6	0.209
235	771.0	0.202
240	787.4	0.195
245	803.8	0.189
250	820.2	0.183
255	836.6	0.177
260	853.0	0.171
265	869.4	0.166
270	885.8	0.160
275	902.2	0.155
280	918.6	0.150
285	935.0	0.145
290	951.4	0.141
295	967.8	0.136
300	984.3	0.132

		(µg/m3)	(mg/kg-day)-1
Chemical Name	CAS Number	Chronic multi-pathway inhalation REL	Inhalation Multi-pathway slope factor
1,1,1-Trichloroethane	71556	1000	0
1,1,2,2-Tetrachloroethane	79345	0	0.2
1,1,2-Trichloroethane	79005	0	0.057
1,1-Dichloroethane	75343	0	0.0057
1,1-Dichloroethylene	75354	70	0
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268879	0	1950
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001020	0	1950
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469		
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394	0	65000
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673897	0	65000
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	0.000000076	650000
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	0	650000
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	0	650000
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	0	650000
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	0	650000
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	0	650000
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	0.000000076	6500000
1,2,3,7,8-Pentachlorodibenzofuran	57117416	0	195000
1,2-Dibromo-3-chloropropane	96128	0	7
1,2-Dibromoethane	106934	0.8	0.25
1,2-Dichloroethane	107062	400	0.072
1,2-Epoxybutane	106887	20	0
1,3-Butadiene	106990	2	0.6
1,3-Propane sultone	1120714	0	2.4
1,4-Dichlorobenzene	106467	800	0.04
1,4-Dioxane	123911	3000	0.027
1,6-Dinitropyrene	42397648	0	860
1,8-Dinitropyrene	42397659	0	86
1-Nitropyrene	5522430	0	8.6
2',3,4,4',5-PeCB	65510443	0	195
2,3',4,4',5,5'-HxCB	52663726	0	195
2,3',4,4',5-PeCB	31508006	0	195
2,3,3',4,4',5'-HxCB	69782907	0	195
2,3,3',4,4',5,5'-HpCB	39635319	0	195
2,3,3',4,4',5-HxCB	38380084	0	195
2,3,3',4,4'-PeCB	32598144	0	195
2,3,4,4',5-PeCB	74472370	0	195
2,3,4,6,7,8-hexachlorodibenzofuran	60851345	0	650000
2,3,4,7,8-Pentachlorodibenzofuran	57117314	0	19500000
2,3,7,8-Tetrachlorodibenzo-p-dioxin and related compound	1746016	0.000000076	650000
2,3,7,8-Tetrachlorodibenzofuran	51207319	0	650000

2,4,6-Trichlorophenol	88062	0	0.07
2,4-Diaminoanisole	615054	0	0.023
2,4-Diaminotoluene	95807	0	4
2,4-Dinitrotoluene	121142	0	0.31
2-Aminoanthraquinone	117793	0	0.033
2-Nitrofluorene	607578	0	0.86
3,3',4,4',5,5'-HxCB	32774166	0	195000
3,3',4,4',5-PeCB	57465288	0	650000
3,3',4,4'-TCB	32598133	0	650
3,3-Dichlorobenzidine	91941	0	1.2
3,4,4'5-TCB	70362504	0	1950
3-Methylcholanthrene	56495	2	490.2
4,4-Methylene bis(2-chloroaniline)	101144	0	1.5
4,4-Methylenedianiline	101779	20	11
4-Chloro-ortho-phenylenediamine	95830	0	0.016
4-Dimethylaminoazobenzene	60117	0	4.6
4-Nitropyrene	57835924	0	8.6
5-Methylchrysene	3697243	0	86
5-Nitroacenaphthene	602879	0	2.58
6-Nitrochrysene	7496028	0	860
7,12-Dimethylbenz(a)anthracene	57976	0	5504
7H-dibenzo(c,g)carbazole	194592	0	86
Acetaldehyde	75070	140	0.01
Acetamide	60355	0	0.07
Acrolein	107028	0.35	0
Acrylamide	79061	0	4.5
Acrylic Acid	79107	0	0
Acrylonitrile	107131	5	1
Allyl chloride	107051	0	0.021
Ammonia	7664417	200	0
Aniline	62533	0	0.0057
Arsenic	7440382	0.00014	180
Arsine	7784421	0.014	0
Asbestos [1/(100 PCM fibers/m^3)]^-1	1332214	0	220
Benz(a)anthracene	56553	0	0.39
Benzene	71432	3	0.1
Benzidine	92875	0	500
Benzo(a)pyrene	50328	0	86
Benzo(b)fluoranthene	205992	0	8.6
Benzo(j)fluoranthene	205823	0	8.6
Benzo(k)fluoranthene	207089	0	8.6
Benzyl Chloride	100447	0	0.17
Beryllium	7440417	0.007	8.4
Bis(2-chloroethyl) Ether	111444	0	2.5
Bis(2-chloromethyl) Ether	542881	0	46
Cadmium	7440439	0.01	15
Caprolactam	105602	2.2	0

Carbon Disulfide	75150	800	0
Carbon Monoxide	630080	0	0
Carbon Tetrachloride	56235	40	0.15
Carbonyl Sulfide	463581		
Chlorinated paraffins (Avg. chain length C12; approx. 60 per	108171262	0	0.089
Chlorine	7782505	0.2	0
Chlorine Dioxide	10049044	0.6	0
Chlorite	7758192	0	0
Chlorobenzene	108907	1000	0
Chlorodibromomethane	124481	0	0.094
Chloroethane (Ethyl Chloride)	75003	30000	0
Chloroform	67663	300	0.019
Chloropicrin	76062	0.4	0
Chromic Trioxide	1333820	0.001	290
Chromium-hexavalent	18540299	0.2	560
Barium chromate2	10294403		
Calcium chromate2	13765190		
Lead chromate2	7758976		
Sodium dichromate2	10588019		
Strontium chromate2	7789062		
CHROMIC TRIOXIDE (as chromic acid mist)	1333820	0.001	290
Chrysene	218019	0	0.86
Copper	7440508	0	0
Copper and Copper Compounds	7440508	0	0
Cresol Mixtures	1319773	600	0
Cupferron	135206	0	0.22
Cyanide	57125	9	0
Di(2-ethylhexyl)phthalate	117817	0	0.01
Dibenz(a-h)acridine	226368	0	8.6
Dibenz(a-h)anthracene	53703	0	90.3
Dibenz(a-j)acridine	224420	0	8.6
Dibenzo(a-e)pyrene	192654	0	86
Dibenzo(a-h)pyrene	189640	0	860
Dibenzo(a-i)pyrene	189559	0	860
Dibenzo(a-l)pyrene	191300	0	860
Diesel Exhaust Particulate	85105	5	1.1
Diethanolamine	111422	3	0
Dimethylformamide	68122	80	0
Direct Black 38 (Technical Grade)	1937377	0	7.4
Direct Blue 6 (Technical Grade)	2602462	0	7.4
Direct Brown 95 (Technical Grade)	16071866	0	6.7
Epichlorohydrin	106898	3	0.08
Ethylbenzene	100414	2000	0.0087
Ethylene Glycol	107211	400	0
Ethylene Glycol Monobutyl Ether	111762	0	0
Ethylene Glycol Monoethyl Ether	110805	70	0
Ethylene Glycol Monoethyl Ether Acetate	111159	300	0

Ethylene Glycol Monomethyl Ether	109864	60	0
Ethylene Glycol Monomethyl Ether Acetate	110496	90	0
Ethylene Oxide	75218	30	0.31
Ethylene Thiourea	96457	0	0.045
Fluorides	1101		
Formaldehyde (gas)	50000	9	0.021
Glutaraldehyde	111308	0.08	0
Hexachlorobenzene	118741	0	1.8
Hexachlorocyclohexane (Technical Grade)	608731	0	8.6
Hexachlorocyclohexane- Alpha Isomer	319846	0	8.6
Hexachlorocyclohexane- Beta Isomer	319857	0	8.6
Hexachlorocyclohexane- Gamma Isomer	58899	0	2.4
Hydrazine	302012	0.2	17
Hydrogen Chloride	7647010	9	0
Hydrogen Cyanide	74908	9	0
Hydrogen Fluoride	7664393	1.5	0
Hydrogen Selenide	7783075	0	0
Hydrogen Sulfide	7783064	10	0
Indeno(1-2-3-c-d)pyrene	193395	0	8.6
Isophorone	78591	2000	0
Isopropyl Alcohol	67630	7000	0
Lead Acetate	301042	0	0.62
Lead and Lead Compounds	7439921	0	0.98
Lead Phosphate	7446277	0	0.75
Lead Subacetate	1335326	0	0.75
m-CRESOL	108394		
m-XYLENE	108383		
Maleic Anhydride	108316	0.7	0
Manganese & Manganese Compounds	7439965	0.09	0
Mercury (Inorganic)	7439976	0.0054	0
Mercuric chloride	7487947		
Methanol	67561	4000	0
Methyl Bromide	74839	5	0
Methyl Ethyl Ketone	78933	0	0
Methyl Isocyanate	624839	1	0
Methyl Tertiary Butyl Ether	1634044	8000	0.0018
Methylene Chloride (Dichloromethane)	75092	400	0.0035
Methylene Diphenyl Isocyanate (MDI)	101688	0.7	0
Michlers Ketone	90948	0	0.86
n-Hexane	110543	7000	0
n-Nitroso-n-methylethylamine	10595956	0	22
n-Nitrosodi-n-Butylamine	924163	0	11
n-Nitrosodi-n-Propylamine	621647	0	7
n-Nitrosodiethylamine	55185	0	36
n-Nitrosodimethylamine	62759	0	16
n-Nitrosodiphenylamine	86306	0	0.009
n-Nitrosomorpholine	59892	0	6.7

n-Nitrosopiperidine	100754	0	9.4
n-Nitrosopyrrolidine	930552	0	2.1
Naphthalene	91203	9	0.12
Nickel and Nickel Compounds	7440020	0.014	0.91
Nickel acetate	373024		
Nickel carbonate	3333673		
Nickel carbonyl	13463393		
Nickel hydroxide	12054487		
Nickelocene	1271289		
Nickel Oxide	1313991	0.02	0
Nickel Refinery Dust	1146		
Nickel Subsulfide	12035722	0.0034	0.91
Nitric Acid	7697372	0	0
Nitrogen Dioxide	10102440	0	0
o-CRESOL	95487		
o-XYLENE	95476		
Oleum	8014957	0	0
Ozone	10028156	0	0
p-Chloro-o-toluidine	95692	0	0.27
p-Cresidine	120718	0	0.15
p-CRESOL	106445		
p-Nitrosodiphenylamine	156105	0	0.022
p-XYLENE	106423		
Pentachlorophenol	87865	0	0.018
Perchloroethylene	127184	35	0.021
Phenol	108952	200	0
Phosgene	75445	0	0
Phosphine	7803512	0.8	0
Phosphoric Acid	7664382	7	0
Phthalic Anhydride	85449	20	0
Polychlorinated Biphenyls	1336363	0.00004	74
Potassium Bromate	7758012	1.7	0.49
Propylene	115071	3000	0
Propylene Glycol Monomethyl Ether	107982	7000	0
Propylene oxide	75569	30	0.013
Selenium	7782492	0.21	0
Selenium sulfide	7446346		
Silica (crystalline, respirable)	7631869	3	0
Sodium hydroxide	1310732	0	0
Styrene	100425	900	0
Sulfates	9960		
Sulfur Dioxide	7446095	0	0
Sulfuric Acid	7664939	1	0
Sulfur Trioxide	7446719		
Tertiary-butyl acetate	540885		
Tetrachloroethylene	127184	35	0.021
Thioacetamide	62555	0	6.1

Toluene	108883	300	0
Toluene Diisocyanates	26471625	0.07	0.039
Toluene Diisocyanates (2,4 and 2, 6)	584849	0.07	0.039
Toluene Diisocyanates (2,4 and 2, 6)	91087	0.07	0.039
Trichloroethylene	79016	600	0.007
Triethylamine	121448	200	0
Urethane	51796	0	1
Vanadium pentoxide	1314621	0	0
Vinyl acetate	108054	200	0
Vinyl chloride	75014	0	0.27
Xylenes (technical mixture of m, o, p-isomers)	1330207	700	0
Vanadium	7440622	0	0

Note: Multipathway exposures that takes into account potential increase in cancer potency due to exposures to non-inhalation pathways were addressed by modifying the cancer potency using a weighing factor. The CP weighing factor is listed in Table 2-5-1 of the District's Regulation 2-5. This factor was derived using unit emission rates in CARB's HARP model. TACs with multi-pathway cancer impacts include: arsenic, inorganic arsenic compounds, chromium (hexavalent), inorganic hexavalent chromium compounds, di(2-ethylhexyl) phthalate, hexachlorocyclohexanes, lead, inorganic lead compounds, 4,4-methylene dianiline and its dichloride, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzop-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and dioxin like PCBs. For inhalation only (non-multipathway) carcinogens, the CP weighting factor is equal to the inhalation cancer potency factor.

At the Project Site

Step 1:	
Plant Name	Shell SS#68202 (Project Site)
Plant No.	111830

Step 4: Specify Source Type	
Does facility have only diesel backup generators?	no
Is this analysis for a gas station?	yes

Note: Default generic distance multiplier used if source is not a generator or gas station.

Step 2: Estimate Distance	
What is the distance (m) from the facility boundary to the MEI?	230

Step 5: Read Estimates		
Total Cancer Risk	0.016	per 1,000,000
Total Chronic Hazard	0.000	
Total PM2.5 Concentration	0.000	µg/m³

Step 3: Enter Emissions Data

Chemical Name	CAS No. (dashes removed)	Rate (lb/day)	Risk (# / 1,000,000)	Hazard (Index)	Concentration (µg/m3)
Fine Particulate Matter (PM2.5)		0.00E+00			
1,1,1-Trichloroethane	71556	0.00E+00			
1,1,2,2-Tetrachloroethane	79345	0.00E+00			
1,1,2-Trichloroethane	79005	0.00E+00			
1,1-Dichloroethane	75343	0.00E+00			
1,1-Dichloroethylene	75354	0.00E+00			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268879	0.00E+00			
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001020	0.00E+00			
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	0.00E+00			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394	0.00E+00			
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673897	0.00E+00			
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	0.00E+00			
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	0.00E+00			
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	0.00E+00			
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	0.00E+00			
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	0.00E+00			
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	0.00E+00			
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	0.00E+00			
1,2,3,7,8-Pentachlorodibenzofuran	57117416	0.00E+00			
1,2-Dibromo-3-chloropropane	96128	0.00E+00			
1,2-Dibromoethane	106934	0.00E+00			
1,2-Dichloroethane	107062	0.00E+00			
1,2-Epoxybutane	106887	0.00E+00			
1,3-Butadiene	106990	0.00E+00			
1,3-Propane sultone	1120714	0.00E+00			
1,4-Dichlorobenzene	106467	0.00E+00			
1,4-Dioxane	123911	0.00E+00			
1,6-Dinitropyrene	42397648	0.00E+00			
1,8-Dinitropyrene	42397659	0.00E+00			
1-Nitropyrene	5522430	0.00E+00			
2',3,4,4',5-PeCB	65510443	0.00E+00			
2,3',4,4',5,5'-HxCB	52663726	0.00E+00			
2,3',4,4',5-PeCB	31508006	0.00E+00			
2,3,3',4,4',5'-HxCB	69782907	0.00E+00			
2,3,3',4,4',5,5'-HpCB	39635319	0.00E+00			
2,3,3',4,4',5-HxCB	38380084	0.00E+00			
2,3,3',4,4'-PeCB	32598144	0.00E+00			
2,3,4,4',5-PeCB	74472370	0.00E+00			
2,3,4,6,7,8-hexachlorodibenzofuran	60851345	0.00E+00			
2,3,4,7,8-Pentachlorodibenzofuran	57117314	0.00E+00			
2,3,7,8-Tetrachlorodibenzo-p-dioxin and related compı	1746016	0.00E+00			
2,3,7,8-Tetrachlorodibenzofuran	51207319	0.00E+00			
2,4,6-Trichlorophenol	88062	0.00E+00			
2,4-Diaminoanisole	615054	0.00E+00			
2,4-Diaminotoluene	95807	0.00E+00			
2,4-Dinitrotoluene	121142	0.00E+00			
2-Aminoanthraquinone	117793	0.00E+00			
2-Nitrofluorene	607578	0.00E+00			
3,3',4,4',5,5'-HxCB	32774166	0.00E+00			
3,3',4,4',5-PeCB	57465288	0.00E+00			
3,3',4,4'-TCB	32598133	0.00E+00			
3,3-Dichlorobenzidine	91941	0.00E+00			
3,4,4'5-TCB	70362504	0.00E+00			
3-Methylcholanthrene	56495	0.00E+00			
4,4-Methylene bis(2-chloroaniline)	101144	0.00E+00			
4,4-Methylenedianiline	101779	0.00E+00			
4-Chloro-ortho-phenylenediamine	95830	0.00E+00			
4-Dimethylaminoazobenzene	60117	0.00E+00			
4-Nitropyrene	57835924	0.00E+00			
5-Methylchrysene	3697243	0.00E+00			
5-Nitroacenaphthene	602879	0.00E+00			
6-Nitrochrysene	7496028	0.00E+00			
7,12-Dimethylbenz(a)anthracene	57976	0.00E+00			
7H-dibenzo(c,g)carbazole	194592	0.00E+00			
Acetaldehyde	75070	0.00E+00			
Acetamide	60355	0.00E+00			
Acrolein	107028	0.00E+00			
Acrylamide	79061	0.00E+00			
Acrylic Acid	79107	0.00E+00			
Acrylonitrile	107131	0.00E+00			
Allyl chloride	107051	0.00E+00			
Ammonia	7664417	0.00E+00			
Aniline	62533	0.00E+00			
Arsenic	7440382	0.00E+00			
Arsine	7784421	0.00E+00			
Asbestos [1/(100 PCM fibers/m^3)]^-1	1332214	0.00E+00			
Benz(a)anthracene	56553	0.00E+00			
Benzene	71432	4.68E-03	5.99E-01	2.95E-03	
Benzidine	92875	0.00E+00			
Benzo(a)pyrene	50328	0.00E+00			
Benzo(b)fluoranthene	205992	0.00E+00			
Benzo(j)fluoranthene	205823	0.00E+00			
Benzo(k)fluoranthene	207089	0.00E+00			
Benzyl Chloride	100447	0.00E+00			
Beryllium	7440417	0.00E+00			
Bis(2-chloroethyl) Ether	111444	0.00E+00			
Bis(2-chloromethyl) Ether	542881	0.00E+00			
Cadmium	7440439	0.00E+00			
Caprolactam	105602	0.00E+00			
Carbon Disulfide	75150	0.00E+00			
Carbon Monoxide	630080	0.00E+00			
Carbon Tetrachloride	56235	0.00E+00			
Carbonyl Sulfide	463581	0.00E+00			
Chlorinated paraffins (Avg. chain length C12; approx. 6(	108171262	0.00E+00			
Chlorine	7782505	0.00E+00			
Chlorine Dioxide	10049044	0.00E+00			
Chlorite	7758192	0.00E+00			
Chlorobenzene	108907	0.00E+00			
Chlorodibromomethane	124481	0.00E+00			
Chloroethane (Ethyl Chloride)	75003	0.00E+00			
Chloroform	67663	0.00E+00			
Chloropicrin	76062	0.00E+00			
Chromic Trioxide	1333820	0.00E+00			
Chromium-hexavalent	18540299	0.00E+00			
Barium chromate2	10294403	0.00E+00			
Calcium chromate2	13765190	0.00E+00			
Lead chromate2	7758976	0.00E+00			

Sodium dichromate2	10588019	0.00E+00					
Strontium chromate2	7789062	0.00E+00					
CHROMIC TRIOXIDE (as chromic acid mist)	1333820	0.00E+00					
Chrysene	218019	0.00E+00					
Copper	7440508	0.00E+00					
Copper and Copper Compounds	7440508	0.00E+00					
Cresol Mixtures	1319773	0.00E+00					
Cupferron	135206	0.00E+00					
Cyanide	57125	0.00E+00					
Di(2-ethylhexyl)phthalate	117817	0.00E+00					
Dibenz(a-h)acridine	226368	0.00E+00					
Dibenz(a-h)anthracene	53703	0.00E+00					
Dibenz(a-j)acridine	224420	0.00E+00					
Dibenzo(a-e)pyrene	192654	0.00E+00					
Dibenzo(a-h)pyrene	189640	0.00E+00					
Dibenzo(a-i)pyrene	189559	0.00E+00					
Dibenzo(a-l)pyrene	191300	0.00E+00					
Diesel Exhaust Particulate	85105	0.00E+00					
Diethanolamine	111422	0.00E+00					
Dimethylformamide	68122	0.00E+00					
Direct Black 38 (Technical Grade)	1937377	0.00E+00					
Direct Blue 6 (Technical Grade)	2602462	0.00E+00					
Direct Brown 95 (Technical Grade)	16071866	0.00E+00					
Epichlorohydrin	106898	0.00E+00					
Ethylbenzene	100414	6.68E-03	7.43E-02	6.31E-06			
Ethylene Glycol	107211	0.00E+00					
Ethylene Glycol Monobutyl Ether	111762	0.00E+00					
Ethylene Glycol Monoethyl Ether	110805	0.00E+00					
Ethylene Glycol Monoethyl Ether Acetate	111159	0.00E+00					
Ethylene Glycol Monomethyl Ether	109864	0.00E+00					
Ethylene Glycol Monomethyl Ether Acetate	110496	0.00E+00					
Ethylene Oxide	75218	0.00E+00					
Ethylene Thiourea	96457	0.00E+00					
Fluorides	1101	0.00E+00					
Formaldehyde (gas)	50000	0.00E+00					
Glutaraldehyde	111308	0.00E+00					
Hexachlorobenzene	118741	0.00E+00					
Hexachlorocyclohexane (Technical Grade)	608731	0.00E+00					
Hexachlorocyclohexane- Alpha Isomer	319846	0.00E+00					
Hexachlorocyclohexane- Beta Isomer	319857	0.00E+00					
Hexachlorocyclohexane- Gamma Isomer	58899	0.00E+00					
Hydrazine	302012	0.00E+00					
		0.00E+00					
Hydrogen Chloride	7647010						
Hydrogen Cyanide	74908	0.00E+00					
Hydrogen Fluoride	7664393	0.00E+00					
Hydrogen Selenide	7783075	0.00E+00					
Hydrogen Sulfide	7783064	0.00E+00					
Indeno(1-2-3-c-d)pyrene	193395	0.00E+00					
Isophorone	78591	0.00E+00					
Isopropyl Alcohol	67630	0.00E+00					
Lead Acetate	301042	0.00E+00					
Lead and Lead Compounds	7439921	0.00E+00					
Lead Phosphate	7446277	0.00E+00					
Lead Subacetate	1335326	0.00E+00					
m-CRESOL	108394	0.00E+00					
m-XYLENE	108383	0.00E+00					
Maleic Anhydride	108316	0.00E+00					
Manganese & Manganese Compounds	7439965	0.00E+00					
Mercury (Inorganic)	7439976	0.00E+00					
Mercuric chloride	7487947	0.00E+00					
Methanol	67561	0.00E+00					
Methyl Bromide	74839	0.00E+00					
Methyl Ethyl Ketone	78933	0.00E+00					
Methyl Isocyanate	624839	0.00E+00					
Methyl Tertiary Butyl Ether	1634044	0.00E+00					
Methylene Chloride (Dichloromethane)	75092	0.00E+00					
Methylene Diphenyl Isocyanate (MDI)	101688	0.00E+00					
Michlers Ketone	90948	0.00E+00					
n-Hexane	110543	1.85E-02		4.98E-06			
n-Nitroso-n-methylethylamine	10595956	0.00E+00					
n-Nitrosodi-n-Butylamine	924163	0.00E+00					
n-Nitrosodi-n-Propylamine	621647	0.00E+00					
n-Nitrosodiethylamine	55185	0.00E+00					
n-Nitrosodimethylamine	62759	0.00E+00					
n-Nitrosodiphenylamine	86306	0.00E+00					
n-Nitrosomorpholine	59892	0.00E+00					
n-Nitrosopiperidine	100754	0.00E+00					
n-Nitrosopyrrolidine	930552	0.00E+00					
Naphthalene	91203	0.00E+00					
Nickel and Nickel Compounds	7440020	0.00E+00					
Nickel acetate	373024	0.00E+00					
Nickel carbonate	3333673	0.00E+00					
Nickel carbonyl	13463393	0.00E+00					
Nickel hydroxide	12054487	0.00E+00					
Nickelocene	1271289	0.00E+00					
Nickel Oxide	1313991	0.00E+00					
Nickel Refinery Dust	1146	0.00E+00					
Nickel Subsulfide	12035722	0.00E+00					
Nitric Acid	7697372	0.00E+00					
Nitrogen Dioxide	10102440	0.00E+00					
o-CRESOL	95487	0.00E+00					
o-XYLENE	95476	0.00E+00					
Oleum	8014957	0.00E+00					
Ozone	10028156	0.00E+00					
p-Chloro-o-toluidine	95692	0.00E+00					
p-Cresidine	120718	0.00E+00					
p-CRESOL	106445	0.00E+00					
p-Nitrosodiphenylamine	156105	0.00E+00					
p-XYLENE	106423	0.00E+00					
Pentachlorophenol	87865	0.00E+00					
Perchloroethylene	127184	0.00E+00					
Phenol	108952	0.00E+00					
Phosgene	75445	0.00E+00					
Phosphine	7803512	0.00E+00					
Phosphoric Acid	7664382	0.00E+00					
Phthalic Anhydride	85449	0.00E+00					
Polychlorinated Biphenyls	1336363	0.00E+00					
Potassium Bromate	7758012	0.00E+00					
Propylene	115071	0.00E+00					
Propylene Glycol Monomethyl Ether	107982	0.00E+00					
Propylene oxide	75569	0.00E+00					
Selenium	7782492	0.00E+00					
Selenium sulfide	7446346	0.00E+00					
Silica (crystalline, respirable)	7631869	0.00E+00					
Sodium hydroxide	1310732	0.00E+00					
Styrene	100425	0.00E+00					
Sulfates	9960	0.00E+00					
Sulfur Dioxide	7446095	0.00E+00					
Sulfuric Acid	7664939	0.00E+00					
Sulfur Trioxide	7446719	0.00E+00					
Tertiary-butyl acetate	540885	0.00E+00					
Tetrachloroethylene	127184	0.00E+00					
Thioacetamide	62555	0.00E+00					
Toluene	108883	4.48E-02		2.82E-04			

Toluene Diisocyanates	26471625	0.00E+00			
Toluene Diisocyanates (2,4 and 2, 6)	584849	0.00E+00			
Toluene Diisocyanates (2,4 and 2, 6)	91087	0.00E+00			
Trichloroethylene	79016	0.00E+00			
Triethylamine	121448	0.00E+00			
Urethane	51796	0.00E+00			
Vanadium pentoxide	1314621	0.00E+00			
Vinyl acetate	108054	0.00E+00			
Vinyl chloride	75014	0.00E+00			
Xylenes (technical mixture of m, o, p-isomers)	1330207	3.74E-02		1.01E-04	
Vanadium	7440622	0.00E+00			
		TOTAL UNADJUSTED Risk Values	**0.673**	**0.003**	**0.000**