BARK LANE RESIDENTIAL PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality impacts and compute greenhouse gas (GHG) emissions associated with the residential project located at 7201-7245 Bark Lane, between South De Anza Boulevard and Weyburn Lane in San José, California. The air quality impacts and GHG emissions would be associated with the demolition of the existing uses at the site, construction of the new building and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using models. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project site is currently developed with 20 units in three, three-story apartment buildings. The project proposes to demolish the existing structures on the 0.9-acre site and construct 85, two- and three-bedroom residential units in a seven-story building constructed over two levels of underground parking with 192 parking spaces.

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.

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

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [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. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

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 cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The project would introduce new sensitive receptors in the form of residences. The closest sensitive receptors to the project site are residences adjacent to the northern and eastern site boundaries. There are additional residences north, south, and east of the site.

Regulatory Agencies

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

[2] 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.

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.

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.

[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

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

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.

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.

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

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 and this assessment:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the 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.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

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

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

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.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.

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. The City's 2040 General Plan includes a policy to reduce exposure of new sensitive receptors to hazardous pollutants (Guiding Policy 12.6-G-1). Therefore, the effect of existing air pollutant and TAC sources upon the project site was assessed.

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	>10.0 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) 660 metric tons annually or 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 1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

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 site assuming full build-out of the project. 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 and estimates emissions 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 CalEEMod default information for a project of this type and size. The proposed project land uses were input into CalEEMod, which included: 85 dwelling units entered as "Apartments Mid Rise" and 192 spaces entered as "Enclosed Parking with Elevator" on a 0.9-acre site. The larger CalEEMod default acreage was used to account for the height of building construction and the excavation for the below-grade parking garage. In addition, 30,000 square feet (sf) of existing building demolition and 3,022 one–way haul truck trips of off-haul during grading and excavation was entered into the model.

Construction was assumed to begin January 2020 and last 14 months. There were an estimated 299 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the 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 the 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)	1.6 tons	3.6 tons	0.2 tons	0.2 tons
Average daily emissions (pounds)[1]	10.6 lbs./day	24.2 lbs./day	1.1 lbs./day	1.0 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

Notes: [1]Assumes 299 workdays.

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*.

Operational Period Emissions

Operational air pollutant emissions from the project would be generated primarily from autos driven by future residents. 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.

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling.

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. The earliest the project could possibly be constructed and begin operating would be 2022. Emissions associated with build-out later than 2022 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. 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. The project traffic analysis

provided project trip generation values for the residential land use.[6] The vehicle trip generation rates for the project were the same as the CalEEMod defaults for "Apartments Mid Rise", so the rates were not changed. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO_2 intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO_2 per megawatt of electricity delivered.[7]

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to use natural gas.

Existing Uses

A CalEEMod model run was developed to compute emissions from use of the existing building as if it was operating in 2022. The input for this modeling scenario included 20 dwelling units and 30,000-sf entered as "Apartments Mid Rise" on a 0.9-acre site. The project traffic analysis also provided existing trip generation values. Using the same vehicle trip rate calculation method described above, the existing trip rates were estimated to be 10.5 trips per dwelling unit for weekdays, 10.09 trips per dwelling unit for Saturday, and 9.25 trips per dwelling unit for Sunday, This input was applied to the model in the same manner described for the proposed project.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

[6] Hexagon Transportation Consultants, Inc., "Bark Lane Residential Draft Transportation Impact Analysis", July 2017.
[7] Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2022 Project Operational Emissions (*tons/year*)	0.9 tons	0.6 tons	0.5 tons	0.1 tons
2022 Existing Use Emissions (*tons/year*)	0.2 tons	0.2 tons	0.2 tons	<0.1 tons
Net Annual Emissions (*tons/year*)	0.7 tons	0.4 tons	0.3 tons	0.1 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2022 Project Operational Emissions (*lbs/day*)[1]	3.9 lbs.	2.1 lbs.	1.6 lbs.	0.4 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

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.

Effectiveness of Mitigation Measure

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.

Impact 2: Expose sensitive receptors to substantial pollutant concentrations?

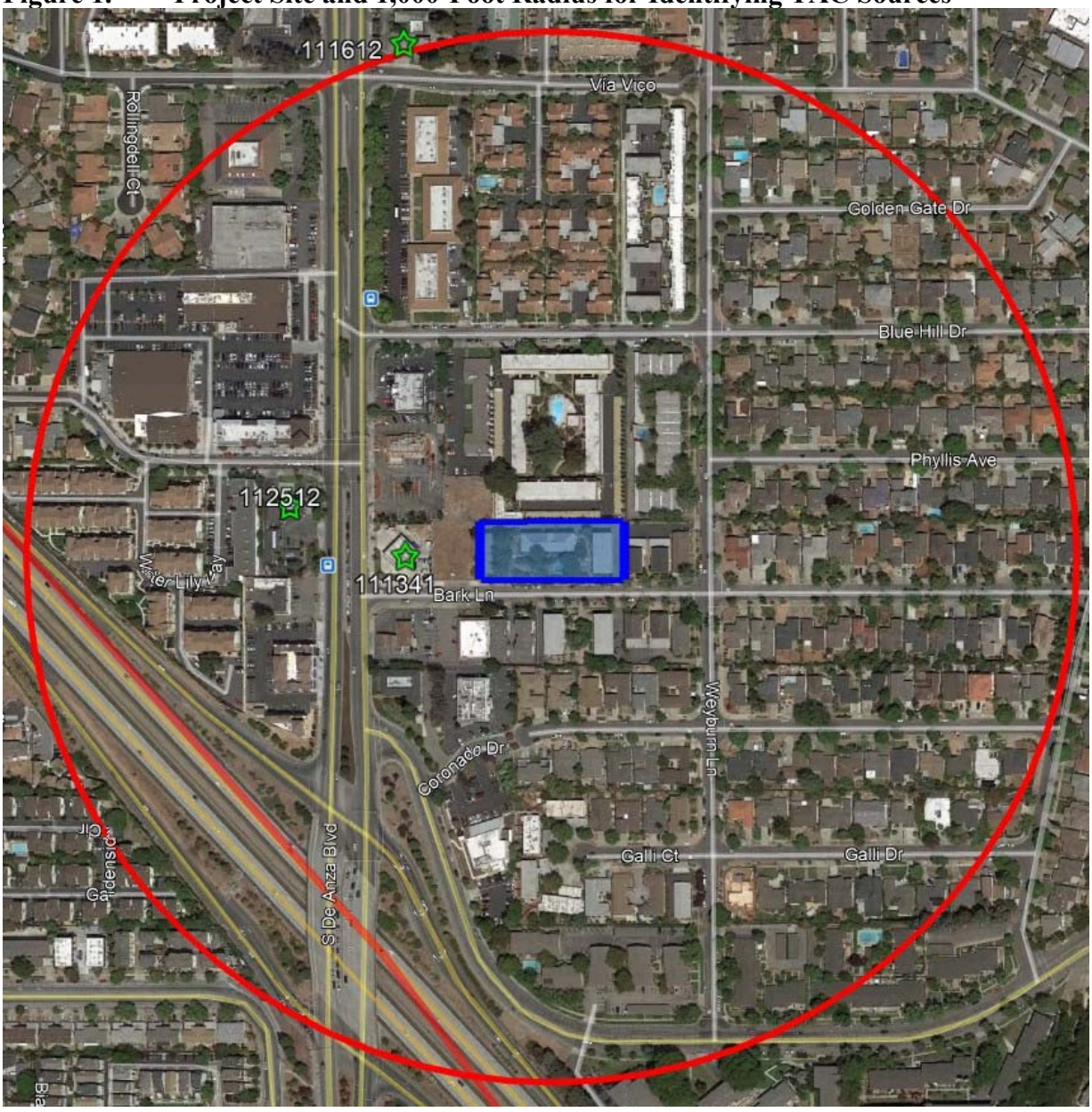
Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The project would introduce new residents that are sensitive receptors. There are several sources of TACs and localized air pollutants in the vicinity of the project. The impacts of these sources upon the project were assessed. Temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. A construction health risk assessment was prepared to address construction impacts caused by the project. Operation of the project is not expected to be a source of TAC or localized air pollutant emissions, as the project would not generate substantial truck traffic or include stationary sources of emissions, such as diesel-powered generators.

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*.

Operational Community Health Risk Impacts

Community health risk assessments typically look at all substantial sources of TACs located within 1,000 feet of project site and at new TAC sources that would be introduced by the project. These sources include highways, railways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on State Route 85 (S.R. 85) and S. De Anza Boulevard have average daily traffic (ADT) of over 10,000 vehicles which are sources of TACs. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. Three stationary sources were identified within the 1,000-foot influence area using the BAAQMD's stationary source website map and Google Earth map. This project would not introduce any new TAC sources, such as substantial truck traffic or generators powered by diesel engines. Figure 1 shows the sources affecting the project site. Details of the screening, modeling, and community risk calculations are included in *Attachment 3.*

Figure 1. Project Site and 1,000-Foot Radius for Identifying TAC Sources



Highway: S.R. 85

A review of the area indicates that S.R. 85 is within 1,000 feet of the site and can adversely affect new residences. Since initial screening computations indicate increased cancer risks at the project dwelling units from S.R. 85 would exceed significance thresholds, refined modeling was conducted.

Refined modeling of local roadways predicts lower and more accurate results, because project specific information is used in the modeling. To assess potential health impacts at the project site from traffic on S.R. 85, a refined analysis was conducted to evaluate potential cancer risks and $PM_{2.5}$ concentrations from traffic. The refined analysis involved developing traffic emissions for

the traffic volume and mix of vehicle types on S.R. 85. Then, using these emissions as input to an atmospheric dispersion model for roadways, TAC and $PM_{2.5}$ concentrations were calculated in the residential area of the proposed project. Based on the modeled concentrations, potential exposure to TACs was calculated and associated cancer risks were computed.

S.R. 85 TAC Impacts

S.R. 85 is about 680 feet southwest of the project site. TAC emissions from traffic include DPM, particularly from trucks, and organic TAC compounds from gasoline-fuelled vehicles. As recommended by BAAQMD, in addition to DPM, TOG emissions from vehicle exhaust and running evaporative losses from gasoline vehicles, which are considered organic TAC emissions, were used to evaluate cancer risks and non-cancer health effects.[8] Vehicle $PM_{2.5}$ emissions, which include exhaust emissions and $PM_{2.5}$ emissions generated from tire and brake wear and roadway dust, from all vehicles (diesel- and gasoline-fueled) were also evaluated for potential health effects. A review of the traffic information reported by California Department of Transportation (Caltrans) for 2015 indicates that in the vicinity of the project area, S.R. 85 has an ADT of 113,000.[9] About 0.6 percent of these trips are made by trucks, with about 0.1 percent of these trucks being heavy duty trucks.[10]

Traffic Emissions Modeling

Vehicle emissions were calculated using emission factors for traffic on S.R. 85 using CARB's EMFAC2014 model. Default EMFAC2014 vehicle model year distributions for Santa Clara County were used in calculating emissions for 2020. Average daily traffic volumes and truck percentages were based on Caltrans data for S.R. 85 for 2015. Traffic volumes were assumed to increase 1 percent per year. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[11] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for S.R. 85. The modeling was conducted assuming emissions for the year 2020. Year 2020 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years) since, as discussed above, overall vehicle emissions and, in particular, diesel truck emissions will decrease in the future.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 65 miles-per-hour (mph) was assumed for all vehicles other than trucks which were assumed to travel at a speed of 60 mph. Based on traffic data from the Santa Clara Valley Transportation Authority's 2014 Monitoring and Conformance Report, traffic speeds during the peak a.m. and p.m. periods were identified.[12] For a 2-hour period during the peak a.m. period an average travel speed of 30 mph was used for northbound traffic and the average free-flow travel speed was used for

[8] BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012.
[9] California Department of Transportation. 2016. *2015 Traffic Volumes on California State Highways.*
[10] California Department of Transportation. 2016. *2015 Annual Average Daily Truck Traffic on California State Highways*
[11] The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.
[12] Santa Clara Valley Transportation Authority. *2014 Santa Clara County Annual Monitoring and Conformance Report 2014.*

southbound traffic. For the peak p.m. period, the average free-flow travel speed was used for northbound traffic and an average travel speed of 15 mph was used for southbound traffic

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the U.S. EPA AERMOD model, which is recommended by the BAAQMD for this type of analysis. North and southbound traffic on S.R. 85 within about 1,000 feet of the project site were evaluated with the model. A five-year data set (2006-2010) of hourly meteorological data from the San José Airport prepared by the BAAQMD for use with the AERMOD model was used. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations.

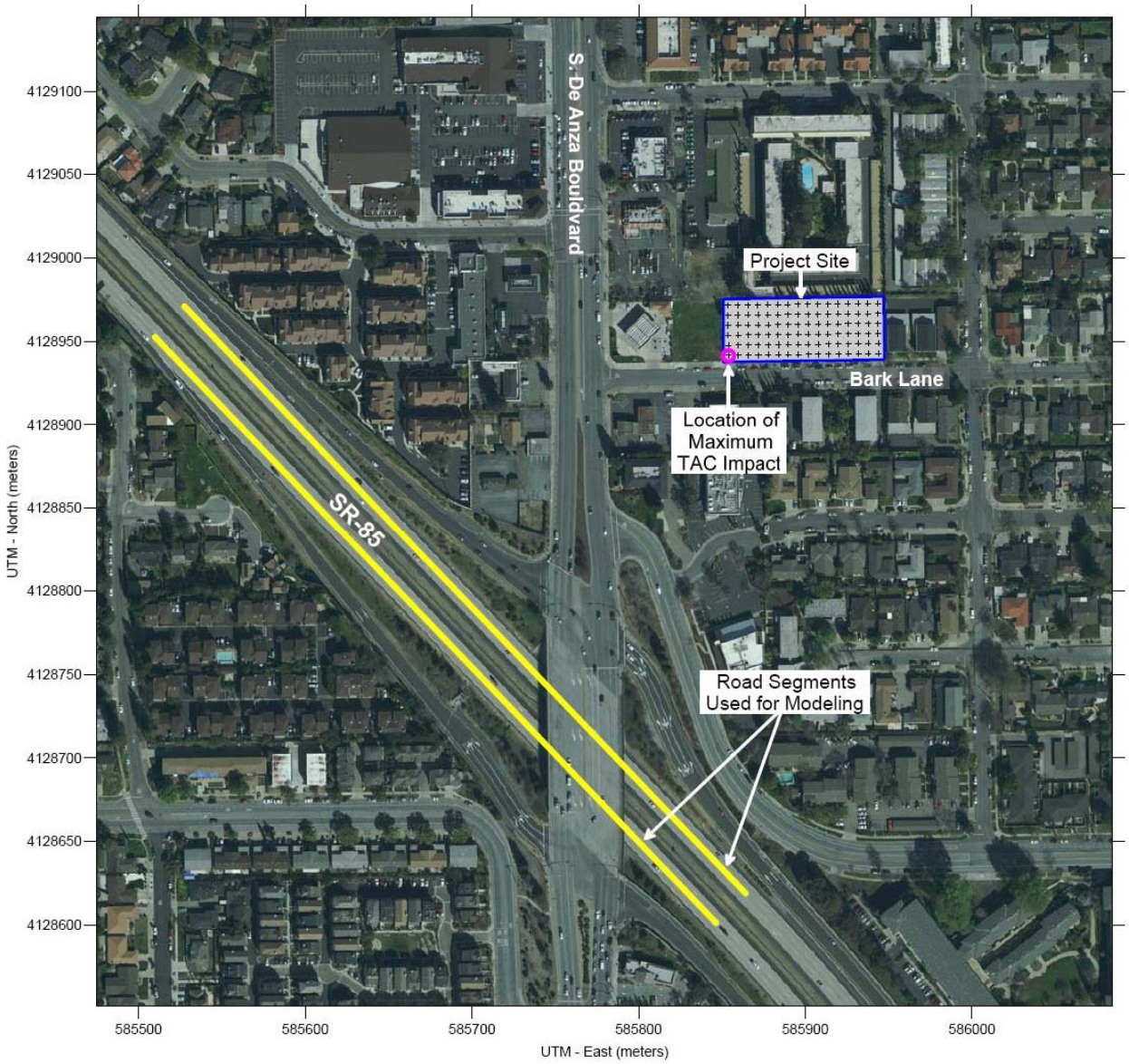
The modeling used receptors spaced every 6 meters (20 feet) placed with the proposed project area. Receptor heights of 1.5 meters (5 feet) and 4.9 meters (16 feet) were used to represent the breathing heights of residents on the first and second floor levels. Figure 2 shows the project site area, roadway segments modeled, and residential receptor locations used in the modeling.

Computed Cancer and Non-Cancer Health Impacts

The maximum modeled TAC and $PM_{2.5}$ concentrations from S.R. 85 occurred at the first-floor level in the southwest corner of the project site closest to S.R. 85. TAC and $PM_{2.5}$ concentrations from S.R. 85 traffic at the project site will decrease with distance from the highway and with increasing height (floor levels).

The maximum increased lifetime cancer risk and annual $PM_{2.5}$ concentrations for new residents at the project site from S.R. 85 are shown in Table 4. The health risks impacts were computed using modeled TAC and $PM_{2.5}$ concentrations and the methods and exposure parameters described in *Attachment 1*. The cancer risk, non-cancer health impact (hazard index), and $PM_{2.5}$ concentration are all below their respective BAAQMD significance thresholds. The location where the maximum TAC and $PM_{2.5}$ impacts occurred is shown in Figure 2. The emission information, modeling results, and health risk calculations for the receptor with the maximum cancer risk from S.R. 85 traffic are provided in *Attachment 3*.

Figure 2. Project Site and On-site Residential Receptors, Road Segments Evaluated, and Locations of Maximum TAC and $PM_{2.5}$ Impacts



Local Roadways – S. De Anza Boulevard

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. Note this is a screening model and more refined modeling could be conducted if potentially significant impacts are identified. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. In addition, a new 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.[13]

The ADT on S. De Anza Boulevard was estimated to be 42,150 vehicles. This estimate was based on a 20 percent increase from the peak hour turning movement counts for the existing plus project scenario included in the project's traffic analysis. 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 this roadway. S. De Anza Boulevard was identified as a north-south roadway with the project site east of the roadway. Estimated risk values for the roadway upon the project's sensitive receptors are listed in Table 4. Note that BAAQMD has found that non-cancer hazards from all local roadways would be below a Hazard Index of 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[14] 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.[15] 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.

Three stationary sources were identified; Plant #111612, #111341, and #112512 are gas dispensing facilities. Concentrations and community risk impacts from these sources upon the project site are reported in Table 4.

Cumulative Community Health Risk at Project Site

Community risk impacts from combined sources upon the project site are reported in Table 4. As shown, the annual cancer risks, annual $PM_{2.5}$ concentrations, and HI are all below their respective single and cumulative source significance thresholds and would be considered a *less-than significant* impact.

[13] Correspondence with Alison Kirk, BAAQMD, November 23, 2015.
[14] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[15] Correspondence with Areana Flores, BAAQMD, July 30, 2019.

Table 4. Community Risk Impact to New Project Residences

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
State Route 85	0.6	0.09	<0.01
S. De Anza Blvd (north-south) at 245 feet east, ADT 42,150	6.4	0.22	<0.03
Plant #111612 (gas station) at 1,000 feet	<0.1	--	<0.01
Plant #111341 (gas station) at 100 feet	6.3	--	0.03
Plant #112512 (gas station) at 350 feet	1.0	--	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>0.1***
Significant?	*No*	*No*	*No*
Cumulative Total	<14.4	0.31	<0.09
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Significant?	*No*	*No*	*No*

Construction Community Health Risk Impacts

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[16] 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

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.1621 tons (324 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0438 tons (88 pounds) for the overall construction period.

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

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ 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.[17] Emission sources for the construction site were grouped into two categories, exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. Combustion equipment exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 5-meter (16-foot) intervals throughout the construction site. This resulted in 133 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. The locations of the point sources used for the modeling are identified in Figure 3. Emissions from vehicle travel on- and off-site were distributed among the point sources throughout the site. Construction fugitive $PM_{2.5}$ dust emissions were modeled as an area source encompassing the entire construction site with a near ground level release height of two meters. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur.

The modeling used a 5-year meteorological data set (2006-2010) from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities at the project site during the 2020-2021 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 1.5 meters (4.9 feet), 4.5 meters (14.7 feet), and 7.6 meters (25 feet) were used to represent the breathing height on the first, second, and third levels of residences in nearby multi-family residences.

The maximum-modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors (as shown in Figure 3) to find the maximally exposed individuals (MEIs). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified.

Results of this assessment, reported in Table 5, found that the construction MEI was located on the second-level southwest corner unit (4.5 meters) of a multi-family apartment building located adjacent to the east of the project site. The maximum excess residential cancer risks and annual maximum $PM_{2.5}$ concentration at this location would be greater than the BAAQMD significance thresholds of 10 in one million for cancer risk and 0.3 $\mu g/m^3$ for $PM_{2.5}$ concentration. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the construction MEI. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

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

Figure 3. Project Construction Site and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts

Cumulative Community Health Risk at Construction MEI

Cumulative community risk or TAC impacts are assessed by predicting the combined community risk impacts from the project and nearby sources. 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 maximum cancer risk is above the single-source threshold of 10.0 per million and the annual maximum $PM_{2.5}$ concentration is above the single-source threshold of 0.3 $\mu g/m^3$. As shown in Table 5, the combined unmitigated cancer risk and $PM_{2.5}$ concentration would exceed the cumulative thresholds, but the combined mitigated cancer risk, $PM_{2.5}$ concentration, and hazard risk values would not exceed the cumulative thresholds. *Mitigation Measures AQ-2 would reduce these impacts to less-than-significant levels.*

There is a hotel project proposed adjacent to the west of the proposed residential project. The construction impacts associated with the hotel project were addressed separately in the hotel

project's air quality analysis[18]. The hotel project may be constructed at the same time as the proposed residential project. The construction impacts for the hotel project was incorporated in this project's combined sources at the construction MEI.

Table 5. Impacts from Combined Sources at Construction MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**109.8 (infant)**	**0.86**	0.12
	Mitigated*	7.8 (infant)	0.11	0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>0.1***
Significant?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*
State Route 85		0.3	0.05	<0.01
S. De Anza Blvd (north-south) at 550 feet east, ADT 42,150		3.4	0.12	<0.03
Plant #111612 (gas station) at 1,000 feet		<0.1	--	<0.01
Plant #111341 (gas station) at 415 feet		0.7	--	<0.01
Plant #112512 (gas station) at 670 feet		0.3	--	<0.01
Unmitigated Construction of the 7285 Bark Lane Hotel Project		2.1	0.03	<0.01
Cumulative Total	Unmitigated	**<116.7**	**1.06**	<0.20
	Mitigated*	<14.7	0.31	<0.09
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Significant?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*

* Tier 4 Interim Mitigation

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 91 percent reduction in particulate matter 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 or equivalent. The use of equipment that includes electric or alternatively-fueled equipment (i.e., non-diesel) would meet this requirement.

Effectiveness of Mitigation Measure

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent. Implementation of *Mitigation Measure AQ-2* using construction equipment meeting Tier 4 engine standards would further reduce on-site diesel exhaust emissions from construction equipment by 93 percent. This would reduce the cancer risk and $PM_{2.5}$ concentration, such that the mitigated infant cancer risk from the project at the

[18] Illingworth & Rodkin, Inc. 2018. *7285 Bark Lane Project Community Risk Assessment, San Jose, CA.* May 22.

construction MEI would be less than 7.8 in one million and the maximum annual $PM_{2.5}$ concentration would be 0.11 $\mu g/m^3$, which would not exceed the BAAQMD significance thresholds. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

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.

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

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

SB 350 Renewable Portfolio Standards

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

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

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32,

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

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

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

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

BAAQMD Significance Thresholds

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

calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[19]

Impact 3: 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. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. For this project, the number of future residents was estimated by multiplying the total number of units by the persons per household rate for San José found in the California Department of Finance Population and Housing Estimate report.[20] Using the 3.20 persons per household 2019 estimate for San José, the number of future residents and the project's service population is estimated to be 272.

Construction Emissions

GHG emissions associated with construction were computed to be 597 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

[19] 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.
[20] State of California, Department of Finance. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019." Accessed: June 7, 2019. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/

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 6, annual net emissions resulting from operation of the proposed project are predicted to be 430 MT of CO_2e for the year 2022 and 371 MT of CO_{2e} for the year 2030. The 2022 and 2030 emissions do exceed the 2030 "Substantial Progress" threshold of 660 MT of CO_{2e}/yr. The Service Population Emissions for the year 2022 would be 2.4 and 2.0 for the year 2030. The 2022 and 2030 Service Population Emissions do not exceed the "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population.

To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. This project does not exceed either significance thresholds. Therefore, the project would have a *less-than-significant* impact regarding GHG emissions.

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

Source Category	Existing in 2022	Proposed Project in 2022	Existing in 2030	Proposed Project in 2030
Area	1	4	1	4
Energy Consumption	30	142	30	142
Mobile	175	471	140	377
Solid Waste Generation	5	20	5	20
Water Usage	5	9	5	9
Total	216	646	181	552
Net New Emissions		430		371
Significance Threshold		***660 MT CO_2e/yr***		***660 MT CO_2e/yr***
Service Population Emissions (MT CO2e/year/service population)		2.4		2.0
Significance Threshold		***2.6 in 2030***		***2.6 in 2030***
Significant (Exceeds both thresholds)?		*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 project construction and operational criteria air pollutant and GHG emissions. The operational outputs for existing and 2030 uses are also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the screening community risk calculations, modeling results, and health risk calculations from sources affecting the project and construction MEI, including refined modeling of S.R. 85. BAAQMD's *Risk and Hazards Emissions Screening Calculator* files for this assessment, which are quite voluminous, are available upon request.

Attachment 4 is the construction health risk assessment, including the adjacent hotel project's construction health risk assessment as this project's construction MEI. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

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 recent 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 of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

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

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[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.

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)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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)*		361	1,090	631	572	261
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		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

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

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for 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

trips occurring during the PM peak hour. Using the inbound/outbound splits contained in ITE's *Trip Generation Manual* and obtained from the driveway counts, the project would produce 3 new inbound and 14 new outbound trips during the AM peak hour, and 23 new inbound and 14 new outbound trips during the PM peak hour (see Table 3).

Table 3
Project Trip Generation Estimates

Land Use	ITE Code	Size	Daily Trip Rate	Daily Trips	AM Peak Hour Pk-Hr Rate	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Trips Total	PM Peak Hour Pk-Hr Rate	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Trips Total
Proposed Use												
Apartments [1]	220	85 units	6.65	565	0.51	9	34	43	0.62	34	19	53
Existing Use												
Apartment Complex [2]		20 units		(210)		(6)	(20)	(26)		(11)	(5)	(16)
Net Project Trips:				**355**		**3**	**14**	**17**		**23**	**14**	**37**

Notes:
[1] Source: ITE *Trip Generation Manual, 9th Edition,* 2012 (average "Apartment" rates used).
[2] Source: Existing trip generation counts conducted on June 1, 2017 (daily trips were estimated).

Trip Distribution

The trip distribution patterns for the project were developed based on existing travel patterns on the surrounding roadway system, the locations of complementary land uses, and the locations of nearby schools. The project site is located within the boundary of Meyerholz Elementary, Miller Middle School, and Lynbrook High School, to the northeast, east, and southeast of the project site, respectively. Due to the residential project's proximity to these schools, it is expected that a relatively substantial portion of project generated trips would travel to and from the east via Bark Lane to drop-off and pick-up students. The project trip distribution pattern accounts for the school travel pattern in the study area, which was verified by counts. The project trip distribution pattern applies to both the AM and PM peak hours and is shown on Figure 4.

Trip Assignment

The peak hour trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern discussed above. All project trips would enter and exit the project site via the proposed driveway on Bark Lane. At its intersection with Bark Lane, De Anza Boulevard is divided by a raised center median. This median would prevent vehicles from making left turns to and from Bark Lane. This existing site access limitation is described in more detail below.

Outbound Vehicles

Outbound vehicles assigned to travel southbound along De Anza Boulevard, or assigned to northbound or southbound SR 85, would be required to turn right from Bark Lane onto northbound De Anza Boulevard, then make a U-turn at the existing northbound left-turn pocket at Kentwood Avenue. No other outbound movements would be restricted.

Casey Divine

From: Fiona Phung
Sent: Monday, July 10, 2017 9:40 AM
To: Joshua Carman
Cc: Michael Thill; Casey Zaglin
Subject: RE: Bark Lane SJ

Hi Josh,

Please see below for the applicant's response.

"The estimated earth work is (303.25' x 118' x 19')= 25,180 cy. Assume 20% bulking factor 25,180 x 1.2 = 30,217 cy excavation. If we assume 20 CY Trucks, we get 1,511 trips. Assume 8 hour day at 10 minutes per truck, there would be 48 trucks per day. At 48 trucks pr day it will take 30 working days."

Thank you,

Fiona Phung | Assistant Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200 | San José, CA 95126
Main: 408.248.3500 | Direct: 408.454.3427
fphung@davidjpowers.com

Proudly serving the Bay Area for 45 years

From: Joshua Carman [mailto:jcarman@illingworthrodkin.com]
Sent: Friday, July 07, 2017 2:02 PM
To: Fiona Phung <FPhung@davidjpowers.com>
Cc: Michael Thill <mthill@illingworthrodkin.com>; Casey Zaglin <czaglin@illingworthrodkin.com>
Subject: RE: Bark Lane SJ

Thanks, Fiona. There is no default assumption for the number of haul truck trips. It is based on the amount of soil excavated, so we would need the applicant to estimate that.

Best,
-Josh

From: Fiona Phung [mailto:FPhung@davidjpowers.com]
Sent: Friday, July 07, 2017 1:29 PM
To: Casey Zaglin
Cc: Michael Thill; Joshua Carman
Subject: RE: Bark Lane SJ

Hi Casey,

Sorry for the late response. The traffic consultants are close to wrapping up the traffic study. I will most likely receive it early next week. Please see below for some of the answers to your questions.

1. Would the structure of the building be made of steel or wood? *4 levels of Wood over 2 levels of concrete*
2. Would there be any pile driving for the structure or shoring for the excavation? *Assume no pile driving or shoring*

7201-7245 Bark Lane Res, San Jose - Santa Clara County, Annual

7201-7245 Bark Lane Res, San Jose

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	192.00	Space	1.73	71,576.00	0
Apartments Mid Rise	85.00	Dwelling Unit	2.24	170,785.00	243

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	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 Rate = 290

Land Use - Site Plan Land uses, Default acerage for underground garage

Construction Phase - Default construction schedule, Trenching added

Off-road Equipment -

Off-road Equipment - Default Construction equip and hours

Trips and VMT - Excavation/grading: 1,511 RT = 3,022 trips.

Demolition - Up to 30ksf demo est from Google Earth

Vehicle Trips - Trip Gen same as Defaults

Woodstoves - All Gas no wood

Water And Wastewater - WTP 100% aerobic

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	12.75	27.20
tblFireplaces	NumberWood	14.45	0.00
tblLandUse	LandUseSquareFeet	76,800.00	71,576.00
tblLandUse	LandUseSquareFeet	85,000.00	170,785.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	3,022.00
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	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	0.3539	3.4979	2.6986	6.3900e-003	0.2134	0.1585	0.3719	0.0750	0.1487	0.2236	0.0000	573.8713	573.8713	0.0905	0.0000	576.1348
2021	1.2312	0.1219	0.1441	2.4000e-004	3.1400e-003	6.5600e-003	9.7000e-003	8.4000e-004	6.1300e-003	6.9600e-003	0.0000	21.0058	21.0058	5.1400e-003	0.0000	21.1342

Maximum	**1.2312**	**3.4979**	**2.6986**	**6.3900e-003**	**0.2134**	**0.1585**	**0.3719**	**0.0750**	**0.1487**	**0.2236**	**0.0000**	**573.8713**	**573.8713**	**0.0905**	**0.0000**	**576.1348**

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	0.3539	3.4979	2.6986	6.3900e-003	0.2134	0.1585	0.3719	0.0750	0.1487	0.2236	0.0000	573.8709	573.8709	0.0905	0.0000	576.1345
2021	1.2312	0.1219	0.1441	2.4000e-004	3.1400e-003	6.5600e-003	9.7000e-003	8.4000e-004	6.1300e-003	6.9600e-003	0.0000	21.0057	21.0057	5.1400e-003	0.0000	21.1341
Maximum	**1.2312**	**3.4979**	**2.6986**	**6.3900e-003**	**0.2134**	**0.1585**	**0.3719**	**0.0750**	**0.1487**	**0.2236**	**0.0000**	**573.8709**	**573.8709**	**0.0905**	**0.0000**	**576.1345**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2020**	**3-31-2020**	1.4107	1.4107
2	**4-1-2020**	**6-30-2020**	0.7884	0.7884
3	**7-1-2020**	**9-30-2020**	0.7971	0.7971
4	**10-1-2020**	**12-31-2020**	0.8002	0.8002
5	**1-1-2021**	**3-31-2021**	1.3927	1.3927
		Highest	1.4107	1.4107

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	0.8129	0.0102	0.6348	5.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.0000	4.4300	4.4300	1.0700e-003	6.0000e-005	4.4753
Energy	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	140.5205	140.5205	0.0109	2.8100e-003	141.6314
Mobile	0.1281	0.5430	1.4888	5.1500e-003	0.4745	4.3700e-003	0.4789	0.1270	4.0800e-003	0.1311	0.0000	471.1706	471.1706	0.0159	0.0000	471.5686
Waste						0.0000	0.0000		0.0000	0.0000	7.9370	0.0000	7.9370	0.4691	0.0000	19.6635
Water						0.0000	0.0000		0.0000	0.0000	1.9594	5.5493	7.5087	7.3000e-003	4.3800e-003	8.9952
Total	**0.9450**	**0.5871**	**2.1381**	**5.4200e-003**	**0.4745**	**0.0108**	**0.4854**	**0.1270**	**0.0106**	**0.1376**	**9.8963**	**621.6703**	**631.5667**	**0.5042**	**7.2500e-003**	**646.3339**

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	0.8129	0.0102	0.6348	5.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.0000	4.4300	4.4300	1.0700e-003	6.0000e-005	4.4753
Energy	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	140.5205	140.5205	0.0109	2.8100e-003	141.6314
Mobile	0.1281	0.5430	1.4888	5.1500e-003	0.4745	4.3700e-003	0.4789	0.1270	4.0800e-003	0.1311	0.0000	471.1706	471.1706	0.0159	0.0000	471.5686
Waste						0.0000	0.0000		0.0000	0.0000	7.9370	0.0000	7.9370	0.4691	0.0000	19.6635
Water						0.0000	0.0000		0.0000	0.0000	1.9594	5.5493	7.5087	7.3000e-003	4.3800e-003	8.9952
Total	**0.9450**	**0.5871**	**2.1381**	**5.4200e-003**	**0.4745**	**0.0108**	**0.4854**	**0.1270**	**0.0106**	**0.1376**	**9.8963**	**621.6703**	**631.5667**	**0.5042**	**7.2500e-003**	**646.3339**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/4/2020	5	5	
3	Grading	Grading	2/5/2020	2/14/2020	5	8	
4	Trenching	Trenching	2/5/2020	2/14/2020	5	8	
5	Building Construction	Building Construction	2/15/2020	1/1/2021	5	230	
6	Paving	Paving	1/2/2021	1/27/2021	5	18	
7	Architectural Coating	Architectural Coating	1/28/2021	2/22/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.73

Residential Indoor: 345,840; Residential Outdoor: 115,280; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20

Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	136.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,022.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching			0.00	0.00	10.80	7.30				
Building Construction	9	91.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

Fugitive Dust					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0148**	**0.0166**	**0.0314**	**2.2400e-003**	**0.0154**	**0.0177**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

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	5.7000e-004	0.0197	4.0400e-003	5.0000e-005	1.1500e-003	6.0000e-005	1.2200e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	5.1864	5.1864	2.4000e-004	0.0000	5.1924
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**1.0700e-003**	**0.0201**	**7.7900e-003**	**6.0000e-005**	**2.3400e-003**	**7.0000e-005**	**2.4200e-003**	**6.4000e-004**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**6.2066**	**6.2066**	**2.7000e-004**	**0.0000**	**6.2132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0148**	**0.0166**	**0.0314**	**2.2400e-003**	**0.0154**	**0.0177**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

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	5.7000e-004	0.0197	4.0400e-003	5.0000e-005	1.1500e-003	6.0000e-005	1.2200e-003	3.2000e-004	6.0000e-005	3.8000e-004	0.0000	5.1864	5.1864	2.4000e-004	0.0000	5.1924
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**1.0700e-003**	**0.0201**	**7.7900e-003**	**6.0000e-005**	**2.3400e-003**	**7.0000e-005**	**2.4200e-003**	**6.4000e-004**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**6.2066**	**6.2066**	**2.7000e-004**	**0.0000**	**6.2132**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

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	0.0126	0.4385	0.0898	1.1900e-003	0.0256	1.4200e-003	0.0270	7.0400e-003	1.3600e-003	8.4100e-003	0.0000	115.2452	115.2452	5.2700e-003	0.0000	115.3770
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-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**0.0128**	**0.4386**	**0.0913**	**1.1900e-003**	**0.0261**	**1.4200e-003**	**0.0275**	**7.1700e-003**	**1.3600e-003**	**8.5400e-003**	**0.0000**	**115.6533**	**115.6533**	**5.2800e-003**	**0.0000**	**115.7853**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

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	0.0126	0.4385	0.0898	1.1900e-003	0.0256	1.4200e-003	0.0270	7.0400e-003	1.3600e-003	8.4100e-003	0.0000	115.2452	115.2452	5.2700e-003	0.0000	115.3770
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-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**0.0128**	**0.4386**	**0.0913**	**1.1900e-003**	**0.0261**	**1.4200e-003**	**0.0275**	**7.1700e-003**	**1.3600e-003**	**8.5400e-003**	**0.0000**	**115.6533**	**115.6533**	**5.2800e-003**	**0.0000**	**115.7853**

3.5 Trenching - 2020

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
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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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
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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1934	265.1934	0.0647	0.0000	266.8109
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1934**	**265.1934**	**0.0647**	**0.0000**	**266.8109**

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	9.5300e-003	0.2738	0.0729	6.6000e-004	0.0158	1.3600e-003	0.0172	4.5700e-003	1.3000e-003	5.8700e-003	0.0000	62.8639	62.8639	2.8800e-003	0.0000	62.9360
Worker	0.0346	0.0249	0.2608	7.8000e-004	0.0826	5.3000e-004	0.0832	0.0220	4.9000e-004	0.0225	0.0000	70.8682	70.8682	1.7400e-003	0.0000	70.9116
Total	**0.0441**	**0.2987**	**0.3337**	**1.4400e-003**	**0.0985**	**1.8900e-003**	**0.1003**	**0.0266**	**1.7900e-003**	**0.0283**	**0.0000**	**133.7321**	**133.7321**	**4.6200e-003**	**0.0000**	**133.8476**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1931	265.1931	0.0647	0.0000	266.8106
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1931**	**265.1931**	**0.0647**	**0.0000**	**266.8106**

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	9.5300e-003	0.2738	0.0729	6.6000e-004	0.0158	1.3600e-003	0.0172	4.5700e-003	1.3000e-003	5.8700e-003	0.0000	62.8639	62.8639	2.8800e-003	0.0000	62.9360
Worker	0.0346	0.0249	0.2608	7.8000e-004	0.0826	5.3000e-004	0.0832	0.0220	4.9000e-004	0.0225	0.0000	70.8682	70.8682	1.7400e-003	0.0000	70.9116
Total	**0.0441**	**0.2987**	**0.3337**	**1.4400e-003**	**0.0985**	**1.8900e-003**	**0.1003**	**0.0266**	**1.7900e-003**	**0.0283**	**0.0000**	**133.7321**	**133.7321**	**4.6200e-003**	**0.0000**	**133.8476**

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	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

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	3.0000e-005	1.0800e-003	2.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2720	0.2720	1.0000e-005	0.0000	0.2723
Worker	1.4000e-004	1.0000e-004	1.0400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2987	0.2987	1.0000e-005	0.0000	0.2989
Total	**1.7000e-004**	**1.1800e-003**	**1.3300e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.5707**	**0.5707**	**2.0000e-005**	**0.0000**	**0.5712**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

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	3.0000e-005	1.0800e-003	2.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2720	0.2720	1.0000e-005	0.0000	0.2723
Worker	1.4000e-004	1.0000e-004	1.0400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2987	0.2987	1.0000e-005	0.0000	0.2989
Total	**1.7000e-004**	**1.1800e-003**	**1.3300e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.5707**	**0.5707**	**2.0000e-005**	**0.0000**	**0.5712**

3.7 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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

3.8 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	1.2172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.2191**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.5000e-004	3.7100e-003	1.0000e-005	1.2800e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0636	1.0636	2.0000e-005	0.0000	1.0642
Total	**5.0000e-004**	**3.5000e-004**	**3.7100e-003**	**1.0000e-005**	**1.2800e-003**	**1.0000e-005**	**1.2900e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.0636**	**1.0636**	**2.0000e-005**	**0.0000**	**1.0642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.2191**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.5000e-004	3.7100e-003	1.0000e-005	1.2800e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0636	1.0636	2.0000e-005	0.0000	1.0642
Total	**5.0000e-004**	**3.5000e-004**	**3.7100e-003**	**1.0000e-005**	**1.2800e-003**	**1.0000e-005**	**1.2900e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.0636**	**1.0636**	**2.0000e-005**	**0.0000**	**1.0642**

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	0.1281	0.5430	1.4888	5.1500e-003	0.4745	4.3700e-003	0.4789	0.1270	4.0800e-003	0.1311	0.0000	471.1706	471.1706	0.0159	0.0000	471.5686

Unmitigated	0.1281	0.5430	1.4888	5.1500e-003	0.4745	4.3700e-003	0.4789	0.1270	4.0800e-003	0.1311	0.0000	471.1706	471.1706	0.0159	0.0000	471.5686

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	565.25	543.15	498.10	1,276,058	1,276,058
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	565.25	543.15	498.10	1,276,058	1,276,058

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.3326	101.3326	0.0101	2.1000e-003	102.2107
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.3326	101.3326	0.0101	2.1000e-003	102.2107
NaturalGas Mitigated	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
NaturalGas Unmitigated	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208

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	734353	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
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
Total		**3.9600e-003**	**0.0338**	**0.0144**	**2.2000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.1879**	**39.1879**	**7.5000e-004**	**7.2000e-004**	**39.4208**

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	734353	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
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

Total		**3.9600e-003**	**0.0338**	**0.0144**	**2.2000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.1879**	**39.1879**	**7.5000e-004**	**7.2000e-004**	**39.4208**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	350910	46.1593	4.6200e-003	9.6000e-004	46.5593
Enclosed Parking with Elevator	419435	55.1733	5.5200e-003	1.1400e-003	55.6514
Total		**101.3326**	**0.0101**	**2.1000e-003**	**102.2107**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	350910	46.1593	4.6200e-003	9.6000e-004	46.5593
Enclosed Parking with Elevator	419435	55.1733	5.5200e-003	1.1400e-003	55.6514
Total		**101.3326**	**0.0101**	**2.1000e-003**	**102.2107**

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	0.8129	0.0102	0.6348	5.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.0000	4.4300	4.4300	1.0700e-003	6.0000e-005	4.4753
Unmitigated	0.8129	0.0102	0.6348	5.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.0000	4.4300	4.4300	1.0700e-003	6.0000e-005	4.4753

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	0.1217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9300e-003	1.2500e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3956	3.3956	7.0000e-005	6.0000e-005	3.4158
Landscaping	0.0193	7.3000e-003	0.6336	3.0000e-005		3.5000e-003	3.5000e-003		3.5000e-003	3.5000e-003	0.0000	1.0344	1.0344	1.0000e-003	0.0000	1.0595
Total	**0.8129**	**0.0102**	**0.6348**	**5.0000e-005**		**3.7400e-003**	**3.7400e-003**		**3.7400e-003**	**3.7400e-003**	**0.0000**	**4.4300**	**4.4300**	**1.0700e-003**	**6.0000e-005**	**4.4753**

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	0.1217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9300e-003	1.2500e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3956	3.3956	7.0000e-005	6.0000e-005	3.4158
Landscaping	0.0193	7.3000e-003	0.6336	3.0000e-005		3.5000e-003	3.5000e-003		3.5000e-003	3.5000e-003	0.0000	1.0344	1.0344	1.0000e-003	0.0000	1.0595
Total	**0.8129**	**0.0102**	**0.6348**	**5.0000e-005**		**3.7400e-003**	**3.7400e-003**		**3.7400e-003**	**3.7400e-003**	**0.0000**	**4.4300**	**4.4300**	**1.0700e-003**	**6.0000e-005**	**4.4753**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.5087	7.3000e-003	4.3800e-003	8.9952
Unmitigated	7.5087	7.3000e-003	4.3800e-003	8.9952

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.53809 / 3.49141	7.5087	7.3000e-003	4.3800e-003	8.9952
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.5087**	**7.3000e-003**	**4.3800e-003**	**8.9952**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.53809 / 3.49141	7.5087	7.3000e-003	4.3800e-003	8.9952
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.5087**	**7.3000e-003**	**4.3800e-003**	**8.9952**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	7.9370	0.4691	0.0000	19.6635
Unmitigated	7.9370	0.4691	0.0000	19.6635

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	39.1	7.9370	0.4691	0.0000	19.6635
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9370**	**0.4691**	**0.0000**	**19.6635**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	39.1	7.9370	0.4691	0.0000	19.6635
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9370**	**0.4691**	**0.0000**	**19.6635**

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

7201-7245 Bark Lane Res, San Jose - Existing - Santa Clara County, Annual

7201-7245 Bark Lane Res, San Jose - Existing

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	20.00	Dwelling Unit	0.90	30,000.00	57

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing Land Use

Construction Phase - Existing Use

Off-road Equipment - Existing Use

Trips and VMT -

Demolition -

Grading - Existing use

Energy Use - Historical Energy Use

Vehicle Trips - Existing Apts = 10.5, 10.09, 9.25

Woodstoves -

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	20,000.00	30,000.00
tblLandUse	LotAcreage	0.53	0.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	6.39	10.09
tblVehicleTrips	SU_TR	5.86	9.25
tblVehicleTrips	WD_TR	6.65	10.50

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	0.1889	2.7800e-003	0.2122	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5892
Energy	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	30.0296	30.0296	1.1200e-003	3.6000e-004	30.1659
Mobile	0.0476	0.2017	0.5531	1.9100e-003	0.1763	1.6200e-003	0.1779	0.0472	1.5200e-003	0.0487	0.0000	175.0428	175.0428	5.9200e-003	0.0000	175.1906
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.6267
Water						0.0000	0.0000		0.0000	0.0000	0.4134	2.8877	3.3011	0.0426	1.0300e-003	4.6727

Total	**0.2375**	**0.2124**	**0.7687**	**2.0900e-003**	**0.1763**	**0.0122**	**0.1885**	**0.0472**	**0.0121**	**0.0593**	**3.1927**	**208.5771**	**211.7698**	**0.1617**	**1.4500e-003**	**216.2451**

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	0.1889	2.7800e-003	0.2122	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5892
Energy	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	30.0296	30.0296	1.1200e-003	3.6000e-004	30.1659
Mobile	0.0476	0.2017	0.5531	1.9100e-003	0.1763	1.6200e-003	0.1779	0.0472	1.5200e-003	0.0487	0.0000	175.0428	175.0428	5.9200e-003	0.0000	175.1906
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.6267
Water						0.0000	0.0000		0.0000	0.0000	0.4134	2.8877	3.3011	0.0426	1.0300e-003	4.6727
Total	**0.2375**	**0.2124**	**0.7687**	**2.0900e-003**	**0.1763**	**0.0122**	**0.1885**	**0.0472**	**0.0121**	**0.0593**	**3.1927**	**208.5771**	**211.7698**	**0.1617**	**1.4500e-003**	**216.2451**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0476	0.2017	0.5531	1.9100e-003	0.1763	1.6200e-003	0.1779	0.0472	1.5200e-003	0.0487	0.0000	175.0428	175.0428	5.9200e-003	0.0000	175.1906
Unmitigated	0.0476	0.2017	0.5531	1.9100e-003	0.1763	1.6200e-003	0.1779	0.0472	1.5200e-003	0.0487	0.0000	175.0428	175.0428	5.9200e-003	0.0000	175.1906

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	210.00	201.80	185.00	474,063	474,063
Total	210.00	201.80	185.00	474,063	474,063

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.8417	20.8417	9.4000e-004	1.9000e-004	20.9234
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.8417	20.8417	9.4000e-004	1.9000e-004	20.9234
NaturalGas Mitigated	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425
NaturalGas Unmitigated	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425

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	172174	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425
Total		**9.3000e-004**	**7.9300e-003**	**3.3800e-003**	**5.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**9.1879**	**9.1879**	**1.8000e-004**	**1.7000e-004**	**9.2425**

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	172174	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425

Total		**9.3000e-004**	**7.9300e-003**	**3.3800e-003**	**5.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**9.1879**	**9.1879**	**1.8000e-004**	**1.7000e-004**	**9.2425**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	71642.8	20.8417	9.4000e-004	1.9000e-004	20.9234
Total		**20.8417**	**9.4000e-004**	**1.9000e-004**	**20.9234**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	71642.8	20.8417	9.4000e-004	1.9000e-004	20.9234
Total		**20.8417**	**9.4000e-004**	**1.9000e-004**	**20.9234**

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	0.1889	2.7800e-003	0.2122	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5892
Unmitigated	0.1889	2.7800e-003	0.2122	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5892

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	0.0211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	1.0600e-003	0.0635	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.9118	0.3745	1.2863	1.4700e-003	6.0000e-005	1.3408
Landscaping	4.4900e-003	1.7100e-003	0.1487	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.3000e-004	0.0000	0.2484
Total	**0.1889**	**2.7700e-003**	**0.2122**	**1.4000e-004**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.9118**	**0.6171**	**1.5289**	**1.7000e-003**	**6.0000e-005**	**1.5892**

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	0.0211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	1.0600e-003	0.0635	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.9118	0.3745	1.2863	1.4700e-003	6.0000e-005	1.3408
Landscaping	4.4900e-003	1.7100e-003	0.1487	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.3000e-004	0.0000	0.2484
Total	**0.1889**	**2.7700e-003**	**0.2122**	**1.4000e-004**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.9118**	**0.6171**	**1.5289**	**1.7000e-003**	**6.0000e-005**	**1.5892**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3011	0.0426	1.0300e-003	4.6727
Unmitigated	3.3011	0.0426	1.0300e-003	4.6727

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.30308 / 0.821507	3.3011	0.0426	1.0300e-003	4.6727
Total		**3.3011**	**0.0426**	**1.0300e-003**	**4.6727**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.30308 / 0.821507	3.3011	0.0426	1.0300e-003	4.6727
Total		**3.3011**	**0.0426**	**1.0300e-003**	**4.6727**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.8675	0.1104	0.0000	4.6267
Unmitigated	1.8675	0.1104	0.0000	4.6267

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
Total		**1.8675**	**0.1104**	**0.0000**	**4.6267**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
Total		**1.8675**	**0.1104**	**0.0000**	**4.6267**

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

7201-7245 Bark Lane Res, San Jose - Santa Clara County, Annual

7201-7245 Bark Lane Res, San Jose - Construction

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	192.00	Space	1.73	71,576.00	0
Apartments Mid Rise	85.00	Dwelling Unit	2.24	170,785.00	243

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	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 Rate = 290

Land Use - Site Plan Land uses, Default acerage for underground garage

Construction Phase - Default construction schedule, Trenching added

Off-road Equipment -

Off-road Equipment - Default Construction equip and hours

Trips and VMT - Excavation/grading: 1,511 RT = 3,022 trips, 1 Mile TAC

Demolition - Up to 30ksf demo est from Google Earth

Vehicle Trips - Trip Gen same as Defaults

Woodstoves - All Gas no wood

Water And Wastewater - WTP 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, 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	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
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
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	12.75	27.20
tblFireplaces	NumberWood	14.45	0.00
tblLandUse	LandUseSquareFeet	76,800.00	71,576.00
tblLandUse	LandUseSquareFeet	85,000.00	170,785.00
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	HaulingTripNumber	0.00	3,022.00
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
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	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	0.3155	3.0695	2.4059	4.1900e-003	0.0977	0.1556	0.2533	0.0437	0.1459	0.1896	0.0000	366.4646	366.4646	0.0848	0.0000	368.5848
2021	1.2303	0.1209	0.1375	2.1000e-004	3.0000e-004	6.5400e-003	6.8400e-003	8.0000e-005	6.1100e-003	6.1900e-003	0.0000	18.5776	18.5776	5.0900e-003	0.0000	18.7047
Maximum	**1.2303**	**3.0695**	**2.4059**	**4.1900e-003**	**0.0977**	**0.1556**	**0.2533**	**0.0437**	**0.1459**	**0.1896**	**0.0000**	**366.4646**	**366.4646**	**0.0848**	**0.0000**	**368.5848**

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	0.0905	1.7858	2.5679	4.1900e-003	0.0503	0.0112	0.0615	0.0123	0.0112	0.0234	0.0000	366.4642	366.4642	0.0848	0.0000	368.5844
2021	1.2210	0.0865	0.1497	2.1000e-004	3.0000e-004	3.50E-04	6.4000e-004	8.00E-05	3.5000e-004	4.3000e-004	0.0000	18.5776	18.5776	5.0900e-003	0.0000	18.7047

Maximum	**1.2210**	**1.7858**	**2.5679**	**4.1900e-003**	**0.0503**	**0.0112**	**0.0615**	**0.0123**	**0.0112**	**0.0234**	**0.0000**	**366.4642**	**366.4642**	**0.0848**	**0.0000**	**368.5844**

	ROG	NOx	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	**15.16**	**41.31**	**-6.85**	**0.00**	**48.36**	**92.90**	**76.12**	**71.78**	**92.44**	**87.82**	**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	**1-1-2020**	**3-31-2020**	1.1073	0.5734
2	**4-1-2020**	**6-30-2020**	0.7449	0.4245
3	**7-1-2020**	**9-30-2020**	0.7531	0.4291
4	**10-1-2020**	**12-31-2020**	0.7519	0.4279
5	**1-1-2021**	**3-31-2021**	1.3908	1.3469
		Highest	1.3908	1.3469

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/4/2020	5	5	
3	Grading	Grading	2/5/2020	2/14/2020	5	8	
4	Trenching	Trenching	2/5/2020	2/14/2020	5	8	
5	Building Construction	Building Construction	2/15/2020	1/1/2021	5	230	
6	Paving	Paving	1/2/2021	1/27/2021	5	18	
7	Architectural Coating	Architectural Coating	1/28/2021	2/22/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.73

Residential Indoor: 345,840; Residential Outdoor: 115,280; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	136.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,022.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching			0.00	0.00	10.80	7.30				

Building Construction	9	91.00	21.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	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					
Fugitive Dust					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0148**	**0.0166**	**0.0314**	**2.2400e-003**	**0.0154**	**0.0177**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

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	1.5000e-004	7.0100e-003	1.1400e-003	1.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.8832	0.8832	9.0000e-005	0.0000	0.8855
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	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	**3.2000e-004**	**7.0900e-003**	**2.1200e-003**	**1.0000e-005**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**1.0052**	**1.0052**	**1.0000e-004**	**0.0000**	**1.0076**

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					6.6400e-003	0.0000	6.6400e-003	5.0000e-004	0.0000	5.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**6.6400e-003**	**6.2000e-004**	**7.2600e-003**	**5.0000e-004**	**6.2000e-004**	**1.1200e-003**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

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	1.5000e-004	7.0100e-003	1.1400e-003	1.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.8832	0.8832	9.0000e-005	0.0000	0.8855
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	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221

Total	**3.2000e-004**	**7.0900e-003**	**2.1200e-003**	**1.0000e-005**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**1.0052**	**1.0052**	**1.0000e-004**	**0.0000**	**1.0076**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0366**	**0.0366**	**0.0000**	**0.0000**	**0.0366**

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					0.0203	0.0000	0.0203	5.5900e-003	0.0000	5.5900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7400e-003	0.0304	0.0574	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**1.7400e-003**	**0.0304**	**0.0574**	**1.0000e-004**	**0.0203**	**1.6000e-004**	**0.0205**	**5.5900e-003**	**1.6000e-004**	**5.7500e-003**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0366**	**0.0366**	**0.0000**	**0.0000**	**0.0366**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

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	3.2800e-003	0.1558	0.0254	2.0000e-004	1.3100e-003	1.5000e-004	1.4600e-003	3.6000e-004	1.4000e-004	5.0000e-004	0.0000	19.6249	19.6249	2.0900e-003	0.0000	19.6770
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488
Total	**3.3500e-003**	**0.1559**	**0.0258**	**2.0000e-004**	**1.3500e-003**	**1.5000e-004**	**1.5100e-003**	**3.7000e-004**	**1.4000e-004**	**5.1000e-004**	**0.0000**	**19.6736**	**19.6736**	**2.0900e-003**	**0.0000**	**19.7259**

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					0.0118	0.0000	0.0118	3.0300e-003	0.0000	3.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0413	0.0760	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**2.0800e-003**	**0.0413**	**0.0760**	**1.2000e-004**	**0.0118**	**1.9000e-004**	**0.0120**	**3.0300e-003**	**1.9000e-004**	**3.2200e-003**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

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	3.2800e-003	0.1558	0.0254	2.0000e-004	1.3100e-003	1.5000e-004	1.4600e-003	3.6000e-004	1.4000e-004	5.0000e-004	0.0000	19.6249	19.6249	2.0900e-003	0.0000	19.6770
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488
Total	**3.3500e-003**	**0.1559**	**0.0258**	**2.0000e-004**	**1.3500e-003**	**1.5000e-004**	**1.5100e-003**	**3.7000e-004**	**1.4000e-004**	**5.1000e-004**	**0.0000**	**19.6736**	**19.6736**	**2.0900e-003**	**0.0000**	**19.7259**

3.5 Trenching - 2020

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
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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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
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
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1934	265.1934	0.0647	0.0000	266.8109
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1934**	**265.1934**	**0.0647**	**0.0000**	**266.8109**

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	4.5400e-003	0.1608	0.0446	2.0000e-004	2.2200e-003	2.6000e-004	2.4800e-003	6.5000e-004	2.5000e-004	9.0000e-004	0.0000	19.3028	19.3028	1.8800e-003	0.0000	19.3499
Worker	0.0115	5.2800e-003	0.0683	9.0000e-005	7.7400e-003	1.1000e-004	7.8500e-003	2.0700e-003	1.0000e-004	2.1700e-003	0.0000	8.4732	8.4732	3.6000e-004	0.0000	8.4823
Total	**0.0161**	**0.1661**	**0.1130**	**2.9000e-004**	**9.9600e-003**	**3.7000e-004**	**0.0103**	**2.7200e-003**	**3.5000e-004**	**3.0700e-003**	**0.0000**	**27.7760**	**27.7760**	**2.2400e-003**	**0.0000**	**27.8322**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0611	1.2494	2.0465	3.0800e-003		9.6900e-003	9.6900e-003		9.6900e-003	9.6900e-003	0.0000	265.1931	265.1931	0.0647	0.0000	266.8106
Total	**0.0611**	**1.2494**	**2.0465**	**3.0800e-003**		**9.6900e-003**	**9.6900e-003**		**9.6900e-003**	**9.6900e-003**	**0.0000**	**265.1931**	**265.1931**	**0.0647**	**0.0000**	**266.8106**

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	4.5400e-003	0.1608	0.0446	2.0000e-004	2.2200e-003	2.6000e-004	2.4800e-003	6.5000e-004	2.5000e-004	9.0000e-004	0.0000	19.3028	19.3028	1.8800e-003	0.0000	19.3499
Worker	0.0115	5.2800e-003	0.0683	9.0000e-005	7.7400e-003	1.1000e-004	7.8500e-003	2.0700e-003	1.0000e-004	2.1700e-003	0.0000	8.4732	8.4732	3.6000e-004	0.0000	8.4823
Total	**0.0161**	**0.1661**	**0.1130**	**2.9000e-004**	**9.9600e-003**	**3.7000e-004**	**0.0103**	**2.7200e-003**	**3.5000e-004**	**3.0700e-003**	**0.0000**	**27.7760**	**27.7760**	**2.2400e-003**	**0.0000**	**27.8322**

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	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

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	2.0000e-005	6.7000e-004	1.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0835	0.0835	1.0000e-005	0.0000	0.0837
Worker	5.0000e-005	2.0000e-005	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0357	0.0357	0.0000	0.0000	0.0358
Total	**7.0000e-005**	**6.9000e-004**	**4.5000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1192**	**0.1192**	**1.0000e-005**	**0.0000**	**0.1195**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7000e-004	5.4600e-003	8.9400e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**2.7000e-004**	**5.4600e-003**	**8.9400e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

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	2.0000e-005	6.7000e-004	1.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0835	0.0835	1.0000e-005	0.0000	0.0837
Worker	5.0000e-005	2.0000e-005	2.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0357	0.0357	0.0000	0.0000	0.0358
Total	**7.0000e-005**	**6.9000e-004**	**4.5000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.1192**	**0.1192**	**1.0000e-005**	**0.0000**	**0.1195**

3.7 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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

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	1.8000e-004	8.0000e-005	1.0600e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1414	0.1414	1.0000e-005	0.0000	0.1416
Total	**1.8000e-004**	**8.0000e-005**	**1.0600e-003**	**0.0000**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1414**	**0.1414**	**1.0000e-005**	**0.0000**	**0.1416**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6200e-003	0.0706	0.1218	1.7000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6200e-003**	**0.0706**	**0.1218**	**1.7000e-004**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

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	1.8000e-004	8.0000e-005	1.0600e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1414	0.1414	1.0000e-005	0.0000	0.1416
Total	**1.8000e-004**	**8.0000e-005**	**1.0600e-003**	**0.0000**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1414**	**0.1414**	**1.0000e-005**	**0.0000**	**0.1416**

3.8 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	1.2172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.2191**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	1.6000e-004	7.0000e-005	9.6000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1273	0.1273	1.0000e-005	0.0000	0.1274
Total	**1.6000e-004**	**7.0000e-005**	**9.6000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1273**	**0.1273**	**1.0000e-005**	**0.0000**	**0.1274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	9.5400e-003	0.0165	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.2177**	**9.5400e-003**	**0.0165**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	1.6000e-004	7.0000e-005	9.6000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1273	0.1273	1.0000e-005	0.0000	0.1274
Total	**1.6000e-004**	**7.0000e-005**	**9.6000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1273**	**0.1273**	**1.0000e-005**	**0.0000**	**0.1274**

7201-7245 Bark Lane Res, San Jose - Santa Clara County, Annual

7201-7245 Bark Lane Res, San Jose - 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	192.00	Space	1.73	71,576.00	0
Apartments Mid Rise	85.00	Dwelling Unit	2.24	170,785.00	243

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 Rate = 290

Land Use - Site Plan Land uses, Default acerage for underground garage

Construction Phase - Default construction schedule, Trenching added

Off-road Equipment -

Off-road Equipment - Default Construction equip and hours

Trips and VMT - Excavation/grading: 1,511 RT = 3,022 trips.

Demolition - Up to 30ksf demo est from Google Earth

Vehicle Trips - Trip Gen same as Defaults

Woodstoves - All Gas no wood

Water And Wastewater - WTP 100% aerobic

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	12.75	27.20
tblFireplaces	NumberWood	14.45	0.00
tblLandUse	LandUseSquareFeet	76,800.00	71,576.00
tblLandUse	LandUseSquareFeet	85,000.00	170,785.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	3,022.00
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	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	0.8127	0.0102	0.6325	5.0000e-005		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	4.4300	4.4300	1.0600e-003	6.0000e-005	4.4750

Energy	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	140.5205	140.5205	0.0109	2.8100e-003	141.6314
Mobile	0.0827	0.3569	0.9516	4.1000e-003	0.4744	2.7500e-003	0.4771	0.1270	2.5500e-003	0.1295	0.0000	377.2882	377.2882	0.0109	0.0000	377.5595
Waste						0.0000	0.0000		0.0000	0.0000	7.9370	0.0000	7.9370	0.4691	0.0000	19.6635
Water						0.0000	0.0000		0.0000	0.0000	1.9594	5.5493	7.5087	7.3000e-003	4.3800e-003	8.9952
Total	**0.8993**	**0.4010**	**1.5984**	**4.3700e-003**	**0.4744**	**9.2300e-003**	**0.4836**	**0.1270**	**9.0300e-003**	**0.1360**	**9.8963**	**527.7879**	**537.6843**	**0.4992**	**7.2500e-003**	**552.3244**

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	0.8127	0.0102	0.6325	5.0000e-005		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	4.4300	4.4300	1.0600e-003	6.0000e-005	4.4750
Energy	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	140.5205	140.5205	0.0109	2.8100e-003	141.6314
Mobile	0.0827	0.3569	0.9516	4.1000e-003	0.4744	2.7500e-003	0.4771	0.1270	2.5500e-003	0.1295	0.0000	377.2882	377.2882	0.0109	0.0000	377.5595
Waste						0.0000	0.0000		0.0000	0.0000	7.9370	0.0000	7.9370	0.4691	0.0000	19.6635
Water						0.0000	0.0000		0.0000	0.0000	1.9594	5.5493	7.5087	7.3000e-003	4.3800e-003	8.9952
Total	**0.8993**	**0.4010**	**1.5984**	**4.3700e-003**	**0.4744**	**9.2300e-003**	**0.4836**	**0.1270**	**9.0300e-003**	**0.1360**	**9.8963**	**527.7879**	**537.6843**	**0.4992**	**7.2500e-003**	**552.3244**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0827	0.3569	0.9516	4.1000e-003	0.4744	2.7500e-003	0.4771	0.1270	2.5500e-003	0.1295	0.0000	377.2882	377.2882	0.0109	0.0000	377.5595
Unmitigated	0.0827	0.3569	0.9516	4.1000e-003	0.4744	2.7500e-003	0.4771	0.1270	2.5500e-003	0.1295	0.0000	377.2882	377.2882	0.0109	0.0000	377.5595

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	565.25	543.15	498.10	1,276,058	1,276,058
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	565.25	543.15	498.10	1,276,058	1,276,058

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

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.3326	101.3326	0.0101	2.1000e-003	102.2107
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.3326	101.3326	0.0101	2.1000e-003	102.2107
NaturalGas Mitigated	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
NaturalGas Unmitigated	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208

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	734353	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
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
Total		**3.9600e-003**	**0.0338**	**0.0144**	**2.2000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.1879**	**39.1879**	**7.5000e-004**	**7.2000e-004**	**39.4208**

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	734353	3.9600e-003	0.0338	0.0144	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003	0.0000	39.1879	39.1879	7.5000e-004	7.2000e-004	39.4208
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
Total		**3.9600e-003**	**0.0338**	**0.0144**	**2.2000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.1879**	**39.1879**	**7.5000e-004**	**7.2000e-004**	**39.4208**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	350910	46.1593	4.6200e-003	9.6000e-004	46.5593
Enclosed Parking with Elevator	419435	55.1733	5.5200e-003	1.1400e-003	55.6514
Total		**101.3326**	**0.0101**	**2.1000e-003**	**102.2107**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	350910	46.1593	4.6200e-003	9.6000e-004	46.5593

Enclosed Parking with Elevator	419435	55.1733	5.5200e-003	1.1400e-003	55.6514
Total		**101.3326**	**0.0101**	**2.1000e-003**	**102.2107**

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	0.8127	0.0102	0.6325	5.0000e-005		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	4.4300	4.4300	1.0600e-003	6.0000e-005	4.4750
Unmitigated	0.8127	0.0102	0.6325	5.0000e-005		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	4.4300	4.4300	1.0600e-003	6.0000e-005	4.4750

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	0.1217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9300e-003	1.2500e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3956	3.3956	7.0000e-005	6.0000e-005	3.4158

Landscaping	0.0190	7.2700e-003	0.6312	3.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	1.0344	1.0344	9.9000e-004	0.0000	1.0592
Total	**0.8127**	**0.0102**	**0.6325**	**5.0000e-005**		**3.7500e-003**	**3.7500e-003**		**3.7500e-003**	**3.7500e-003**	**0.0000**	**4.4300**	**4.4300**	**1.0600e-003**	**6.0000e-005**	**4.4750**

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	0.1217					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6716					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9300e-003	1.2500e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3956	3.3956	7.0000e-005	6.0000e-005	3.4158
Landscaping	0.0190	7.2700e-003	0.6312	3.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	1.0344	1.0344	9.9000e-004	0.0000	1.0592
Total	**0.8127**	**0.0102**	**0.6325**	**5.0000e-005**		**3.7500e-003**	**3.7500e-003**		**3.7500e-003**	**3.7500e-003**	**0.0000**	**4.4300**	**4.4300**	**1.0600e-003**	**6.0000e-005**	**4.4750**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.5087	7.3000e-003	4.3800e-003	8.9952
Unmitigated	7.5087	7.3000e-003	4.3800e-003	8.9952

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.53809 / 3.49141	7.5087	7.3000e-003	4.3800e-003	8.9952
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.5087**	**7.3000e-003**	**4.3800e-003**	**8.9952**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.53809 / 3.49141	7.5087	7.3000e-003	4.3800e-003	8.9952
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.5087**	**7.3000e-003**	**4.3800e-003**	**8.9952**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.9370	0.4691	0.0000	19.6635
Unmitigated	7.9370	0.4691	0.0000	19.6635

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	39.1	7.9370	0.4691	0.0000	19.6635
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9370**	**0.4691**	**0.0000**	**19.6635**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Apartments Mid Rise	39.1	7.9370	0.4691	0.0000	19.6635
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9370**	**0.4691**	**0.0000**	**19.6635**

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

7201-7245 Bark Lane Res, San Jose - Existing - Santa Clara County, Annual

7201-7245 Bark Lane Res, San Jose - Existing 2030

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	20.00	Dwelling Unit	0.90	30,000.00	57

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)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing Land Use

Construction Phase - Existing Use

Off-road Equipment - Existing Use

Trips and VMT -

Demolition -

Grading - Existing use

Energy Use - Historical Energy Use

Vehicle Trips - Existing Apts = 10.5, 10.09, 9.25

Woodstoves -

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	20,000.00	30,000.00
tblLandUse	LotAcreage	0.53	0.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	6.39	10.09
tblVehicleTrips	SU_TR	5.86	9.25
tblVehicleTrips	WD_TR	6.65	10.50

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	0.1889	2.7700e-003	0.2117	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5891
Energy	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	30.0296	30.0296	1.1200e-003	3.6000e-004	30.1659
Mobile	0.0307	0.1326	0.3535	1.5200e-003	0.1762	1.0200e-003	0.1773	0.0472	9.5000e-004	0.0481	0.0000	140.1649	140.1649	4.0300e-003	0.0000	140.2657
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.6267

Water						0.0000	0.0000		0.0000	0.0000	0.4134	2.8877	3.3011	0.0426	1.0300e-003	4.6727
Total	**0.2205**	**0.1433**	**0.5685**	**1.7000e-003**	**0.1762**	**0.0116**	**0.1878**	**0.0472**	**0.0115**	**0.0587**	**3.1927**	**173.6992**	**176.8919**	**0.1598**	**1.4500e-003**	**181.3200**

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	0.1889	2.7700e-003	0.2117	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5891
Energy	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	30.0296	30.0296	1.1200e-003	3.6000e-004	30.1659
Mobile	0.0307	0.1326	0.3535	1.5200e-003	0.1762	1.0200e-003	0.1773	0.0472	9.5000e-004	0.0481	0.0000	140.1649	140.1649	4.0300e-003	0.0000	140.2657
Waste						0.0000	0.0000		0.0000	0.0000	1.8675	0.0000	1.8675	0.1104	0.0000	4.6267
Water						0.0000	0.0000		0.0000	0.0000	0.4134	2.8877	3.3011	0.0426	1.0300e-003	4.6727
Total	**0.2205**	**0.1433**	**0.5685**	**1.7000e-003**	**0.1762**	**0.0116**	**0.1878**	**0.0472**	**0.0115**	**0.0587**	**3.1927**	**173.6992**	**176.8919**	**0.1598**	**1.4500e-003**	**181.3200**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0307	0.1326	0.3535	1.5200e-003	0.1762	1.0200e-003	0.1773	0.0472	9.5000e-004	0.0481	0.0000	140.1649	140.1649	4.0300e-003	0.0000	140.2657
Unmitigated	0.0307	0.1326	0.3535	1.5200e-003	0.1762	1.0200e-003	0.1773	0.0472	9.5000e-004	0.0481	0.0000	140.1649	140.1649	4.0300e-003	0.0000	140.2657

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	210.00	201.80	185.00	474,063	474,063
Total	210.00	201.80	185.00	474,063	474,063

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

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

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.8417	20.8417	9.4000e-004	1.9000e-004	20.9234
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.8417	20.8417	9.4000e-004	1.9000e-004	20.9234
NaturalGas Mitigated	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425
NaturalGas Unmitigated	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425

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	172174	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425
Total		**9.3000e-004**	**7.9300e-003**	**3.3800e-003**	**5.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**9.1879**	**9.1879**	**1.8000e-004**	**1.7000e-004**	**9.2425**

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	172174	9.3000e-004	7.9300e-003	3.3800e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.1879	9.1879	1.8000e-004	1.7000e-004	9.2425

Total		**9.3000e-004**	**7.9300e-003**	**3.3800e-003**	**5.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**9.1879**	**9.1879**	**1.8000e-004**	**1.7000e-004**	**9.2425**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	71642.8	20.8417	9.4000e-004	1.9000e-004	20.9234
Total		**20.8417**	**9.4000e-004**	**1.9000e-004**	**20.9234**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	71642.8	20.8417	9.4000e-004	1.9000e-004	20.9234
Total		**20.8417**	**9.4000e-004**	**1.9000e-004**	**20.9234**

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	0.1889	2.7700e-003	0.2117	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5891
Unmitigated	0.1889	2.7700e-003	0.2117	1.3000e-004		9.9100e-003	9.9100e-003		9.9100e-003	9.9100e-003	0.9118	0.6171	1.5289	1.7000e-003	6.0000e-005	1.5891

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	0.0211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	1.0600e-003	0.0635	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.9118	0.3745	1.2863	1.4700e-003	6.0000e-005	1.3408
Landscaping	4.4300e-003	1.7100e-003	0.1481	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.3000e-004	0.0000	0.2484
Total	**0.1889**	**2.7700e-003**	**0.2117**	**1.4000e-004**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.9118**	**0.6171**	**1.5289**	**1.7000e-003**	**6.0000e-005**	**1.5891**

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	0.0211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	1.0600e-003	0.0635	1.3000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.9118	0.3745	1.2863	1.4700e-003	6.0000e-005	1.3408
Landscaping	4.4300e-003	1.7100e-003	0.1481	1.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	0.2426	0.2426	2.3000e-004	0.0000	0.2484
Total	**0.1889**	**2.7700e-003**	**0.2117**	**1.4000e-004**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.9118**	**0.6171**	**1.5289**	**1.7000e-003**	**6.0000e-005**	**1.5891**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3011	0.0426	1.0300e-003	4.6727
Unmitigated	3.3011	0.0426	1.0300e-003	4.6727

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.30308 / 0.821507	3.3011	0.0426	1.0300e-003	4.6727
Total		**3.3011**	**0.0426**	**1.0300e-003**	**4.6727**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.30308 / 0.821507	3.3011	0.0426	1.0300e-003	4.6727
Total		**3.3011**	**0.0426**	**1.0300e-003**	**4.6727**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.8675	0.1104	0.0000	4.6267
Unmitigated	1.8675	0.1104	0.0000	4.6267

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
Total		**1.8675**	**0.1104**	**0.0000**	**4.6267**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
Total		**1.8675**	**0.1104**	**0.0000**	**4.6267**

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

Attachment 3: Screening Community Risk Calculations

S.R. 85 Emissions and Risk Calculations

Bark Lane, San Jose, CA
SR-85
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
NB SR-85	Northbound SR-85	N	3	487	56	17.0	3.4	565	variable
SB SR-85	Southbound SR-85	S	3	487	56	17.0	3.4	565	variable

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - NB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	0.75%	4	0.0277	9	8.02%	45	0.0131	17	7.78%	44	0.0127
2	0.59%	3	0.0214	10	1.21%	7	0.0313	18	7.75%	44	0.0115
3	0.74%	4	0.0192	11	7.81%	44	0.0129	19	7.40%	42	0.0112
4	0.44%	2	0.0385	12	7.97%	45	0.0132	20	7.03%	40	0.0106
5	0.38%	2	0.0288	13	7.79%	44	0.0130	21	0.66%	4	0.0265
6	0.39%	2	0.0431	14	7.83%	44	0.0129	22	0.75%	4	0.0304
7	0.88%	5	0.0369	15	7.74%	44	0.0126	23	0.49%	3	0.0264
8	7.77%	44	0.0127	16	7.61%	43	0.0120	24	0.24%	1	0.0229
								Total		565	

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - SB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	0.75%	4	0.0277	9	8.02%	45	0.0130	17	7.78%	44	0.0231
2	0.59%	3	0.0214	10	1.21%	7	0.0313	18	7.75%	44	0.0228
3	0.74%	4	0.0192	11	7.81%	44	0.0129	19	7.40%	42	0.0112
4	0.44%	2	0.0385	12	7.97%	45	0.0132	20	7.03%	40	0.0106
5	0.38%	2	0.0288	13	7.79%	44	0.0130	21	0.66%	4	0.0265
6	0.39%	2	0.0431	14	7.83%	44	0.0129	22	0.75%	4	0.0304
7	0.88%	5	0.0369	15	7.74%	44	0.0126	23	0.49%	3	0.0264
8	7.77%	44	0.0124	16	7.61%	43	0.0120	24	0.24%	1	0.0229
								Total		565	

Bark Lane, San Jose, CA
SR-85
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB SR-85	Northbound SR-85	N	3	487	56	17.0	1.3	59,325	variable
SB SR-85	Southbound SR-85	S	3	487	56	17.0	1.3	59,325	variable

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - NB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.06%	630	0.0195	9	7.06%	4190	0.0198	17	7.40%	4391	0.0193
2	0.34%	204	0.0196	10	4.22%	2501	0.0194	18	8.34%	4951	0.0193
3	0.27%	158	0.0198	11	4.57%	2713	0.0194	19	5.85%	3468	0.0193
4	0.15%	91	0.0208	12	5.82%	3455	0.0194	20	4.41%	2614	0.0193
5	0.43%	256	0.0196	13	6.18%	3666	0.0194	21	3.30%	1957	0.0193
6	0.78%	464	0.0197	14	6.03%	3577	0.0194	22	3.31%	1962	0.0194
7	3.75%	2225	0.0194	15	7.11%	4216	0.0193	23	2.48%	1470	0.0193
8	7.96%	4724	0.0197	16	7.27%	4310	0.0193	24	1.91%	1131	0.0193
								Total		59,325	

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.06%	630	0.0195	9	7.06%	4190	0.0194	17	7.40%	4391	0.0226
2	0.34%	204	0.0196	10	4.22%	2501	0.0194	18	8.34%	4951	0.0226
3	0.27%	158	0.0198	11	4.57%	2713	0.0194	19	5.85%	3468	0.0193
4	0.15%	91	0.0208	12	5.82%	3455	0.0194	20	4.41%	2614	0.0193
5	0.43%	256	0.0196	13	6.18%	3666	0.0194	21	3.30%	1957	0.0193
6	0.78%	464	0.0197	14	6.03%	3577	0.0194	22	3.31%	1962	0.0194
7	3.75%	2225	0.0194	15	7.11%	4216	0.0193	23	2.48%	1470	0.0193
8	7.96%	4724	0.0193	16	7.27%	4310	0.0193	24	1.91%	1131	0.0193
								Total		59,325	

Bark Lane, San Jose, CA
SR-85
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB SR-85	Northbound SR-85	N	3	487	56	17.0	1.3	59,325	variable
SB SR-85	Southbound SR-85	S	3	487	56	17.0	1.3	59,325	variable

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - NB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.06%	630	0.0100	9	7.06%	4190	0.0100	17	7.40%	4391	0.0100
2	0.34%	204	0.0100	10	4.22%	2501	0.0100	18	8.34%	4951	0.0100
3	0.27%	158	0.0100	11	4.57%	2713	0.0100	19	5.85%	3468	0.0100
4	0.15%	91	0.0100	12	5.82%	3455	0.0100	20	4.41%	2614	0.0100
5	0.43%	256	0.0100	13	6.18%	3666	0.0100	21	3.30%	1957	0.0100
6	0.78%	464	0.0100	14	6.03%	3577	0.0100	22	3.31%	1962	0.0100
7	3.75%	2225	0.0100	15	7.11%	4216	0.0100	23	2.48%	1470	0.0100
8	7.96%	4724	0.0100	16	7.27%	4310	0.0100	24	1.91%	1131	0.0100
								Total		59,325	

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - SB SR-85

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.06%	630	0.0100	9	7.06%	4190	0.0100	17	7.40%	4391	0.0100
2	0.34%	204	0.0100	10	4.22%	2501	0.0100	18	8.34%	4951	0.0100
3	0.27%	158	0.0100	11	4.57%	2713	0.0100	19	5.85%	3468	0.0100
4	0.15%	91	0.0100	12	5.82%	3455	0.0100	20	4.41%	2614	0.0100
5	0.43%	256	0.0100	13	6.18%	3666	0.0100	21	3.30%	1957	0.0100
6	0.78%	464	0.0100	14	6.03%	3577	0.0100	22	3.31%	1962	0.0100
7	3.75%	2225	0.0100	15	7.11%	4216	0.0100	23	2.48%	1470	0.0100
8	7.96%	4724	0.0100	16	7.27%	4310	0.0100	24	1.91%	1131	0.0100
								Total		59,325	

Bark Lane, San Jose, CA
SR-85 Traffic Data and PM2.5 & TOG Emission Factors - 60 mph Trucks & 65 mph Other Vehicles

Analysis Year = ***2020***

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	81,433	85,504	1.06%	909	65	0.0101	0.0193	0.0015	0.0158	0.044
LDT	30,923	32,469	0.17%	57	65	0.0143	0.0193	0.0015	0.0243	0.096
MDT	529	555	9.92%	55	60	0.0130	0.0228	0.0021	0.0449	0.185
HDT	115	121	90.12%	109	60	0.0431	0.0881	0.0382	0.1025	0.110
Total	113,000	118,650	-	1,130	62.5	-	-		-	-
Mix Avg Emission Factor						**0.01363**	**0.01936**	**0.00156**	**0.01829**	**0.05883**
Increase From 2015		1.05								
Vehicles/Direction		59,325		565						
Avg Vehicles/Hour/Direction		**2,472**		**24**						

Traffic Data Year = ***2015***

Caltrans AADT & Truck AADT Percentage	Total	Total Truck	Truck by Axle 2	3	4	5
SR-85 B Cupertino, Stevens Creek Blvd	113,000	644	529	37	32	46
			82.06%	5.79%	4.94%	7.20%
Percent of Total Vehicles		0.57%	0.47%	0.03%	0.03%	0.04%

Traffic Increase per Year (%) = ***1.00%***

Bark Lane, San Jose, CA
SR-85 Traffic Data and PM2.5 & TOG Emission Factors - 30 mph

Analysis Year = ***2020***

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	81,433	85,504	1.06%	909	30	0.0114	0.0197	0.0019	0.0204	0.044
LDT	30,923	32,469	0.17%	57	30	0.0156	0.0197	0.0020	0.0317	0.096
MDT	529	555	9.92%	55	30	0.0169	0.0236	0.0028	0.0635	0.185
HDT	115	121	90.12%	109	30	0.0281	0.0751	0.0252	0.1735	0.110
Total	113,000	118,650	-	1,130	30	-	-		-	-
Mix Avg Emission Factor						**0.01346**	**0.01977**	**0.00197**	**0.02373**	**0.05883**
Increase From 2015		1.05								
Vehicles/Direction		59,325		565						
Avg Vehicles/Hour/Direction		**2,472**		**24**						

Traffic Data Year = ***2015***

Caltrans AADT & Truck AADT Percentage	Total	Total* Truck	Truck by Axle 2	3	4	5
SR-85 B Cupertino, Stevens Creek Blvd	113,000	644	529	37	32	46
			82.06%	5.79%	4.94%	7.20%
Percent of Total Vehicles		0.57%	0.47%	0.03%	0.03%	0.04%

Traffic Increase per Year (%) = ***1.00%***

Bark Lane, San Jose, CA
SR-85 Traffic Data and PM2.5 & TOG Emission Factors - 15 mph

Analysis Year = ***2020***

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	81,433	85,504	1.06%	909	15	0.0207	0.0224	0.0047	0.0496	0.044
LDT	30,923	32,469	0.17%	57	15	0.0289	0.0225	0.0047	0.0753	0.096
MDT	529	555	9.92%	55	15	0.0398	0.0391	0.0184	0.1713	0.185
HDT	115	121	90.12%	109	15	0.0438	0.0873	0.0374	0.3428	0.110
Total	113,000	118,650	-	1,130	15	-	-	-	-	-
Mix Avg Emission Factor						**0.02429**	**0.02261**	**0.00481**	**0.05721**	**0.05883**
Increase From 2015		1.05								
Vehicles/Direction		59,325		565						
Avg Vehicles/Hour/Direction		**2,472**		**24**						

Traffic Data Year = ***2015***

Caltrans AADT & Truck AADT Percentage	Total	Total Truck	Truck by Axle: 2	3	4	5
SR-85 B Cupertino, Stevens Creek Blv	113,000	644	529	37	32	46
			82.06%	5.79%	4.94%	7.20%
Percent of Total Vehicles		0.57%	0.47%	0.03%	0.03%	0.04%

Traffic Increase per Year (%) = ***1.00%***

Bark Lane, San Jose, CA
SR-85 Traffic Data and Entrained PM2.5 Road Dust Emission Factors

$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59$

where:

$E_{2.5}$ = $PM_{2.5}$ emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT][a]

sL = roadway specific silt loading (g/m^2)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)[a]

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: [a] CARB 2014, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, April 2014)

Road Type	Silt Loading (g/m^2)	Average Weight (tons)	County	No. Days ppt > 0.01"	$PM_{2.5}$ Emission Factor (g/VMT)
Freeway	0.02	2.4	Santa Clara	64	0.00996

SFBAAB[a]

Road Type	Silt Loading (g/m^2)
Collector	0.032
Freeway	0.02
Local	0.32
Major	0.032

SFBAAB[a]

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Bark Lane, San Jose, CA - SR-85 - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Residential Receptors (1.5 meter receptor heights)

Emissions Year	2020
Receptor Information	
Number of Receptors	96
Receptor Height =	1.5 meters above ground level
Receptor distances =	6 meter spacing in project site
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2006-2010
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2006-2010	0.00035	0.0612	0.1718

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
2006-2010	0.0855	0.0288	0.0567

Bark Lane, San Jose, CA - SR-85 -Maximum Cancer Risks
On-Site Residential Receptors (1.5 meter receptor heights)
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2019	0.25	-0.25 - 0*	10	0.0004	0.0612	0.1718	0.005	0.005	0.001	0.01
1	2019	1	1	10	0.0004	0.0612	0.1718	0.06	0.057	0.010	0.12
2	2020	1	2	10	0.0004	0.0612	0.1718	0.06	0.057	0.010	0.12
3	2021	1	3	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
4	2022	1	4	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
5	2023	1	5	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
6	2024	1	6	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
7	2025	1	7	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
8	2026	1	8	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
9	2027	1	9	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
10	2028	1	10	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
11	2029	1	11	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
12	2030	1	12	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
13	2031	1	13	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
14	2032	1	14	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
15	2033	1	15	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
16	2034	1	16	3	0.0004	0.0612	0.1718	0.01	0.009	0.001	0.02
17	2035	1	17	1	0.0004	0.0612	0.1718	0.00	0.0010	0.000	0.002
18	2036	1	18	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
19	2037	1	19	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
20	2038	1	20	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
21	2039	1	21	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
22	2040	1	22	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
23	2041	1	23	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
24	2042	1	24	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
25	2043	1	25	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
26	2044	1	26	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
27	2045	1	27	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
28	2046	1	28	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
29	2047	1	29	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
30	2048	1	30	1	0.0004	0.0612	0.1718	0.00	0.001	0.000	0.002
Total Increased Cancer Risk			**Total**					0.26	0.260	0.043	**0.6**

* Third trimester of pregnancy

Bark Lane, San Jose, CA - SR-85 - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Residential Receptors (4.9 meter receptor heights)

Emissions Year	2020
Receptor Information	
Number of Receptors	96
Receptor Height =	4.9 meters above ground level
Receptor distances =	6 meter spacing in project site
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2006-2010
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2006-2010	0.00034	0.0586	0.1643

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
2006-2010	0.0818	0.0276	0.0542

Bark Lane, San Jose, CA - SR-85 -Maximum Cancer Risks
On-Site Residential Receptors (4.9 meter receptor heights)
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2019	0.25	-0.25 - 0*	10	0.0003	0.0586	0.1643	0.005	0.005	0.001	0.01
1	2019	1	1	10	0.0003	0.0586	0.1643	0.06	0.055	0.009	0.12
2	2020	1	2	10	0.0003	0.0586	0.1643	0.06	0.055	0.009	0.12
3	2021	1	3	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
4	2022	1	4	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
5	2023	1	5	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
6	2024	1	6	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
7	2025	1	7	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
8	2026	1	8	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
9	2027	1	9	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
10	2028	1	10	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
11	2029	1	11	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
12	2030	1	12	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
13	2031	1	13	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
14	2032	1	14	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
15	2033	1	15	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
16	2034	1	16	3	0.0003	0.0586	0.1643	0.01	0.009	0.001	0.02
17	2035	1	17	1	0.0003	0.0586	0.1643	0.00	0.0010	0.000	0.002
18	2036	1	18	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
19	2037	1	19	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
20	2038	1	20	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
21	2039	1	21	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
22	2040	1	22	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
23	2041	1	23	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
24	2042	1	24	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
25	2043	1	25	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
26	2044	1	26	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
27	2045	1	27	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
28	2046	1	28	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
29	2047	1	29	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
30	2048	1	30	1	0.0003	0.0586	0.1643	0.00	0.001	0.000	0.002
Total Increased Cancer Risk			**Total**					0.25	0.249	0.041	**0.5**

* Third trimester of pregnancy

Bark Lane, San Jose, CA - SR-85 - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
At location of Construction Maximally Exposed individual (MEI)

Emissions Year	2020
Receptor Information	
Number of Receptors	1
Receptor Height =	4.5 meters above ground level
Receptor distances =	Construction MEI receptor
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2006-2010
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2006-2010	0.00021	0.0359	0.1008

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
2006-2010	0.0502	0.0169	0.0333

Bark Lane, San Jose, CA - SR-85 -Maximum Cancer Risks
At location of Construction Maximally Exposed individual (MEI)
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2019	0.25	-0.25 - 0*	10	0.0002	0.0359	0.1008	0.003	0.003	0.000	0.01
1	2019	1	1	10	0.0002	0.0359	0.1008	0.03	0.034	0.006	0.07
2	2020	1	2	10	0.0002	0.0359	0.1008	0.03	0.034	0.006	0.07
3	2021	1	3	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
4	2022	1	4	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
5	2023	1	5	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
6	2024	1	6	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
7	2025	1	7	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
8	2026	1	8	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
9	2027	1	9	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
10	2028	1	10	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
11	2029	1	11	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
12	2030	1	12	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
13	2031	1	13	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
14	2032	1	14	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
15	2033	1	15	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
16	2034	1	16	3	0.0002	0.0359	0.1008	0.01	0.005	0.001	0.01
17	2035	1	17	1	0.0002	0.0359	0.1008	0.00	0.0006	0.000	0.001
18	2036	1	18	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
19	2037	1	19	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
20	2038	1	20	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
21	2039	1	21	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
22	2040	1	22	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
23	2041	1	23	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
24	2042	1	24	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
25	2043	1	25	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
26	2044	1	26	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
27	2045	1	27	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
28	2046	1	28	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
29	2047	1	29	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
30	2048	1	30	1	0.0002	0.0359	0.1008	0.00	0.001	0.000	0.001
Total Increased Cancer Risk			**Total**					0.16	0.153	0.025	**0.3**

* Third trimester of pregnancy

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	East
Distance from Roadway	245 feet
Annual Average Daily Traffic (ADT)	42,150

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

9.35 (per million)

S. De Anza Blvd

Cumulative 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

6.43
(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	East
Distance from Roadway	550 feet
	Const MEI
Annual Average Daily Traffic (ADT)	42,150

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

4.97 (per million)

S. De Anza Blvd

Cumulative 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

3.42
(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

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	**7/23/2019**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	Bark Lane Residential
Address	7201-7245 Bark Lane
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	85 du

Comments: First section sources found in google earth tool, second section sources found on 2017 sources website

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

1. Complete all the contact and project information requested in **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 **Table B** blue section only.

6. Note that a small percentage of the stationary sources 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

PROJECT SITE

Distance from Receptor (meters) 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	I&R Action
300	111612	Pinewood capital LLC	1090 S de Anza Blvd	0.01	0.0001	--		GDF		Permitted max throughput for 2017: 600,000 gallons/year	Computed using GDF benzene of 0.006 lb/1,000 gal.
30	111341	Chevron Deanza	1188 S de Anza Blvd	6.3	0.03	--		GDF		Permitted max throughput for 2019: 8.77 million gallons/year	Computed using GDF benzene of 0.089 lb/1,000 gal.
105	112512	DeAnza Gas	1185 S de Anza Blvd	1.0	0.005	--		GDF		Permitted max throughut for 2018: 9.1 million gallons/year	Computed using GDF benzene of 0.092 lb/1,000 gal.

Footnotes:

1. Maximally exposed individual

Construction MEI

Distance from Receptor (meters) or MEI[1]	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
300	0.01	0.0001	--
125	0.7	0.003	--
205	0.3	0.002	--

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 0.003 or less. To be
    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 should reflect the
    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

Plant# 111612

Pinewood capital LLC - 1090 S de Anza Blvd

Permitted max throughput for 2017: 600,000 gallons/year

BAAQMD Evaluation				
	Controlled Rate (for all activities) =		0.67 lbs/10^3 gal throughput	
Estimated Project Throughput		600 10^3 gal/year		
Annual VOC Emissions		402 pounds/year	1.1	pounds/day
		0.20 tons/year		
Annual Benzene Emissions		0.00	0.006	pounds/day

BAAQMD reports emission rates for fueling stations of 0.00369 pounds of benzene per thousand gallons of fuel handled.

Plant# 111341

Chevron Deanza - 1188 S de Anza Blvd

Permitted max throughput for 2019: 8.77 million gallons/year

BAAQMD Evaluation				
Controlled Rate (for all activities) =		0.67	lbs/10^3 gal throughput	
Estimated Project Throughput	8770	10^3 gal/year		
Annual VOC Emissions	5,876	pounds/year	16.1	pounds/day
	2.94	tons/year		
Annual Benzene Emissions	0.02		0.089	pounds/day

BAAQMD reports emission rates for fueling stations of 0.00369 pounds of benzene per thousand gallons of fuel handled.

Plant# 112512

DeAnza Gas - 1185 S de Anza Blvd

Permitted max throughut for 2018: 9.1 million gallons/year

BAAQMD Evaluation				
Controlled Rate (for all activities) =			0.67	lbs/10^3 gal throughput
Estimated Project Throughput	9100	10^3 gal/year		
Annual VOC Emissions	6,097	pounds/year	16.7	pounds/day
	3.05	tons/year		
Annual Benzene Emissions	0.02		0.092	pounds/day

BAAQMD reports emission rates for fueling stations of 0.00369 pounds of benzene per thousand gallons of fuel handled.

Attachment 4: Construction Health Risk Calculations

Bark Lane Residential Project and Construction MEI

Bark Lane Residential, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2020-2021	Construction	0.1621	Point	133	324.3	0.09872	1.24E-02	9.35E-05

Notes:

Emissions assumed to be evenly distributed over each construction areas

hr/day = 9 (7am - 4pm)

days/yr = 365

hours/year = 3285

Bark Lane Residential, San Jose, CA

PM2.5 Fugitive Dust Construction 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)	DPM Emission Rate $g/s/m^2$
2020-2021	Construction	CON_FUG	0.04378	87.6	0.02665	3.36E-03	3639.3	9.23E-07

Notes:

Emissions assumed to be evenly distributed over each construction areas

hr/day = 9 (7am - 4pm)

days/yr = 365

hours/year = 3285

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2020-2021	Construction	0.0116	Point	133	23.1	0.00703	8.86E-04	6.66E-06

Emissions assumed to be evenly distributed over each construction areas

hr/day = 9 (7am - 4pm)

days/yr = 365

hours/year = 3285

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate $g/s/m^2$
2020-2021	Construction	CON_FUG	0.01238	24.8	0.00754	9.50E-04	3,639	2.61E-07

Emissions assumed to be evenly distributed over each construction areas

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

Bark Lane Residential, 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 ($\mu g/m^3$)
2020-2021	0.6176	0.2383	**109.8**	**1.8**	**0.12**	**0.86**

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 ($\mu g/m^3$)
2020-2021	0.0440	0.0674	**7.8**	**0.1**	**0.01**	**0.11**

- Tier 4 Interim Mitigation

Bark Lane Residential, 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				Maximum	
							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)	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2020-2021	0.3206	10	4.36	2020-2021	0.3206	-	-		
1	1	0 - 1	2020-2021	0.3206	10	52.66	2020-2021	0.3206	1	0.92	0.5364	0.7397
2	1	1 - 2	0	0.0000	10	0.00		0.0000	1	0.00		
3	1	2 - 3	0	0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4	0	0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5	0	0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6	0	0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7	0	0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8	0	0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9	0	0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10	0	0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11	0	0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12	0	0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13	0	0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14	0	0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15	0	0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16	0	0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17	0	0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18	0	0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19	0	0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20	0	0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21	0	0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22	0	0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23	0	0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24	0	0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25	0	0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26	0	0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27	0	0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28	0	0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29	0	0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30	0	0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**57.0**				**0.92**		

* Third trimester of pregnancy

Bark Lane Residential, 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				Maximum	
			DPM Conc (ug/m3)		Age	Infant/Child Cancer	Modeled DPM Conc (ug/m3)		Age	Adult Cancer		
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Risk (per million)	Year	Annual	Sensitivity Factor	Risk (per million)	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2020-2021	0.6176	10	8.40	2020-2021	0.6176	-	-		
1	1	0 - 1	2020-2021	0.6176	10	101.44	2020-2021	0.6176	1	1.77	0.2383	0.8559
2	1	1 - 2	0	0.0000	10	0.00		0.0000	1	0.00		
3	1	2 - 3	0	0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4	0	0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5	0	0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6	0	0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7	0	0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8	0	0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9	0	0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10	0	0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11	0	0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12	0	0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13	0	0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14	0	0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15	0	0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16	0	0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17	0	0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18	0	0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19	0	0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20	0	0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21	0	0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22	0	0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23	0	0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24	0	0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25	0	0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26	0	0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27	0	0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28	0	0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29	0	0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30	0	0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**109.8**				**1.77**		

* Third trimester of pregnancy

Bark Lane Residential, 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				Adult - Exposure Information				Maximum	
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult		
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Cancer Risk (per million)	Year	Annual	Sensitivity Factor	Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2020-2021	0.4697	10	6.39	2020-2021	0.4697	-	-		
1	1	0 - 1	2020-2021	0.4697	10	77.14	2020-2021	0.4697	1	1.35	0.1410	0.6107
2	1	1 - 2	0	0.0000	10	0.00		0.0000	1	0.00		
3	1	2 - 3	0	0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4	0	0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5	0	0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6	0	0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7	0	0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8	0	0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9	0	0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10	0	0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11	0	0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12	0	0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13	0	0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14	0	0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15	0	0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16	0	0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17	0	0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18	0	0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19	0	0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20	0	0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21	0	0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22	0	0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23	0	0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24	0	0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25	0	0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26	0	0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27	0	0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28	0	0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29	0	0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30	0	0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**83.5**				**1.35**		

* Third trimester of pregnancy

Bark Lane Residential, San Jose, CA - Construction Impacts - With 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				Maximum	
							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)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2020-2021	0.0440	10	0.60	2020-2021	0.0440	-	-		
1	1	0 - 1	2020-2021	0.0440	10	7.23	2020-2021	0.0440	1	0.13	0.0674	0.1114
2	1	1 - 2	0	0.0000	10	0.00		0.0000	1	0.00		
3	1	2 - 3	0	0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4	0	0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5	0	0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6	0	0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7	0	0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8	0	0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9	0	0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10	0	0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11	0	0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12	0	0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13	0	0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14	0	0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15	0	0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16	0	0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17	0	0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18	0	0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19	0	0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20	0	0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21	0	0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22	0	0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23	0	0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24	0	0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25	0	0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26	0	0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27	0	0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28	0	0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29	0	0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30	0	0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**7.8**				**0.13**		

* Third trimester of pregnancy

7285 Bark Lane Hotel Project and Bark Lane Residential Construction MEI

7285 Bark Lane, San Jose, CA - Construction Health Impact Summary
Impacts at Bark Lane Residential Project Construction MEI - 4.5 meter receptor height

Maximum Impacts at MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m³)	Maximum Concentrations: Fugitive PM2.5 (µg/m³)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
2019-2020	0.0130	0.0217	**2.1**	**0.04**	**0.003**	**0.03**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m³)	Maximum Concentrations: Fugitive PM2.5 (µg/m³)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
2019-2020	0.0022	0.0059	**0.4**	**0.01**	**0.000**	**0.01**

7285 Bark Lane, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2019-2020	Construction	0.0251	Point	60	50.2	0.01528	1.93E-03	3.21E-05
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2019-2020	Construction	0.0042	Point	60	8.4	0.00255	3.21E-04	5.36E-06
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

7285 Bark Lane, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling - Unmitigated

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)	DPM Emission Rate $g/s/m^2$
2019-2020	Construction	CON_FUG	0.02733	54.7	0.01664	2.10E-03	2,092	1.00E-06
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

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)	DPM Emission Rate $g/s/m^2$
2019-2020	Construction	CON_FUG	0.00741	14.8	0.00451	5.68E-04	2,092	2.72E-07
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

7285 Bark Lane, San Jose, CA - Construction Impacts - Without Mitigation

Maximum DPM Cancer Risk and PM2.5 Calculations From Construction

Impacts at Bark Lane Residential Project Construction MEI - 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			Infant/Child	Adult - Exposure Information			Adult		
	Exposure				Age	Cancer	Modeled		Age	Cancer		
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0130	10	2.13	2019-2020	0.0130	1	0.04	0.0217	0.03
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**2.1**				**0.04**		

* Third trimester of pregnancy

7285 Bark Lane, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Bark Lane Residential Project Construction MEI - 4.5 meter receptor height

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Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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Where: C_{air} = concentration in air ($\mu g/m^3$)
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10^{-6} = Conversion factor

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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 Informatio				Infant/Child	Adult - Exposure Information			Adult		
	Exposure				Age	Cancer	Modeled		Age	Cancer		
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0022	10	0.36	2019-2020	0.0022	1	0.01	0.0059	0.008
2	1	1 - 2	2017	0.0000	10	0.00	2017	0.0000	1	0.00		
3	1	2 - 3	2018	0.0000	3	0.00	2018	0.0000	1	0.00		
4	1	3 - 4	2019	0.0000	3	0.00	2019	0.0000	1	0.00		
5	1	4 - 5	2020	0.0000	3	0.00	2020	0.0000	1	0.00		
6	1	5 - 6	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
7	1	6 - 7	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
8	1	7 - 8	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
9	1	8 - 9	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
10	1	9 - 10	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
11	1	10 - 11	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
12	1	11 - 12	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
13	1	12 - 13	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
14	1	13 - 14	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
15	1	14 - 15	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
16	1	15 - 16	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
17	1	16-17	2032	0.0000	1	0.00	2032	0.0000	1	0.00		
18	1	17-18	2033	0.0000	1	0.00	2033	0.0000	1	0.00		
19	1	18-19	2034	0.0000	1	0.00	2034	0.0000	1	0.00		
20	1	19-20	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
21	1	20-21	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
22	1	21-22	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
23	1	22-23	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
24	1	23-24	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
25	1	24-25	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
26	1	25-26	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
27	1	26-27	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
28	1	27-28	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
29	1	28-29	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
30	1	29-30	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
Total Increased Cancer Risk						**0.4**				**0.01**		

* Third trimester of pregnancy