

THE ESTUARY @ TERRA AIR QUALITY & GREENHOUSE GAS ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed hotel project located south of N. 1st Street and north of State Route 237 (S.R. 237) in the Alviso area of San José, California. The air quality impacts and GHG emissions would be associated with the construction of 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 appropriate computer models. In addition, the potential project health risk impact (includes construction and operation) and the impacts of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors 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 (APN 015-39-020) is currently an approximately 6.23-acre undeveloped lot. The site is bound by the Guadalupe River to the south, State-owned open space to the east, and privately-owned parcels to the north and west. The site is within the boundaries of the Alviso Master Plan. The project proposes construction of a 108,702 square foot (sf), 215-room hotel in a five-story building. The northeastern corner of the site would include a surface parking lot with 43 parking spaces, and a four-story, 70,574-sf parking garage with 192 spaces, for a total of 235 parking spaces. There would be 14 electrical vehicle parking spaces. The total landscaped area proposed would be 187,792 square-feet.

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 (PM₁₀), 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, reduce 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 (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both

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

region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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 complicated 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.

Regulatory Agencies

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 nitrogen oxides, or NO_x, and particulate matter (PM₁₀ and PM_{2.5}) and because the EPA has identified diesel particulate matter 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 PM and NO_x emissions from diesel engines up to 95 percent in

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.

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 Vehicles⁴. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and PM_{2.5} emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_x emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles

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.

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. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their *CEQA Guidelines*. In May 2011, the updated BAAQMD *CEQA Air Quality Guidelines* were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

City San José Envision 2040 General Plan

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

Applicable Goals – Air Pollutant Emission Reduction

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

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative

⁵ Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

to state and federal standards. Identify and implement feasible air emission reduction measures.

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

Applicable Goals – Toxic Air Contaminants

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

Applicable Policies – Toxic Air Contaminants

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

- 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.

Applicable Goals – Construction Air Emissions

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

Applicable Policies – Construction Air Emissions

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

Applicable Actions – Construction Air Emissions

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

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and 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 closest sensitive receptors to the project site are the children at the Mayne Elementary School (3 years and older) and the single-family residences to the north opposite N. 1st Street. There are additional residences west and south of the site at further distances. This project would not introduce new sensitive receptors.

Significance Thresholds

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

Table 1. BAAQMD Air Quality and GHG 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) *		
<p>Note: ROG = reactive organic gases, NO_x = nitrogen oxides, PM₁₀ = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM_{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.</p> <p>*BAAQMD does not have a recommended post-2020 GHG threshold.</p>			

Air Quality Impacts and Mitigation Measures

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.⁶ The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see below), 2) the project would be considered urban infill, and 3) the project would be located near transit with regional connections.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level O₃ 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 PM₁₀ 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 O₃, PM_{2.5} and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O₃ precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB Emission FACTors 2017 (EMFAC2017) model was used to predict

⁶ Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan*.

emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.⁷ The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Use Inputs

The proposed hotel project land uses were input into CalEEMod as follows:

- 215 rooms and 108,702-sf entered as “Hotel” on 1.92 acres,
- 192 spaces and 70,757-sf entered as “Unenclosed Parking with Elevator”,
- 43 spaces entered as “Parking Lot”,
- 22,973-sf entered as “Other Asphalt Surfaces” to capture the remaining paved areas, and
- 187,792-sf entered as “Other Non-Asphalt Surfaces” on 4.31 acres to capture the landscaped areas.

Construction Inputs

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

The CalEEMod construction equipment worksheet provided by the applicant included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be February 2021 and the project would be built out over a period of approximately 15 months, or 343 construction workdays. The first full year of operation was assumed to be 2023.

Construction Truck Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of demolition material to be exported, soil material imported and/or exported to the site, and the estimate of cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for

⁷ See CARB’s EMFAC2017 Web Database at <https://www.arb.ca.gov/emfac/2017/>

those were computed by multiplying the daily trip rate by the number of days in that phase. The number of concrete and asphalt total round haul trips were either estimated provided or calculated by square footage for the project and converted to total one-way trips, assuming two trips per delivery.

The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1 and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates from calendar year 2021-2022 for Santa Clara County were used. Table 2 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 2. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker ¹	Total Vendor ¹	Total Haul ²	
Vehicle mix ¹	71.5% LDA 6.4% LDT1 22.1% LDT2	38.1% MHDT 61.9% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5 Minute Truck Idle Time
Site Preparation	55	-	-	CalEEMod default worker trips
Grading	572	-	112	900-cy import. CalEEMod default worker trips
Trenching	520	-	-	CalEEMod default worker trips
Building Construction	24,282	9,514	200	Estimated 100 cement roundtrips. CalEEMod default worker and vendor trips
Architectural Coating	2,890	-	-	CalEEMod default worker trips
Paving	104	-	48	200-cy asphalt. CalEEMod default worker trips
Notes: ¹ Based on 2021-2022 EMFAC2017 light-duty vehicle fleet mix for Santa Clara County. ² Includes grading trips estimated by CalEEMod based on amount of material to be removed.				

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 4 shows average daily construction emissions of ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust during construction of the project. As indicated in Table 3, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions

Year	ROG	NO _x	PM ₁₀ Exhaust	PM _{2.5} Exhaust
<i>Construction Emissions Per Year (Tons)</i>				
2021	0.07	0.66	0.04	0.03
2022	0.65	0.17	0.01	0.01
<i>Average Daily Construction Emissions Per Year (pounds/day)</i>				
2021 (240 construction workdays)	0.59	5.50	0.35	0.25
2022 (103 construction workdays)	12.59	3.21	0.23	0.14
<i>BAAQMD Thresholds (pounds per day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

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

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

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

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

Operational Period Emissions

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

CalEEMod Inputs

Land Uses

The project land uses were entered into 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 full year of operation

would be 2023 if construction begins in 2021. Emissions associated with build-out later than 2023 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rates for the hotel land use was provided by the traffic consultant was entered into the model.⁸ The daily trip rate for the hotel use accounted for the location-based reduction. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMISSION FACTORS from 2014 (EMFAC2014), which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.^{9,10} The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant and GHG emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.¹¹

Climate Smart San José

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

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).

⁸ Fehr & Peers, *Alviso Hotel Transportation Analysis Report*, July 2020.

⁹ California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

¹⁰ California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO₂) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

¹¹ See CARB 2018: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac>

- San Jose Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San Jose by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The California Energy Commission (CEC) updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and combat climate change. The 2019 CAL Green standards include substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a “reach code” that requires development projects to exceed the minimum Building Energy Efficiency requirements.¹² The City’s reach code applies only to new residential and non-residential construction in San José. It incentivizes all-electric construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards.¹³ GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E’s 2008 emissions rate. PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO₂ per megawatt of electricity delivered in the year 2017.¹⁴ This intensity factor was used in the model along with the assumption that the project would use electricity supplied by San José Clean Energy (SJCE). SJCE would provide electricity that would be 100-percent carbon free by 2021 before the project becomes operational.¹⁵

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions. No hearths were assumed.

¹² City of San Jose Transportation and Environmental Committee, *Building Reach Code for New Construction Memorandum*, August 2019.

¹³ An update to CalEEMod to include new 2019 Title 24 standards that include more energy efficient buildings has not been completed as of the September 18, 2020.

¹⁴ PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

¹⁵ See: <https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/climate-smart-san-jos/2019-reach-code-initiative>

Existing Uses

The project would be built on a parcel that is vacant. Therefore, existing land use emissions would not exist, nor used to offset proposed project conditions.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 4 shows average daily emissions of ROG, NO_x, total PM₁₀, and total PM_{2.5} during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Operational Period Emissions

Scenario	ROG	NO _x	PM ₁₀	PM _{2.5}
2023 Project Operational Emissions (tons/year)	1.10 tons	1.02 tons	1.14 tons	0.32 tons
BAAQMD Thresholds (tons /year)	10 tons	10 tons	15 tons	10 tons
<i>Exceed Thresholds?</i>	No	No	No	No
2023 Project Operational Emissions (lbs./day) ¹	6.01 lbs.	5.60 lbs.	6.26 lbs.	1.78 lbs.
BAAQMD Thresholds (lbs./day)	54 lbs.	54 lbs.	82 lbs.	54 lbs.
<i>Exceed Threshold?</i>	No	No	No	No

Notes: ¹ Assumes 365-day operation.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e. on-site construction and truck hauling emissions) and operation (i.e. mobile sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include the installation of any emergency generators powered by diesel engines which would produce TAC and air pollutant emissions. The project would generate some traffic, consisting of light-duty vehicles. However, the number of net daily trips generated by the project are small (i.e. 1,642 daily trips¹⁶) and emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized. Project traffic was not considered a source of substantial TACs or PM_{2.5}.

Therefore, project impacts to existing sensitive receptors were addressed for temporary construction activities only. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk that includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

¹⁶ Fehr & Peers, *Alviso Hotel Transportation Analysis Report*, July 2020.

Community Risk Methodology for Construction and Operation

Community risk impacts were addressed by predicting increased cancer risk, the increase in annual PM_{2.5} concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,¹⁷ with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions. Unlike, the increased maximum cancer risk, the annual PM_{2.5} concentration and HI values are not additive but based on the annual maximum values for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained in *Attachment 1*. This involved the calculation of TAC and PM_{2.5} emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the existing elementary school and residences to the north and residences to the west and south of the project site, as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e. infants, children, and adults) with almost continuous exposure to project emissions. Community risks were also computed for children (3 years and older) at the Mayne Elementary School.

Community Health Risk from Project Construction

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 issue 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}.¹⁸ 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.

¹⁷ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

¹⁸ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Construction Emissions

The CalEEMod model provided total annual PM₁₀ 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 0.0281 tons (56 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 0.0181 tons (36 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at 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.¹⁹

Construction Sources

The majority of construction activity for this project would be concentrated around the proposed hotel and parking garage. Minimal construction activities would occur near the borders of the site where mostly landscaping activities would occur. Therefore, the construction areas in this analysis were centrally located on the site.

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.²⁰ The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these

¹⁹ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

²⁰ California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: <https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm>

reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a 5-year meteorological data set (2013-2017) from the San José International Airport prepared for use with the AERMOD model by the BAAQMD. This airport is approximately three and a half miles south of the project site. Annual DPM and PM_{2.5} concentrations from construction activities during the 2021-2022 period were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters) used to represent the breathing heights of residences and a receptor breathing height of 3 feet (1 meter) was used for the children attending the school.²¹

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 emission rates used for dispersion modeling were calculated using the total annual construction emissions computed using CalEEMod (based on construction occurring 5 days per week) and dividing by 9 hours per day for 365 days (i.e., normalizing the emissions to an annualized pound per hour emission rate over the period being modeled). The dispersion modeling was conducted assuming emissions would occur 9 hours per day Monday through Friday using the variable emission option in the U.S. EPA AERMOD dispersion model.

Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant and adult exposures were assumed to occur at all residences during the entire construction period. At the school, children ages three years and older were assumed. It was also assumed that the children would be at the school for 250 days a year, which aligns with BAAQMD's recommendation for worker schedules.²² This exposure frequency was used since children would be at the school when parents are at work.

The maximum modeled annual PM_{2.5} concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 µg/m³.

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 1)

²¹ Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

²² Bay Area Air Quality Management District, 2016, *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. January.

to find the MEI. Results of this assessment indicated that the construction MEI was located on the first floor (5 feet above ground) of the residence to the north of the project site. The unmitigated maximum increased cancer risks, PM_{2.5} concentration, and HI from construction do not exceed their respective BAAQMD single-source thresholds.

The construction community risks were also computed and predicted at the elementary school. Table 5 summarizes the community risks from construction at all these locations. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Table 5. Construction Risk Impacts at the Off-site Receptors

Source		Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction	Unmitigated	0.3 (infant)	<0.01	<0.01
<i>BAAQMD Single-Source Threshold</i>		<i>>10.0</i>	<i>>0.3</i>	<i>>1.0</i>
<i>Exceed Threshold?</i>	Unmitigated	<i>No</i>	<i>No</i>	<i>No</i>
Mayne Elementary School Student Receptors				
Project Construction	Unmitigated	0.1 (child)	<0.01	<0.01
<i>BAAQMD Single-Source Threshold</i>		<i>>10.0</i>	<i>>0.3</i>	<i>>1.0</i>
<i>Exceeds Threshold?</i>	Unmitigated	<i>No</i>	<i>No</i>	<i>No</i>

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



Community Risks from Project Operation

Operation of the project would have long-term emissions from mobile sources (i.e., traffic) and stationary sources (i.e., generator). While these emissions would not be as intensive at or near the site as construction activity, they would contribute to long-term effects to sensitive receptors.

Operational Traffic

Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is considered a low-impact source of TACs.²³ This project would generate 1,642 daily trips²⁴ with a majority of the trips being from light-duty vehicles (i.e. passenger cars), which is less than 10,000 daily vehicles. BAAQMD considers roadways that have less than 10,000 average daily trips (ADT) to be low-impact sources of TACs and do not need to be considered in the CEQA

²³ Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

²⁴ Fehr & Peers, *Alviso Hotel Transportation Analysis Report*, July 2020

analysis.²⁵ Therefore, emissions from project traffic would be negligible and are not included in this analysis.

Operational Stationary Equipment

Stationary equipment that would be permitted by BAAQMD and emit TACs or PM_{2.5} has not been identified for this project.

Total Project Community Health Risks – Construction and Operation

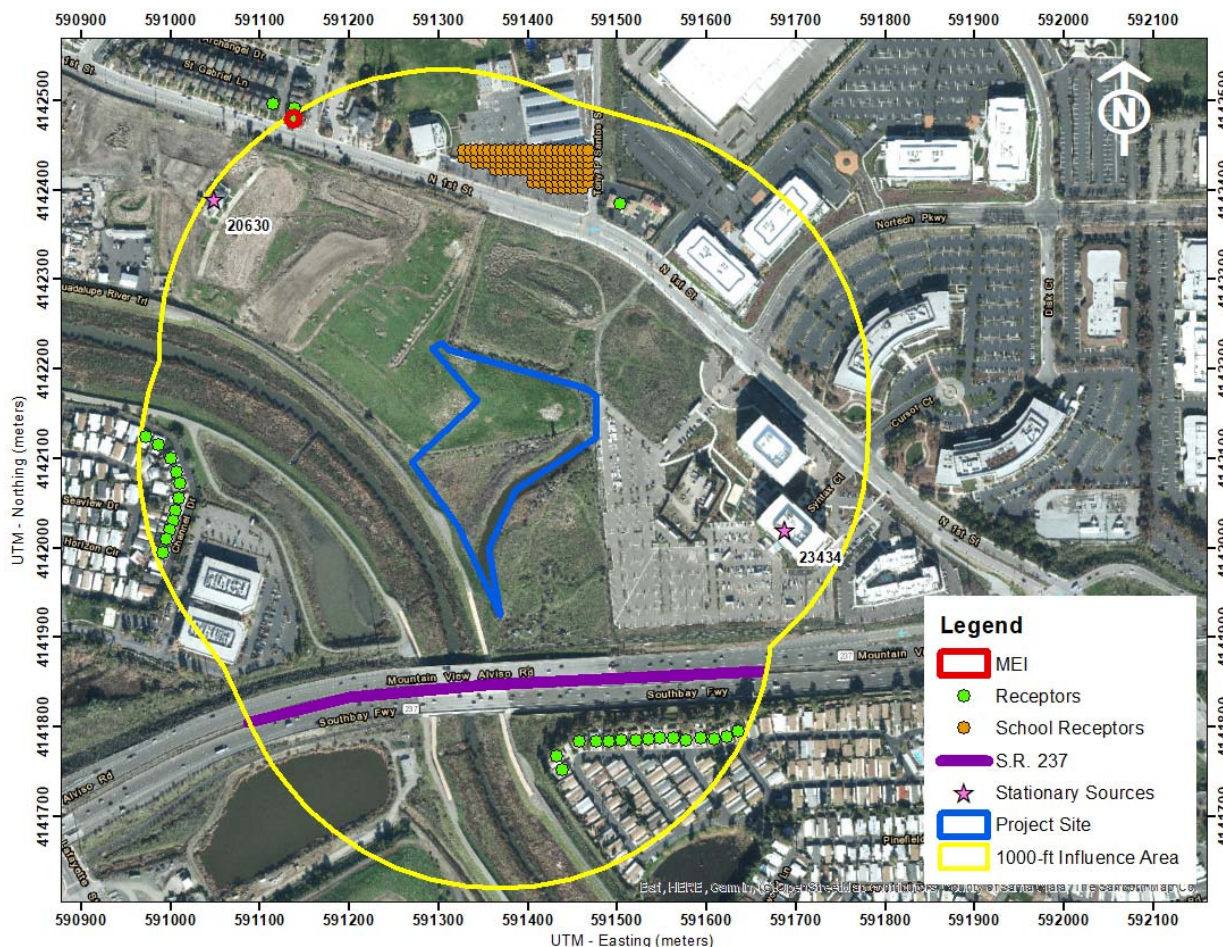
The cumulative risk impacts from a project are the combination of construction activity, project-generated traffic, and the operation of project stationary sources. This project impact is computed by adding the construction and operational cancer risk over a 30-year exposure period, assuming exposure at the same MEI. Unlike the increased maximum cancer risk, the annual PM_{2.5} concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project. However, in the case of this project, only construction would be a substantial source of risks and hazards. The project is not predicted to increase traffic enough on the local roadways or have any generator emissions to produce a substantial TAC impact.

Cumulative Community Risks of all TAC Sources at Off-Site Construction MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e. influence area). These sources include railroads, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on S.R. 237 has an ADT of over 10,000 vehicles. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. Two stationary sources were identified within the 1,000-foot influence area using the BAAQMD's stationary source geographic information systems (GIS) map tool. Figure 2 shows the sources affecting the MEI and project site. Community risk impacts from these sources upon the MEI are reported in Table 6. Details of the modeling and community risk calculations are included in *Attachment 5*.

²⁵ BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

Figure 2. Project Site, MEI and Nearby TAC Sources



Highways – S.R. 237

BAAQMD provides raster files with cancer risk and PM_{2.5} values for all highways/freeways, roadways (ADT > 30,000), and rail lines within the Bay Area. The risk values shown in the raster files were modeled in AERMOD in 20x20-meter grid cells. The files incorporate AADT for the highway using EMFAC 2014 data for fleet mix and include the OEHHA 2015 factor. These raster files were used to screen the S.R. 237 risk values upon the off-site MEI. At the off-site MEI, the cancer risk would be 9.4 per million and the PM_{2.5} concentration would be 0.19 µg/m³. No data was provided for the HI.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD’s *Permitted Stationary Sources 2018* GIS website.²⁶ This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. Two permitted facilities were identified nearby

²⁶ BAAQMD, <https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>

with both being generators (South Bay Development, LLC [Facility ID #23434] and Verizon Wireless-Alviso [Facility ID #20630]).

The BAAQMD GIS website provided screening risks and hazards for both sources, so a stationary source information request was not required to be submitted to BAAQMD. The screening risks and hazards for the two generators were adjusted for distance using BAAQMD’s *Distance Multiplier Tool for Diesel Internal Combustion Engines*. Note that no age-sensitivity factors were included in the screening analysis, so risks would be similar or lower if adjustments were included. Community risk impacts from the stationary sources upon the project are reported in Table 6.

Combined Community Risk at Off-site Construction MEI

Table 6 reports both the project and cumulative community risk impacts at the sensitive receptor most affected by construction (i.e. the MEI). Without mitigation, the project’s community risk from project construction activities would not exceed the single-source maximum increased cancer risk, PM_{2.5} concentration, or HI thresholds. In addition, the combined unmitigated cancer risk, PM_{2.5} concentration, and HI values would not exceed their respective cumulative thresholds.

Table 6. Cumulative Community Risk Impacts from Combined TAC Sources at MEI

Source		Maximum Cancer Risk (per million)	PM _{2.5} concentration (µg/m ³)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	0.3 (infant)	<0.01	<0.01
<i>BAAQMD Single-Source Threshold</i>		<i>>10.0</i>	<i>>0.3</i>	<i>>1.0</i>
<i>Exceed Threshold?</i>	Unmitigated	<i>No</i>	<i>No</i>	<i>No</i>
Cumulative Sources				
S.R. 237		9.4	0.19	--
South Bay Development, LLC (Facility ID #23434, Generator) MEI Distance at +1,000 feet		<0.1	--	--
Verizon Wireless-Alviso (Facility ID #20630, Generator) MEI Distance at 340 feet		0.3	--	--
<i>Combined Sources</i>	<i>Unmitigated</i>	10.1 (infant)	<0.20	<0.01
<i>BAAQMD Cumulative Source Threshold</i>		<i>>100</i>	<i>>0.8</i>	<i>>10.0</i>
<i>Exceed Threshold?</i>	Unmitigated	<i>No</i>	<i>No</i>	<i>No</i>

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses.

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 2030 uses are also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the project community construction risk assessments. AERMOD dispersion modeling files for these assessments, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 5 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminants (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 2015.³⁷ 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.³⁸ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.³⁹ 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 is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). However, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

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) or liters per kilogram of body weight per

³⁷ 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.

³⁸ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

³⁹ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates for moderate intensity.

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 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:

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

Where:

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where:

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

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

8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

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

Parameter	Exposure Type →	Infant		Child	Adult
	Age Range →	3 rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80 th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95 th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14**
Exposure Frequency (days/year)*		350	350	350	350**
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

* Exposure Frequency can change dependent on the type of receptors (i.e. residential, worker, school, daycare). For worker exposures (adult), the exposure duration and frequency are 25 years 250 days/year and FAH is not applicable.

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). 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 ($\mu\text{g}/\text{m}^3$).

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 Inputs and Outputs

Alviso Hotel, San Jose - Santa Clara County, Annual

**Alviso Hotel, San Jose
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	43.00	Space	0.00	17,200.00	0
Unenclosed Parking with Elevator	192.00	Space	0.00	70,757.00	0
Hotel	215.00	Room	1.92	108,702.00	0
Other Asphalt Surfaces	22.97	1000sqft	0.00	22,973.00	0
Other Non-Asphalt Surfaces	187.79	1000sqft	4.31	187,792.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 Intensity Factor = 210

Land Use - Provided land uses

Construction Phase - Provided construction schedule 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Grading - grading = 900cy import

Demolition -

Trips and VMT - o Trips Post-model computation with EMFAC2017, building const = est 100 cement total round trips, paving = 200cy asphalt

Vehicle Trips - provided traffic, hotel trip gen rate with reduction = 7.64, 7.66, 5.56

Vehicle Emission Factors - EMFAC2017 Santa Clara County 2023 Emissions Factors

Woodstoves -

Energy Use -

Water And Wastewater - WWTP 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 3 mitigation

Energy Mitigation - SJCE is the electricity provider in San Jose. Will provide 100% carbon free electricity from 2021 on

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	142.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	20.00	85.00
tblConstructionPhase	PhaseEndDate	2/12/2021	2/15/2021
tblConstructionPhase	PhaseEndDate	3/12/2021	4/15/2021
tblConstructionPhase	PhaseEndDate	1/28/2022	1/15/2022
tblConstructionPhase	PhaseEndDate	2/25/2022	5/25/2022
tblConstructionPhase	PhaseEndDate	3/25/2022	5/15/2022
tblConstructionPhase	PhaseStartDate	2/13/2021	2/15/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	7/1/2021
tblConstructionPhase	PhaseStartDate	1/29/2022	5/15/2022
tblConstructionPhase	PhaseStartDate	2/26/2022	1/15/2022
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02

tbIFleetMix	HHD	0.02	0.02
tbIFleetMix	HHD	0.02	0.02
tbIFleetMix	HHD	0.02	0.02
tbIFleetMix	LDA	0.61	0.59
tbIFleetMix	LDA	0.61	0.59
tbIFleetMix	LDA	0.61	0.59
tbIFleetMix	LDA	0.61	0.59
tbIFleetMix	LDA	0.61	0.59
tbIFleetMix	LDT1	0.04	0.05
tbIFleetMix	LDT1	0.04	0.05
tbIFleetMix	LDT1	0.04	0.05
tbIFleetMix	LDT1	0.04	0.05
tbIFleetMix	LDT1	0.04	0.05
tbIFleetMix	LDT2	0.18	0.18
tbIFleetMix	LDT2	0.18	0.18
tbIFleetMix	LDT2	0.18	0.18
tbIFleetMix	LDT2	0.18	0.18
tbIFleetMix	LDT2	0.18	0.18
tbIFleetMix	LHD1	0.01	0.02
tbIFleetMix	LHD1	0.01	0.02
tbIFleetMix	LHD1	0.01	0.02
tbIFleetMix	LHD1	0.01	0.02
tbIFleetMix	LHD2	5.0110e-003	5.2522e-003
tbIFleetMix	LHD2	5.0110e-003	5.2522e-003
tbIFleetMix	LHD2	5.0110e-003	5.2522e-003
tbIFleetMix	LHD2	5.0110e-003	5.2522e-003
tbIFleetMix	LHD2	5.0110e-003	5.2522e-003
tbIFleetMix	MCY	5.2800e-003	5.1323e-003
tbIFleetMix	MCY	5.2800e-003	5.1323e-003

tbIFleetMix	MCY	5.2800e-003	5.1323e-003
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tbIFleetMix	MCY	5.2800e-003	5.1323e-003
tbIFleetMix	MDV	0.11	0.11
tbIFleetMix	MDV	0.11	0.11
tbIFleetMix	MDV	0.11	0.11
tbIFleetMix	MDV	0.11	0.11
tbIFleetMix	MDV	0.11	0.11
tbIFleetMix	MH	7.2000e-004	7.5923e-004
tbIFleetMix	MH	7.2000e-004	7.5923e-004
tbIFleetMix	MH	7.2000e-004	7.5923e-004
tbIFleetMix	MH	7.2000e-004	7.5923e-004
tbIFleetMix	MH	7.2000e-004	7.5923e-004
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	OBUS	2.1680e-003	1.6221e-003
tbIFleetMix	OBUS	2.1680e-003	1.6221e-003
tbIFleetMix	OBUS	2.1680e-003	1.6221e-003
tbIFleetMix	OBUS	2.1680e-003	1.6221e-003
tbIFleetMix	OBUS	2.1680e-003	1.6221e-003
tbIFleetMix	SBUS	6.2900e-004	9.2340e-004
tbIFleetMix	SBUS	6.2900e-004	9.2340e-004
tbIFleetMix	SBUS	6.2900e-004	9.2340e-004
tbIFleetMix	SBUS	6.2900e-004	9.2340e-004
tbIFleetMix	SBUS	6.2900e-004	9.2340e-004
tbIFleetMix	UBUS	1.5290e-003	1.2609e-003
tbIFleetMix	UBUS	1.5290e-003	1.2609e-003

tblFleetMix	UBUS	1.5290e-003	1.2609e-003
tblFleetMix	UBUS	1.5290e-003	1.2609e-003
tblFleetMix	UBUS	1.5290e-003	1.2609e-003
tblGrading	MaterialImported	0.00	900.00
tblLandUse	LandUseSquareFeet	76,800.00	70,757.00
tblLandUse	LandUseSquareFeet	312,180.00	108,702.00
tblLandUse	LotAcreage	0.39	0.00
tblLandUse	LotAcreage	1.73	0.00
tblLandUse	LotAcreage	7.17	1.92
tblLandUse	LotAcreage	0.53	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Other General Industrial Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	2.90
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	0.70
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.30
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	7.00	1.70
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripNumber	113.00	0.00
tblTripsAndVMT	VendorTripNumber	67.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	171.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblVehicleEF	HHD	0.34	0.02
tblVehicleEF	HHD	0.05	0.05
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	1.61	6.34
tblVehicleEF	HHD	0.91	0.40

tblVehicleEF	HHD	3.69	5.9190e-003
tblVehicleEF	HHD	4,386.48	1,065.38
tblVehicleEF	HHD	1,557.95	1,436.68
tblVehicleEF	HHD	11.75	0.05
tblVehicleEF	HHD	13.99	5.44
tblVehicleEF	HHD	1.98	2.68
tblVehicleEF	HHD	19.39	2.32
tblVehicleEF	HHD	8.0650e-003	2.6700e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.1860e-003	0.02
tblVehicleEF	HHD	1.0500e-004	1.0000e-006
tblVehicleEF	HHD	7.7170e-003	2.5550e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8320e-003	8.8780e-003
tblVehicleEF	HHD	5.9180e-003	0.02
tblVehicleEF	HHD	9.7000e-005	1.0000e-006
tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.42	0.43
tblVehicleEF	HHD	6.1000e-005	1.0000e-006
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.1700e-004	5.9400e-004
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	HHD	0.04	9.9140e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7800e-004	0.00
tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.48	0.49

tbIVehicleEF	HHD	6.1000e-005	1.0000e-006
tbIVehicleEF	HHD	0.15	0.08
tbIVehicleEF	HHD	4.1700e-004	5.9400e-004
tbIVehicleEF	HHD	0.10	3.0000e-006
tbIVehicleEF	LDA	3.3580e-003	1.9580e-003
tbIVehicleEF	LDA	4.7330e-003	0.05
tbIVehicleEF	LDA	0.50	0.56
tbIVehicleEF	LDA	1.08	2.16
tbIVehicleEF	LDA	234.26	245.28
tbIVehicleEF	LDA	55.12	52.02
tbIVehicleEF	LDA	0.04	0.03
tbIVehicleEF	LDA	0.06	0.18
tbIVehicleEF	LDA	1.6260e-003	1.3560e-003
tbIVehicleEF	LDA	2.2310e-003	1.7440e-003
tbIVehicleEF	LDA	1.4980e-003	1.2490e-003
tbIVehicleEF	LDA	2.0520e-003	1.6040e-003
tbIVehicleEF	LDA	0.03	0.04
tbIVehicleEF	LDA	0.09	0.09
tbIVehicleEF	LDA	0.02	0.03
tbIVehicleEF	LDA	8.4470e-003	7.4590e-003
tbIVehicleEF	LDA	0.04	0.20
tbIVehicleEF	LDA	0.06	0.21
tbIVehicleEF	LDA	2.3450e-003	9.3000e-005
tbIVehicleEF	LDA	5.6900e-004	0.00
tbIVehicleEF	LDA	0.03	0.04
tbIVehicleEF	LDA	0.09	0.09
tbIVehicleEF	LDA	0.02	0.03
tbIVehicleEF	LDA	0.01	0.01
tbIVehicleEF	LDA	0.04	0.20
tbIVehicleEF	LDA	0.07	0.23

tbIVehicleEF	LDT1	7.8390e-003	4.1630e-003
tbIVehicleEF	LDT1	0.01	0.06
tbIVehicleEF	LDT1	1.00	0.95
tbIVehicleEF	LDT1	2.29	2.35
tbIVehicleEF	LDT1	292.52	292.91
tbIVehicleEF	LDT1	68.20	62.87
tbIVehicleEF	LDT1	0.10	0.08
tbIVehicleEF	LDT1	0.13	0.23
tbIVehicleEF	LDT1	2.1830e-003	1.7660e-003
tbIVehicleEF	LDT1	2.9190e-003	2.2440e-003
tbIVehicleEF	LDT1	2.0100e-003	1.6250e-003
tbIVehicleEF	LDT1	2.6840e-003	2.0630e-003
tbIVehicleEF	LDT1	0.08	0.08
tbIVehicleEF	LDT1	0.21	0.16
tbIVehicleEF	LDT1	0.06	0.07
tbIVehicleEF	LDT1	0.02	0.02
tbIVehicleEF	LDT1	0.15	0.58
tbIVehicleEF	LDT1	0.15	0.31
tbIVehicleEF	LDT1	2.9360e-003	2.6160e-003
tbIVehicleEF	LDT1	7.2200e-004	0.00
tbIVehicleEF	LDT1	0.08	0.08
tbIVehicleEF	LDT1	0.21	0.16
tbIVehicleEF	LDT1	0.06	0.07
tbIVehicleEF	LDT1	0.03	0.03
tbIVehicleEF	LDT1	0.15	0.58
tbIVehicleEF	LDT1	0.16	0.34
tbIVehicleEF	LDT2	4.9930e-003	3.2450e-003
tbIVehicleEF	LDT2	6.4640e-003	0.07
tbIVehicleEF	LDT2	0.68	0.79
tbIVehicleEF	LDT2	1.42	2.79

tbIVehicleEF	LDT2	332.30	316.76
tbIVehicleEF	LDT2	77.35	68.58
tbIVehicleEF	LDT2	0.07	0.07
tbIVehicleEF	LDT2	0.11	0.27
tbIVehicleEF	LDT2	1.6420e-003	1.3890e-003
tbIVehicleEF	LDT2	2.2820e-003	1.7450e-003
tbIVehicleEF	LDT2	1.5110e-003	1.2790e-003
tbIVehicleEF	LDT2	2.0990e-003	1.6050e-003
tbIVehicleEF	LDT2	0.04	0.06
tbIVehicleEF	LDT2	0.10	0.12
tbIVehicleEF	LDT2	0.04	0.06
tbIVehicleEF	LDT2	0.01	0.01
tbIVehicleEF	LDT2	0.07	0.42
tbIVehicleEF	LDT2	0.09	0.31
tbIVehicleEF	LDT2	3.3280e-003	0.01
tbIVehicleEF	LDT2	7.9700e-004	9.3000e-005
tbIVehicleEF	LDT2	0.04	0.06
tbIVehicleEF	LDT2	0.10	0.12
tbIVehicleEF	LDT2	0.04	0.06
tbIVehicleEF	LDT2	0.02	0.02
tbIVehicleEF	LDT2	0.07	0.42
tbIVehicleEF	LDT2	0.10	0.34
tbIVehicleEF	LHD1	5.3570e-003	5.1620e-003
tbIVehicleEF	LHD1	0.02	8.5450e-003
tbIVehicleEF	LHD1	0.02	0.02
tbIVehicleEF	LHD1	0.15	0.19
tbIVehicleEF	LHD1	1.02	0.77
tbIVehicleEF	LHD1	2.58	1.08
tbIVehicleEF	LHD1	8.98	8.94
tbIVehicleEF	LHD1	687.79	794.16

tblVehicleEF	LHD1	32.26	11.83
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.10	0.73
tblVehicleEF	LHD1	0.99	0.32
tblVehicleEF	LHD1	8.6000e-004	8.2500e-004
tblVehicleEF	LHD1	0.01	9.7470e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.5500e-004	2.5800e-004
tblVehicleEF	LHD1	8.2300e-004	7.9000e-004
tblVehicleEF	LHD1	2.5220e-003	2.4370e-003
tblVehicleEF	LHD1	0.01	9.7200e-003
tblVehicleEF	LHD1	8.7800e-004	2.3700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	6.7510e-003	7.7550e-003
tblVehicleEF	LHD1	3.7100e-004	1.1700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.15	0.11
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.29	0.08
tblVehicleEF	LHD2	3.3720e-003	3.1550e-003

tblVehicleEF	LHD2	7.5730e-003	7.0600e-003
tblVehicleEF	LHD2	6.7190e-003	8.4310e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.55	0.62
tblVehicleEF	LHD2	1.16	0.63
tblVehicleEF	LHD2	13.98	14.00
tblVehicleEF	LHD2	705.76	768.73
tblVehicleEF	LHD2	24.06	7.83
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.69	0.88
tblVehicleEF	LHD2	0.44	0.18
tblVehicleEF	LHD2	1.2420e-003	1.4230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.1600e-004	1.3300e-004
tblVehicleEF	LHD2	1.1880e-003	1.3610e-003
tblVehicleEF	LHD2	2.6910e-003	2.6880e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8300e-004	1.2300e-004
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.3600e-004	1.3400e-004
tblVehicleEF	LHD2	6.8630e-003	7.4240e-003
tblVehicleEF	LHD2	2.6100e-004	7.8000e-005
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003

tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.10	0.05
tblVehicleEF	MCY	0.45	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	18.74	18.87
tblVehicleEF	MCY	10.18	9.03
tblVehicleEF	MCY	169.68	210.17
tblVehicleEF	MCY	45.14	61.04
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0080e-003	1.9690e-003
tblVehicleEF	MCY	3.7340e-003	3.0390e-003
tblVehicleEF	MCY	1.8770e-003	1.8400e-003
tblVehicleEF	MCY	3.5160e-003	2.8590e-003
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.20	2.21
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.20	1.94
tblVehicleEF	MCY	2.0680e-003	2.0800e-003
tblVehicleEF	MCY	6.8300e-004	6.0400e-004
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.73	2.74

tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.39	2.11
tblVehicleEF	MDV	9.4310e-003	3.9100e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.06	0.87
tblVehicleEF	MDV	2.68	3.13
tblVehicleEF	MDV	444.47	383.41
tblVehicleEF	MDV	101.69	82.02
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.23	0.32
tblVehicleEF	MDV	1.8000e-003	1.5110e-003
tblVehicleEF	MDV	2.4830e-003	1.9090e-003
tblVehicleEF	MDV	1.6590e-003	1.3930e-003
tblVehicleEF	MDV	2.2840e-003	1.7560e-003
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.4500e-003	3.7430e-003
tblVehicleEF	MDV	1.0640e-003	8.0200e-004
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02

tblVehicleEF	MH	1.96	1.11
tblVehicleEF	MH	5.58	2.13
tblVehicleEF	MH	1,212.08	1,532.75
tblVehicleEF	MH	58.85	18.68
tblVehicleEF	MH	1.29	1.36
tblVehicleEF	MH	0.81	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.1290e-003	2.7400e-004
tblVehicleEF	MH	3.2190e-003	3.2750e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0380e-003	2.5200e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.32	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.8600e-004	1.8500e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.12	0.09
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.35	0.11
tblVehicleEF	MHD	0.02	3.5450e-003
tblVehicleEF	MHD	4.5180e-003	1.9320e-003
tblVehicleEF	MHD	0.05	9.4870e-003
tblVehicleEF	MHD	0.38	0.39

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

tbIVehicleEF	MHD	0.38	0.06
tbIVehicleEF	OBUS	0.01	7.0630e-003
tbIVehicleEF	OBUS	6.3660e-003	4.0130e-003
tbIVehicleEF	OBUS	0.03	0.02
tbIVehicleEF	OBUS	0.24	0.57
tbIVehicleEF	OBUS	0.44	0.47
tbIVehicleEF	OBUS	5.01	1.90
tbIVehicleEF	OBUS	99.56	91.93
tbIVehicleEF	OBUS	1,293.67	1,341.74
tbIVehicleEF	OBUS	66.88	15.48
tbIVehicleEF	OBUS	0.21	0.37
tbIVehicleEF	OBUS	0.88	1.44
tbIVehicleEF	OBUS	2.72	1.09
tbIVehicleEF	OBUS	1.9000e-005	1.2000e-004
tbIVehicleEF	OBUS	2.6550e-003	7.0290e-003
tbIVehicleEF	OBUS	8.0900e-004	1.4200e-004
tbIVehicleEF	OBUS	1.8000e-005	1.1500e-004
tbIVehicleEF	OBUS	2.5210e-003	6.7120e-003
tbIVehicleEF	OBUS	7.4400e-004	1.3000e-004
tbIVehicleEF	OBUS	1.1720e-003	1.0840e-003
tbIVehicleEF	OBUS	0.02	0.02
tbIVehicleEF	OBUS	0.03	0.05
tbIVehicleEF	OBUS	5.1500e-004	4.8000e-004
tbIVehicleEF	OBUS	0.04	0.03
tbIVehicleEF	OBUS	0.03	0.18
tbIVehicleEF	OBUS	0.31	0.09
tbIVehicleEF	OBUS	9.6200e-004	8.7300e-004
tbIVehicleEF	OBUS	0.01	0.01
tbIVehicleEF	OBUS	7.5700e-004	1.5300e-004
tbIVehicleEF	OBUS	1.1720e-003	1.0840e-003

tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.34	0.10
tblVehicleEF	SBUS	0.83	0.05
tblVehicleEF	SBUS	0.02	6.3560e-003
tblVehicleEF	SBUS	0.08	4.7830e-003
tblVehicleEF	SBUS	8.17	2.18
tblVehicleEF	SBUS	1.05	0.52
tblVehicleEF	SBUS	9.75	0.70
tblVehicleEF	SBUS	1,109.35	347.39
tblVehicleEF	SBUS	1,051.90	1,060.99
tblVehicleEF	SBUS	56.07	3.98
tblVehicleEF	SBUS	8.47	3.53
tblVehicleEF	SBUS	3.71	4.87
tblVehicleEF	SBUS	12.10	0.81
tblVehicleEF	SBUS	8.0590e-003	3.9050e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	9.0100e-004	4.6000e-005
tblVehicleEF	SBUS	7.7100e-003	3.7360e-003
tblVehicleEF	SBUS	2.6280e-003	2.7270e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.2900e-004	4.2000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	0.97	0.24
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004

tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	SBUS	0.01	3.3060e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.2900e-004	3.9000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	1.40	0.35
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.14	0.10
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.53	0.03
tblVehicleEF	UBUS	0.27	1.35
tblVehicleEF	UBUS	0.04	1.4170e-003
tblVehicleEF	UBUS	4.81	10.12
tblVehicleEF	UBUS	7.98	0.14
tblVehicleEF	UBUS	2,067.88	1,597.13
tblVehicleEF	UBUS	103.85	1.39
tblVehicleEF	UBUS	9.47	0.73
tblVehicleEF	UBUS	14.57	0.01
tblVehicleEF	UBUS	0.59	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.21	5.3280e-003
tblVehicleEF	UBUS	1.1460e-003	1.5000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.20	5.0960e-003
tblVehicleEF	UBUS	1.0540e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005

tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.58	0.02
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.58	5.8830e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.1810e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.90	1.38
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.63	6.4410e-003
tblVehicleTrips	ST_TR	8.19	7.66
tblVehicleTrips	SU_TR	5.95	5.56
tblVehicleTrips	WD_TR	8.17	7.64
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2021	4-30-2021	0.0957	0.0408
2	5-1-2021	7-31-2021	0.0774	0.0447
3	8-1-2021	10-31-2021	0.1519	0.0858
4	11-1-2021	1-31-2022	0.2179	0.1667
5	2-1-2022	4-30-2022	0.5010	0.5017
6	5-1-2022	7-31-2022	0.0969	0.0926
		Highest	0.5010	0.5017

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	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Energy	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	349.5803	349.5803	0.0177	7.3600e-003	352.2152
Mobile	0.5633	0.7850	4.0726	0.0106	1.1150	8.7700e-003	1.1238	0.2983	8.1900e-003	0.3065	0.0000	1,042.5906	1,042.5906	0.0525	0.0000	1,043.9025
Waste						0.0000	0.0000		0.0000	0.0000	23.8941	0.0000	23.8941	1.4121	0.0000	59.1965
Water						0.0000	0.0000		0.0000	0.0000	1.9296	3.0131	4.9427	7.0600e-003	4.2800e-003	6.3952
Total	1.0966	1.0211	4.2770	0.0121	1.1150	0.0267	1.1418	0.2983	0.0262	0.3245	25.8237	1,395.1958	1,421.0195	1.4894	0.0116	1,461.7220

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr							
	Area	Energy	Mobile	Waste	Water	Total	Area	Energy	Mobile	Waste	Water	Total	Area	Energy	Mobile	Waste	Water	Total
Area	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126		
Energy	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588		
Mobile	0.5633	0.7850	4.0726	0.0106	1.1150	8.7700e-003	1.1238	0.2983	8.1900e-003	0.3065	0.0000	1,042.5906	1,042.5906	0.0525	0.0000	1,043.9025		
Waste						0.0000	0.0000		0.0000	0.0000	23.8941	0.0000	23.8941	1.4121	0.0000	59.1965		
Water						0.0000	0.0000		0.0000	0.0000	1.9296	3.0131	4.9427	7.0600e-003	4.2800e-003	6.3952		
Total	1.0966	1.0211	4.2770	0.0121	1.1150	0.0267	1.1418	0.2983	0.0262	0.3245	25.8237	1,302.6468	1,328.4705	1.4766	8.9900e-003	1,368.0656		

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.63	6.51	0.86	22.77	6.41

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/1/2021	2/15/2021	5	11	
2	Grading	Grading	2/15/2021	4/15/2021	5	44	
3	Trenching	Trenching	4/15/2021	6/30/2021	5	55	
4	Building Construction	Building Construction	7/1/2021	1/15/2022	5	142	
5	Architectural Coating	Architectural Coating	1/15/2022	5/15/2022	5	85	
6	Paving	Paving	5/15/2022	5/25/2022	5	8	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.83

Acres of Paving: 4.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 163,053; Non-Residential Outdoor: 54,351; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Trenching	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Trenching	Excavators	1	1.00	158	0.38
Site Preparation	Rubber Tired Dozers	1	2.70	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	2.70	97	0.37
Grading	Excavators	1	0.70	158	0.38
Grading	Graders	1	0.30	187	0.41
Grading	Rubber Tired Dozers	1	1.10	247	0.40
Grading	Tractors/Loaders/Backhoes	1	1.10	97	0.37
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	1	3.40	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.70	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	1	2.60	130	0.42
Paving	Paving Equipment	1	2.60	132	0.36
Paving	Rollers	1	2.60	80	0.38
Architectural Coating	Air Compressors	1	2.90	78	0.48
Trenching	Sweepers/Scrubbers	1	2.00	64	0.46
Building Construction	Other General Industrial Equipment	1	5.10	88	0.34
Architectural Coating	Aerial Lifts	1	2.40	63	0.31
Paving	Tractors/Loaders/Backhoes	2	2.60	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Grading	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	6.1400e-003	0.0000	6.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2900e-003	0.0239	0.0117	2.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	1.8999	1.8999	6.1000e-004	0.0000	1.9153
Total	2.2900e-003	0.0239	0.0117	2.0000e-005	0.0112	1.2000e-003	0.0124	6.1400e-003	1.1000e-003	7.2400e-003	0.0000	1.8999	1.8999	6.1000e-004	0.0000	1.9153

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					

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0187	0.0000	0.0187	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0593	0.0375	6.0000e-005		3.1400e-003	3.1400e-003		2.8900e-003	2.8900e-003	0.0000	5.6782	5.6782	1.8400e-003	0.0000	5.7242
Total	5.8000e-003	0.0593	0.0375	6.0000e-005	0.0187	3.1400e-003	0.0219	0.0101	2.8900e-003	0.0130	0.0000	5.6782	5.6782	1.8400e-003	0.0000	5.7242

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.4200e-003	0.0000	8.4200e-003	2.2700e-003	0.0000	2.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4700e-003	0.0279	0.0418	6.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	5.6782	5.6782	1.8400e-003	0.0000	5.7242
Total	1.4700e-003	0.0279	0.0418	6.0000e-005	8.4200e-003	1.3500e-003	9.7700e-003	2.2700e-003	1.3500e-003	3.6200e-003	0.0000	5.6782	5.6782	1.8400e-003	0.0000	5.7242

Mitigated Construction Off-Site

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

3.4 Trenching - 2021

Unmitigated Construction On-Site

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

Off-Road	3.1800e-003	0.0299	0.0347	5.0000e-005		1.8900e-003	1.8900e-003		1.7400e-003	1.7400e-003	0.0000	4.3032	4.3032	1.3900e-003	0.0000	4.3380
Total	3.1800e-003	0.0299	0.0347	5.0000e-005		1.8900e-003	1.8900e-003		1.7400e-003	1.7400e-003	0.0000	4.3032	4.3032	1.3900e-003	0.0000	4.3380

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0300e-003	0.0189	0.0370	5.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	4.3032	4.3032	1.3900e-003	0.0000	4.3380
Total	1.0300e-003	0.0189	0.0370	5.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	4.3032	4.3032	1.3900e-003	0.0000	4.3380

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0268	0.2782	0.2031	3.6000e-004		0.0151	0.0151		0.0139	0.0139	0.0000	31.2801	31.2801	0.0101	0.0000	31.5330
Total	0.0268	0.2782	0.2031	3.6000e-004		0.0151	0.0151		0.0139	0.0139	0.0000	31.2801	31.2801	0.0101	0.0000	31.5330

Unmitigated Construction Off-Site

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2000e-004	0.0124	0.0177	3.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	2.3702	2.3702	7.7000e-004	0.0000	2.3894
Total	6.2000e-004	0.0124	0.0177	3.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	2.3702	2.3702	7.7000e-004	0.0000	2.3894

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

Off-Road	1.7500e-003	0.0399	0.0539	8.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	7.1258	7.1258	9.5000e-004	0.0000	7.1495
Total	0.6309	0.0399	0.0539	8.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	7.1258	7.1258	9.5000e-004	0.0000	7.1495

Mitigated Construction Off-Site

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

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1400e-003	0.0116	0.0153	2.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	2.0094	2.0094	6.5000e-004	0.0000	2.0257
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1400e-003	0.0116	0.0153	2.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	2.0094	2.0094	6.5000e-004	0.0000	2.0257

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6000e-004	7.7700e-003	0.0173	2.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	2.0094	2.0094	6.5000e-004	0.0000	2.0257
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.6000e-004	7.7700e-003	0.0173	2.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	2.0094	2.0094	6.5000e-004	0.0000	2.0257

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
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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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	MT/yr					
	Mitigated	0.5633	0.7850	4.0726	0.0106	1.1150	8.7700e-003	1.1238	0.2983	8.1900e-003	0.3065	0.0000	1,042.5906	1,042.5906	0.0525	0.0000
Unmitigated	0.5633	0.7850	4.0726	0.0106	1.1150	8.7700e-003	1.1238	0.2983	8.1900e-003	0.3065	0.0000	1,042.5906	1,042.5906	0.0525	0.0000	1,043.9025

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	1,642.60	1,646.90	1195.40	3,000,615	3,000,615
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		

Total	1,642.60	1,646.90	1,195.40	3,000,615	3,000,615
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4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	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
Hotel	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Other Asphalt Surfaces	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Other Non-Asphalt Surfaces	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Parking Lot	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Unenclosed Parking with Elevator	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

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

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	92.5490	92.5490	0.0128	2.6400e-003	93.6565
NaturalGas Mitigated	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588
NaturalGas Unmitigated	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

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					
Hotel	4.81659e+006	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Fluorescent	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

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					
Hotel	4.81659e+006	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

5.3 Energy by Land Use - Electricity
Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	828309	78.9001	0.0109	2.2500e-003	79.8443
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6020	0.5734	8.0000e-005	2.0000e-005	0.5803
Unenclosed Parking with Elevator	137269	13.0754	1.8100e-003	3.7000e-004	13.2319
Total		92.5490	0.0128	2.6400e-003	93.6565

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Hotel	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Pavement	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Unmitigated	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

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	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4439					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Landscaping	5.6000e-004	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Total	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

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	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4439					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.6000e-004	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Total	0.5073	6.0000e-005	6.0700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	4.9427	7.0600e-003	4.2800e-003	6.3952
Unmitigated	4.9427	7.0600e-003	4.2800e-003	6.3952

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	5.45386 / 0.605984	4.9427	7.0600e-003	4.2800e-003	6.3952
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		4.9427	7.0600e-003	4.2800e-003	6.3952

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	5.45386 / 0.605984	4.9427	7.0600e-003	4.2800e-003	6.3952

Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		4.9427	7.0600e-003	4.2800e-003	6.3952

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.8941	1.4121	0.0000	59.1965
Unmitigated	23.8941	1.4121	0.0000	59.1965

8.2 Waste by Land Use

Unmitigated

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

Hotel	117.71	23.8941	1.4121	0.0000	59.1965
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		23.8941	1.4121	0.0000	59.1965

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	117.71	23.8941	1.4121	0.0000	59.1965
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		23.8941	1.4121	0.0000	59.1965

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Alviso Hotel, San Jose - Santa Clara County, Annual

Alviso Hotel, 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
Parking Lot	43.00	Space	0.00	17,200.00	0
Unenclosed Parking with Elevator	192.00	Space	0.00	70,757.00	0
Hotel	215.00	Room	1.92	108,702.00	0
Other Asphalt Surfaces	22.97	1000sqft	0.00	22,973.00	0
Other Non-Asphalt Surfaces	187.79	1000sqft	4.31	187,792.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 Intensity Factor = 210

Land Use - Provided land uses

Construction Phase - Provided construction schedule 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Off-road Equipment - Provided construction equip & hours 9/8/2020

Grading - grading = 900cy import

Demolition -

Trips and VMT - o Trips Post-model computation with EMFAC2017, building const = est 100 cement total round trips, paving = 200cy asphalt

Vehicle Trips - provided traffic, hotel trip gen rate with reduction = 7.64, 7.66, 5.56

Vehicle Emission Factors - EMFAC2017 Santa Clara County 2030 Emissions Factors

Woodstoves -

Energy Use -

Water And Wastewater - WWTP 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 3 mitigation

Energy Mitigation - SJCE is the electricity provider in San Jose. Will provide 100% carbon free electricity from 2021 on

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	230.00	142.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	20.00	85.00
tblConstructionPhase	PhaseEndDate	2/12/2021	2/15/2021
tblConstructionPhase	PhaseEndDate	3/12/2021	4/15/2021
tblConstructionPhase	PhaseEndDate	1/28/2022	1/15/2022
tblConstructionPhase	PhaseEndDate	2/25/2022	5/25/2022
tblConstructionPhase	PhaseEndDate	3/25/2022	5/15/2022
tblConstructionPhase	PhaseStartDate	2/13/2021	2/15/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	7/1/2021
tblConstructionPhase	PhaseStartDate	1/29/2022	5/15/2022
tblConstructionPhase	PhaseStartDate	2/26/2022	1/15/2022
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02

tbIFleetMix	HHD	0.02	0.02
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tbIFleetMix	HHD	0.02	0.02
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tbIFleetMix	LDA	0.62	0.60
tbIFleetMix	LDA	0.62	0.60
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tbIFleetMix	LDT1	0.03	0.05
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tbIFleetMix	LDT2	0.18	0.17
tbIFleetMix	LDT2	0.18	0.17
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tbIFleetMix	LHD1	0.01	0.02
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tbIFleetMix	LHD1	0.01	0.02
tbIFleetMix	LHD2	5.0600e-003	5.5563e-003
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tbIFleetMix	MCY	5.1220e-003	4.7803e-003
tbIFleetMix	MCY	5.1220e-003	4.7803e-003

tbIFleetMix	MCY	5.1220e-003	4.7803e-003
tbIFleetMix	MCY	5.1220e-003	4.7803e-003
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tbIFleetMix	MDV	0.10	0.11
tbIFleetMix	MDV	0.10	0.11
tbIFleetMix	MDV	0.10	0.11
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tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
tbIFleetMix	MHD	0.01	0.01
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tbIFleetMix	OBUS	2.2210e-003	1.4429e-003
tbIFleetMix	OBUS	2.2210e-003	1.4429e-003
tbIFleetMix	OBUS	2.2210e-003	1.4429e-003
tbIFleetMix	SBUS	6.4600e-004	9.0041e-004
tbIFleetMix	SBUS	6.4600e-004	9.0041e-004
tbIFleetMix	SBUS	6.4600e-004	9.0041e-004
tbIFleetMix	SBUS	6.4600e-004	9.0041e-004
tbIFleetMix	SBUS	6.4600e-004	9.0041e-004
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tbIFleetMix	UBUS	1.4700e-003	1.1782e-003

tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblGrading	MaterialImported	0.00	900.00
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tblLandUse	LandUseSquareFeet	312,180.00	108,702.00
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tblLandUse	LotAcreage	1.73	0.00
tblLandUse	LotAcreage	7.17	1.92
tblLandUse	LotAcreage	0.53	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
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tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	0.70
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tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	7.00	1.70
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripNumber	113.00	0.00
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tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
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tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.43	6.28
tblVehicleEF	HHD	0.94	0.41

tblVehicleEF	HHD	4.01	6.6850e-003
tblVehicleEF	HHD	4,037.05	930.05
tblVehicleEF	HHD	1,498.85	1,226.35
tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.20
tblVehicleEF	HHD	1.59	2.52
tblVehicleEF	HHD	19.20	2.31
tblVehicleEF	HHD	3.6830e-003	2.1460e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.5230e-003	2.0530e-003
tblVehicleEF	HHD	0.03	0.03
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tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	1.0000e-006
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tblVehicleEF	HHD	0.37	0.42
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.04	8.6530e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	1.0000e-006
tblVehicleEF	HHD	4.6010e-003	5.8000e-005
tblVehicleEF	HHD	0.43	0.49

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tbIVehicleEF	HHD	0.15	0.07
tbIVehicleEF	HHD	4.1900e-004	2.8400e-004
tbIVehicleEF	HHD	0.08	2.0000e-006
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tbIVehicleEF	LDA	2.1050e-003	0.03
tbIVehicleEF	LDA	0.33	0.41
tbIVehicleEF	LDA	0.63	1.72
tbIVehicleEF	LDA	181.37	213.89
tbIVehicleEF	LDA	42.51	45.13
tbIVehicleEF	LDA	0.03	0.02
tbIVehicleEF	LDA	0.03	0.13
tbIVehicleEF	LDA	1.1470e-003	9.2900e-004
tbIVehicleEF	LDA	1.8260e-003	1.2750e-003
tbIVehicleEF	LDA	1.0560e-003	8.5500e-004
tbIVehicleEF	LDA	1.6790e-003	1.1720e-003
tbIVehicleEF	LDA	0.02	0.02
tbIVehicleEF	LDA	0.06	0.06
tbIVehicleEF	LDA	0.02	0.02
tbIVehicleEF	LDA	4.7560e-003	3.2470e-003
tbIVehicleEF	LDA	0.03	0.17
tbIVehicleEF	LDA	0.03	0.12
tbIVehicleEF	LDA	1.8150e-003	9.0000e-005
tbIVehicleEF	LDA	4.3500e-004	0.00
tbIVehicleEF	LDA	0.02	0.02
tbIVehicleEF	LDA	0.06	0.06
tbIVehicleEF	LDA	0.02	0.02
tbIVehicleEF	LDA	6.9190e-003	4.7160e-003
tbIVehicleEF	LDA	0.03	0.17
tbIVehicleEF	LDA	0.03	0.13

tbIVehicleEF	LDT1	3.6800e-003	1.6710e-003
tbIVehicleEF	LDT1	4.5270e-003	0.04
tbIVehicleEF	LDT1	0.55	0.54
tbIVehicleEF	LDT1	1.12	1.85
tbIVehicleEF	LDT1	233.07	258.41
tbIVehicleEF	LDT1	54.62	55.17
tbIVehicleEF	LDT1	0.05	0.03
tbIVehicleEF	LDT1	0.06	0.15
tbIVehicleEF	LDT1	1.4520e-003	1.0700e-003
tbIVehicleEF	LDT1	2.1870e-003	1.4610e-003
tbIVehicleEF	LDT1	1.3350e-003	9.8400e-004
tbIVehicleEF	LDT1	2.0110e-003	1.3440e-003
tbIVehicleEF	LDT1	0.05	0.05
tbIVehicleEF	LDT1	0.12	0.09
tbIVehicleEF	LDT1	0.04	0.04
tbIVehicleEF	LDT1	9.1170e-003	6.5000e-003
tbIVehicleEF	LDT1	0.09	0.36
tbIVehicleEF	LDT1	0.06	0.15
tbIVehicleEF	LDT1	2.3350e-003	2.5670e-003
tbIVehicleEF	LDT1	5.6500e-004	0.00
tbIVehicleEF	LDT1	0.05	0.05
tbIVehicleEF	LDT1	0.12	0.09
tbIVehicleEF	LDT1	0.04	0.04
tbIVehicleEF	LDT1	0.01	9.4830e-003
tbIVehicleEF	LDT1	0.09	0.36
tbIVehicleEF	LDT1	0.07	0.17
tbIVehicleEF	LDT2	2.9960e-003	1.7260e-003
tbIVehicleEF	LDT2	3.1970e-003	0.04
tbIVehicleEF	LDT2	0.49	0.56
tbIVehicleEF	LDT2	0.89	2.29

tbIVehicleEF	LDT2	264.16	267.33
tbIVehicleEF	LDT2	61.38	57.57
tbIVehicleEF	LDT2	0.04	0.03
tbIVehicleEF	LDT2	0.05	0.17
tbIVehicleEF	LDT2	1.3060e-003	1.0250e-003
tbIVehicleEF	LDT2	2.0190e-003	1.3400e-003
tbIVehicleEF	LDT2	1.2010e-003	9.4400e-004
tbIVehicleEF	LDT2	1.8570e-003	1.2320e-003
tbIVehicleEF	LDT2	0.03	0.05
tbIVehicleEF	LDT2	0.07	0.09
tbIVehicleEF	LDT2	0.03	0.05
tbIVehicleEF	LDT2	7.4390e-003	6.5530e-003
tbIVehicleEF	LDT2	0.06	0.34
tbIVehicleEF	LDT2	0.04	0.18
tbIVehicleEF	LDT2	2.6450e-003	9.4800e-003
tbIVehicleEF	LDT2	6.2800e-004	8.5000e-005
tbIVehicleEF	LDT2	0.03	0.05
tbIVehicleEF	LDT2	0.07	0.09
tbIVehicleEF	LDT2	0.03	0.05
tbIVehicleEF	LDT2	0.01	9.5240e-003
tbIVehicleEF	LDT2	0.06	0.34
tbIVehicleEF	LDT2	0.05	0.20
tbIVehicleEF	LHD1	3.9820e-003	4.1480e-003
tbIVehicleEF	LHD1	8.6490e-003	5.1950e-003
tbIVehicleEF	LHD1	0.01	9.0230e-003
tbIVehicleEF	LHD1	0.14	0.18
tbIVehicleEF	LHD1	0.61	0.47
tbIVehicleEF	LHD1	1.67	0.89
tbIVehicleEF	LHD1	8.93	8.25
tbIVehicleEF	LHD1	641.43	698.55

tblVehicleEF	LHD1	26.94	10.09
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1500e-004
tblVehicleEF	LHD1	0.01	9.9010e-003
tblVehicleEF	LHD1	0.01	7.0190e-003
tblVehicleEF	LHD1	6.6500e-004	2.1000e-004
tblVehicleEF	LHD1	7.5500e-004	8.7500e-004
tblVehicleEF	LHD1	2.6030e-003	2.4750e-003
tblVehicleEF	LHD1	9.7020e-003	6.6710e-003
tblVehicleEF	LHD1	6.1100e-004	1.9300e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	8.0000e-005
tblVehicleEF	LHD1	6.2670e-003	6.8120e-003
tblVehicleEF	LHD1	3.0000e-004	1.0000e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5050e-003

tblVehicleEF	LHD2	5.3180e-003	5.3390e-003
tblVehicleEF	LHD2	3.2330e-003	4.8110e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12
tblVehicleEF	LHD2	1.0460e-003	1.5020e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0600e-004
tblVehicleEF	LHD2	1.0000e-003	1.4370e-003
tblVehicleEF	LHD2	2.7080e-003	2.7110e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.8000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2400e-004
tblVehicleEF	LHD2	6.5670e-003	6.5570e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61
tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	2.1380e-003
tblVehicleEF	MCY	3.3210e-003	2.8620e-003
tblVehicleEF	MCY	2.0120e-003	1.9940e-003
tblVehicleEF	MCY	3.1070e-003	2.6760e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0760e-003
tblVehicleEF	MCY	6.5900e-004	5.8600e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67

tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7720e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55
tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	322.27
tblVehicleEF	MDV	82.28	67.92
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	1.3880e-003	1.0340e-003
tblVehicleEF	MDV	2.0820e-003	1.3440e-003
tblVehicleEF	MDV	1.2780e-003	9.5400e-004
tblVehicleEF	MDV	1.9150e-003	1.2360e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9760e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9830e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02

tblVehicleEF	MH	0.45	0.31
tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1200e-004
tblVehicleEF	MH	3.2210e-003	3.2970e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9500e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5400e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8320e-003
tblVehicleEF	MHD	2.7470e-003	1.0340e-003
tblVehicleEF	MHD	0.03	8.3830e-003
tblVehicleEF	MHD	0.37	0.41

tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6200e-004
tblVehicleEF	MHD	3.0080e-003	7.0060e-003
tblVehicleEF	MHD	8.2100e-004	1.1200e-004
tblVehicleEF	MHD	5.0000e-005	1.5500e-004
tblVehicleEF	MHD	2.8710e-003	6.6960e-003
tblVehicleEF	MHD	7.5400e-004	1.0300e-004
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1800e-004
tblVehicleEF	MHD	0.01	9.4800e-003
tblVehicleEF	MHD	6.6000e-004	8.5000e-005
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07

tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0980e-003
tblVehicleEF	OBUS	4.0840e-003	2.1970e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4200e-004
tblVehicleEF	OBUS	2.8340e-003	7.8820e-003
tblVehicleEF	OBUS	9.3800e-004	1.5600e-004
tblVehicleEF	OBUS	2.1000e-005	1.3600e-004
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4400e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003

tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4040e-003
tblVehicleEF	SBUS	0.06	6.3380e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0480e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.8000e-005
tblVehicleEF	SBUS	2.0920e-003	1.9600e-003
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004

tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2880e-003
tblVehicleEF	SBUS	7.4900e-004	5.0000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1860e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40
tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	4.8930e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005

tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2610e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	ST_TR	8.19	7.66
tblVehicleTrips	SU_TR	5.95	5.56
tblVehicleTrips	WD_TR	8.17	7.64
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
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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	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Energy	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	349.5803	349.5803	0.0177	7.3600e-003	352.2152
Mobile	0.3959	0.6230	3.1006	9.3200e-003	1.1153	6.8900e-003	1.1222	0.2984	6.4500e-003	0.3049	0.0000	906.2339	906.2339	0.0374	0.0000	907.1682
Waste						0.0000	0.0000		0.0000	0.0000	23.8941	0.0000	23.8941	1.4121	0.0000	59.1965
Water						0.0000	0.0000		0.0000	0.0000	1.9296	3.0131	4.9427	7.0600e-003	4.2800e-003	6.3952
Total	0.9292	0.8592	3.3049	0.0107	1.1153	0.0249	1.1402	0.2984	0.0244	0.3228	25.8237	1,258.8391	1,284.6628	1.4743	0.0116	1,324.9878

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	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Energy	0.0260	0.2361	0.1983	1.4200e-003		0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

Mobile	0.3959	0.6230	3.1006	9.3200e-003	1.1153	6.8900e-003	1.1222	0.2984	6.4500e-003	0.3049	0.0000	906.2339	906.2339	0.0374	0.0000	907.1682
Waste						0.0000	0.0000		0.0000	0.0000	23.8941	0.0000	23.8941	1.4121	0.0000	59.1965
Water						0.0000	0.0000		0.0000	0.0000	1.9296	3.0131	4.9427	7.0600e-003	4.2800e-003	6.3952
Total	0.9292	0.8592	3.3049	0.0107	1.1153	0.0249	1.1402	0.2984	0.0244	0.3228	25.8237	1,166.2902	1,192.1138	1.4615	8.9900e-003	1,231.3313

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.35	7.20	0.87	22.77	7.07

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	0.3959	0.6230	3.1006	9.3200e-003	1.1153	6.8900e-003	1.1222	0.2984	6.4500e-003	0.3049	0.0000	906.2339	906.2339	0.0374	0.0000	907.1682
Unmitigated	0.3959	0.6230	3.1006	9.3200e-003	1.1153	6.8900e-003	1.1222	0.2984	6.4500e-003	0.3049	0.0000	906.2339	906.2339	0.0374	0.0000	907.1682

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	1,642.60	1,646.90	1195.40	3,000,615	3,000,615

Parking Lot	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	1,642.60	1,646.90	1,195.40	3,000,615	3,000,615

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	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
Hotel	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Other Asphalt Surfaces	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Other Non-Asphalt Surfaces	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Parking Lot	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Unenclosed Parking with Elevator	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	0.0000	92.5490	92.5490	0.0128	2.6400e-003	93.6565
NaturalGas Mitigated	0.0260	0.2361	0.1983	1.4200e-003			0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588
NaturalGas Unmitigated	0.0260	0.2361	0.1983	1.4200e-003			0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

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						
Hotel	4.81659e+006	0.0260	0.2361	0.1983	1.4200e-003			0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Flanking	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0260	0.2361	0.1983	1.4200e-003			0.0179	0.0179		0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

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
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Land Use	kBTU/yr	tons/yr								MT/yr					
Hotel	4.81659e+006	0.0260	0.2361	0.1983	1.4200e-003	0.0179	0.0179	0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevators	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0260	0.2361	0.1983	1.4200e-003	0.0179	0.0179	0.0179	0.0179	0.0000	257.0314	257.0314	4.9300e-003	4.7100e-003	258.5588

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use	Total CO2	CH4	N2O	CO2e
	kWh/yr	MT/yr			
Hotel	828309	78.9001	0.0109	2.2500e-003	79.8443
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6020	0.5734	8.0000e-005	2.0000e-005	0.5803
Unenclosed Parking with Elevators	137269	13.0754	1.8100e-003	3.7000e-004	13.2319
Total		92.5490	0.0128	2.6400e-003	93.6565

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Unmitigated	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

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	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4439					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Total	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

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	0.0629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4439					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126
Total	0.5073	5.0000e-005	6.0400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0118	0.0118	3.0000e-005	0.0000	0.0126

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.9427	7.0600e-003	4.2800e-003	6.3952
Unmitigated	4.9427	7.0600e-003	4.2800e-003	6.3952

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	5.45386 / 0.605984	4.9427	7.0600e-003	4.2800e-003	6.3952
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		4.9427	7.0600e-003	4.2800e-003	6.3952

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	5.45386 / 0.605984	4.9427	7.0600e-003	4.2800e-003	6.3952
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		4.9427	7.0600e-003	4.2800e-003	6.3952

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.8941	1.4121	0.0000	59.1965
Unmitigated	23.8941	1.4121	0.0000	59.1965

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	117.71	23.8941	1.4121	0.0000	59.1965
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		23.8941	1.4121	0.0000	59.1965

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	117.71	23.8941	1.4121	0.0000	59.1965
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		23.8941	1.4121	0.0000	59.1965

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Attachment 3: EMFAC2017 Calculations

CalEEMod Construction Inputs

Phase	CalEEMod	CalEEMod	Total	Total	CalEEMod	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor Vehicle	Hauling Vehicle	Worker	Vendor	Hauling
	WORKER	VENDOR	Worker	Vendor	HAULING									
	TRIPS	TRIPS	Trips	Trips	TRIPS									
Demolition			0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Site Preparation	5	0	55	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	594	0	0
Grading	13	0	572	0	112	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	6177.6	0	2240
Trenching	8	0	520	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	5616	0	0
Building Construction	171	67	24282	9514	200	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	262245.6	69452.2	1460
Architectural Coating	34	0	2890	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	31212	0	0
Paving	13	0	104	0	48	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	1123.2	0	350.4

Number of Days Per Year

2021	2/1/21	12/31/21	334	240
2022	1/1/22	5/25/22	145	103
			479	343 Total Workdays

Phase	Start Date	End Date	Days/Week	Workdays
Demolition			0	0
Site Preparation	2/1/2021	2/15/2021	5	11
Grading	2/15/2021	4/15/2021	5	44
Trenching	4/15/2021	6/30/2021	5	65
Building Construction	7/1/2021	1/15/2022	5	142
Architectural Coating	1/15/2022	5/15/2022	5	85
Paving	5/15/2022	5/25/2022	5	8

Summary of Construction Traffic Emissions (EMFAC2017)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2 Metric Tons
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Tons

Criteria Pollutants

2021	0.0321	0.2689	0.3028	0.0014	0.0874	0.0211	0.1085	0.0132	0.0106	0.0238	138.0143
2022	0.0115	0.0995	0.1199	0.0006	0.0380	0.0084	0.0464	0.0057	0.0039	0.0096	58.4424

Toxic Air Contaminants (1 Mile Trip Length)

2021	0.0217	0.0769	0.1069	0.0002	0.0088	0.0025	0.0113	0.0013	0.0013	0.0026	21.3472
2022	0.0086	0.0313	0.0451	0.0001	0.0038	0.0010	0.0048	0.0006	0.0005	0.0010	9.1180

CalEEMod EMFAC2017 Emission Factors Input

Year 2023

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005162	0.003155	0.003545	0.024833819	0.007063	0	0	0.051479	0
A	CH4_RUNEX	0.001958	0.004163	0.003245	0.00391	0.008545	0.00706	0.001932	0.049536467	0.004013	1.348781	0.326994	0.006356	0.0108
A	CH4_STREX	0.047744	0.063181	0.066279	0.077681	0.015	0.008431	0.009487	4.90854E-07	0.017607	0.001417	0.255241	0.004783	0.023194
A	CO_IDLEX	0	0	0	0	0.185249	0.138442	0.388783	6.342287544	0.573374	0	0	2.176398	0
A	CO_RUNEX	0.56207	0.946438	0.787567	0.865358	0.768919	0.621061	0.261063	0.395696608	0.470154	10.11652	18.86893	0.51865	1.109312
A	CO_STREX	2.160562	2.346256	2.785419	3.129575	1.083381	0.63132	1.136225	0.005919328	1.895072	0.139137	9.034026	0.699825	2.132057
A	CO2_NBIO_IDLEX	0	0	0	0	8.942095	14.00074	73.35401	1065.376459	91.92835	0	0	347.3949	0
A	CO2_NBIO_RUNEX	245.2799	292.9084	316.762	383.4057	794.1566	768.7296	1095.065	1436.676046	1341.742	1597.13	210.1672	1060.994	1532.749
A	CO2_NBIO_STREX	52.01687	62.87067	68.57931	82.01676	11.82811	7.832833	9.380273	0.049284883	15.47806	1.390925	61.03922	3.981795	18.67936
A	NOX_IDLEX	0	0	0	0	0.058295	0.098034	0.431519	5.438234036	0.369473	0	0	3.527869	0
A	NOX_RUNEX	0.033072	0.078073	0.067378	0.083492	0.730308	0.876464	1.444056	2.680938629	1.441249	0.728908	1.148719	4.873886	1.363761
A	NOX_STREX	0.176158	0.230265	0.270417	0.324369	0.321259	0.182356	1.696526	2.321334599	1.089647	0.010032	0.270672	0.811844	0.245583
A	PM10_IDLEX	0	0	0	0	0.000825	0.001423	0.000427	0.00267045	0.00012	0	0	0.003905	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060919337	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009747	0.01075	0.012	0.03551304	0.012	0.033326	0.004	0.010909	0.013099
A	PM10_RUNEX	0.001356	0.001766	0.001389	0.001511	0.01021	0.015665	0.006955	0.024670765	0.007029	0.005328	0.001969	0.031247	0.023972
A	PM10_STREX	0.001744	0.002244	0.001745	0.001909	0.000258	0.000133	0.000119	7.19411E-07	0.000142	1.52E-05	0.003039	4.55E-05	0.000274
A	PM25_IDLEX	0	0	0	0	0.00079	0.001361	0.000409	0.002554927	0.000115	0	0	0.003736	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026108287	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002437	0.002688	0.003	0.00887826	0.003	0.008332	0.001	0.002727	0.003275
A	PM25_RUNEX	0.001249	0.001625	0.001279	0.001393	0.00972	0.014962	0.006648	0.023603494	0.006712	0.005096	0.00184	0.029882	0.022889
A	PM25_STREX	0.001604	0.002063	0.001605	0.001756	0.000237	0.000123	0.00011	6.61472E-07	0.00013	1.4E-05	0.002859	4.18E-05	0.000252
A	ROG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	ROG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	ROG_IDLEX	0	0	0	0	0.021316	0.015901	0.018316	0.428946297	0.045786	0	0	0.241386	0
A	ROG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	ROG_RUNEX	0.007459	0.017917	0.013146	0.016466	0.092959	0.111603	0.017071	0.025760254	0.025484	0.019672	2.208057	0.086453	0.06941
A	ROG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	ROG_STREX	0.211356	0.306088	0.307495	0.382282	0.075776	0.042231	0.050853	2.56712E-06	0.090401	0.005883	1.941958	0.027318	0.096685
A	SO2_IDLEX	0	0	0	0	8.68E-05	0.000134	0.000696	0.009914298	0.000873	0	0	0.003306	0
A	SO2_RUNEX	9.26E-05	0.002616	0.010439	0.003743	0.007755	0.007424	0.010439	0.013153522	0.012917	0.011293	0.00208	0.010129	0.015045
A	SO2_STREX	0	0	9.28E-05	0.000802	0.000117	7.75E-05	9.28E-05	4.87714E-07	0.000153	1.38E-05	0.000604	3.94E-05	0.000185
A	TOG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	TOG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	TOG_IDLEX	0	0	0	0	0.030064	0.021432	0.02485	0.493262188	0.059237	0	0	0.345172	0
A	TOG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	TOG_RUNEX	0.010845	0.026122	0.019145	0.023909	0.114266	0.130419	0.021706	0.078007034	0.034475	1.37699	2.736079	0.103211	0.092037
A	TOG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	TOG_STREX	0.231408	0.335127	0.336668	0.418547	0.082966	0.046238	0.055677	2.81067E-06	0.098977	0.006441	2.11358	0.02991	0.105858

CalEEMod EMFAC2017 Fleet Mix Input

Year 2023

FleetMixLandUseSubType LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Hotel	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Other Asphalt Surfaces	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Other Non-Asphalt Surfaces	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Parking Lot	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Unenclosed Parking with E	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

CalEEMod EMFAC2017 Emission Factors Input

Year 2030

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	213.8884	258.4057	267.3331	322.2663	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	45.12682	55.17203	57.56738	67.91602	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

CalEEMod EMFAC2017 Fleet Mix Input

Year 2030

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Hotel	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728
Other Asphalt Surfaces	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728
Other Non-Asphalt Surfaces	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728
Parking Lot	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728
Unenclosed Parking with E	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles							
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust	CO2 Exhaust	
NA	1	1	1	1	1	1	
2021	1.0002	1.0001	1.0002	1.0009	1.0005	1.0023	
2022	1.0004	1.0003	1.0004	1.0018	1.0014	1.0065	
2023	1.0007	1.0006	1.0007	1.0032	1.0027	1.0126	
2024	1.0012	1.0010	1.0011	1.0051	1.0044	1.0207	
2025	1.0018	1.0016	1.0016	1.0074	1.0065	1.0309	
2026	1.0023	1.0022	1.0020	1.0091	1.0083	1.0394	
2027	1.0028	1.0028	1.0024	1.0105	1.0102	1.0475	
2028	1.0034	1.0035	1.0028	1.0117	1.0120	1.0554	
2029	1.0040	1.0042	1.0032	1.0129	1.0138	1.0629	
2030	1.0047	1.0051	1.0037	1.0142	1.0156	1.0702	
2031	1.0054	1.0061	1.0042	1.0155	1.0173	1.0770	
2032	1.0061	1.0072	1.0047	1.0169	1.0189	1.0834	
2033	1.0068	1.0083	1.0052	1.0182	1.0204	1.0893	
2034	1.0075	1.0095	1.0058	1.0196	1.0218	1.0947	
2035	1.0081	1.0108	1.0063	1.0210	1.0232	1.0997	
2036	1.0088	1.0121	1.0069	1.0223	1.0244	1.1041	
2037	1.0094	1.0134	1.0074	1.0236	1.0255	1.1080	
2038	1.0099	1.0148	1.0079	1.0248	1.0265	1.1114	
2039	1.0104	1.0161	1.0085	1.0259	1.0274	1.1143	
2040	1.0109	1.0174	1.0090	1.0270	1.0281	1.1168	
2041	1.0113	1.0186	1.0095	1.0279	1.0288	1.1189	
2042	1.0116	1.0198	1.0099	1.0286	1.0294	1.1207	
2043	1.0119	1.0207	1.0103	1.0293	1.0299	1.1221	
2044	1.0122	1.0216	1.0106	1.0299	1.0303	1.1233	
2045	1.0124	1.0225	1.0109	1.0303	1.0306	1.1243	
2046	1.0125	1.0233	1.0111	1.0308	1.0309	1.1251	
2047	1.0127	1.0240	1.0113	1.0311	1.0311	1.1258	
2048	1.0128	1.0246	1.0115	1.0314	1.0313	1.1263	
2049	1.0128	1.0252	1.0116	1.0316	1.0315	1.1268	
2050	1.0129	1.0257	1.0117	1.0318	1.0316	1.1272	
Enter Year:	2021	1.0002	1.0001	1.0002	1.0009	1.0005	1.0023

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle
The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

Attachment 4: Construction Emissions and Health Risk Calculations

The Estuary @ Terra, San Jose CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
2021	Construction	0.0238	CON_DPM	47.5	0.01447	1.82E-03	13336	1.37E-07
2022	Construction	0.0043	CON_DPM	8.6	0.00263	3.31E-04	13336	2.48E-08
Total		0.0281		56.1	0.0171	0.0022		

Construction Hours

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

The Estuary @ Terra, San Jose CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	Area (ton/year)	PM2.5 Emissions			Modeled Area (m ²)	PM2.5 Emission Rate g/s/m ²
				(lb/yr)	(lb/hr)	(g/s)		
2021	Construction	CON_FUG	0.0175	35.0	0.01067	1.34E-03	13,336.0	1.01E-07
2022	Construction	CON_FUG	0.0006	1.1	0.00035	4.41E-05	13,336.0	3.31E-09
Total			0.0181	36.2	0.0110	0.0014		

Construction Hours

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

The Estuary @ Terra, San Jose, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)
	Exhaust PM10/DPM ($\mu\text{g}/\text{m}^3$)	Fugitive PM2.5 ($\mu\text{g}/\text{m}^3$)			
	2021	0.0014			
2022	0.0003	0.00004	0.04	0.0001	0.0003
Total	-	-	0.3	-	-
Maximum	0.0014	0.0011	-	0.0003	0.003

Maximum Impacts at Mayne Elementary School

Construction Year	Unmitigated Emissions				
	Maximum Concentrations		Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)
	Exhaust PM2.5/DPM ($\mu\text{g}/\text{m}^3$)	Fugitive PM2.5 ($\mu\text{g}/\text{m}^3$)			
2021	0.0015	0.0011			
2022	0.0003	0.00004	0.02	0.0001	0.0003
Total	-	-	0.1	-	-
Maximum	0.0015	0.0011	-	0.0003	0.003

**The Estuary @ Terra, 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-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 (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2021	0.0014	10	0.02	2021	0.0014	-	-
1	1	0 - 1	2021	0.0014	10	0.23	2021	0.0014	1	0.004
2	1	1 - 2	2022	0.0003	10	0.04	2022	0.0003	1	0.001
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						0.3				0.005

* Third trimester of pregnancy

Maximum Hazard Index	Total PM2.5	
	Fugitive PM2.5	Total PM2.5
0.0003	0.0011	0.0025
0.0001	0.00004	0.0003

**The Estuary @ Terra, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Mayne Elementary School (3+ years old) - 1.0 meters - Child Exposure**

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹
 ASF = Age sensitivity factor for specified age group
 ED = Exposure duration (years)
 AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)
 SAF = Student Adjustment Factor (unitless)
 = (24 hrs/9 hrs) x (7 days/5 days) = 3.73
 8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

	Infant	School Child	Adult
Age -->	0 - <2	2 - <16	16 - 30
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information		Child Cancer Risk (per million)	
			DPM Conc (ug/m3)			Age*
			Year	Annual		Sensitivity Factor
1	1	3-4	2021	0.0015	3	0.1
2	1	4-5	2022	0.0003	3	0.02
Total Increased Cancer Risk						0.1

* Children assumed to be 3 years of age or older

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.0003	0.0011	0.0026
0.0001	0.00004	0.0003

Attachment 5: Community Risk Screening and Calculations



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 conducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.](#)

[Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.](#)

Table A: Requester Contact Information

Date of Request	9/24/2020
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	The Estuary @ Terra
Address	Across from 5030 N 1st Street
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Hotel
Project Size (# of units or building square feet)	215 rooms
Comments:	

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** (see Table B) - true 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

Construction MEI

Distance from Receptor (feet) or MEI ¹	Plant No.	Facility Name	Address	Cancer Risk ²	Hazard Risk ²	PM _{2.5} ²	Source No. ³	Type of Source ⁴	Fuel Code ⁵	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
											0.04	0.01	#VALUE!	#VALUE!
1000	23434	South Bay Development, LLC	4353 N 1st Street	0.31	--	--		Generators		2018 Dataset	0.04	0.01	#VALUE!	#VALUE!
340	20630	Verizon Wireless-Alviso	4701 N 1st Street	1.20	--	--		Generators		2018 Dataset	0.22	0.3	#VALUE!	#VALUE!

Footnotes:

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

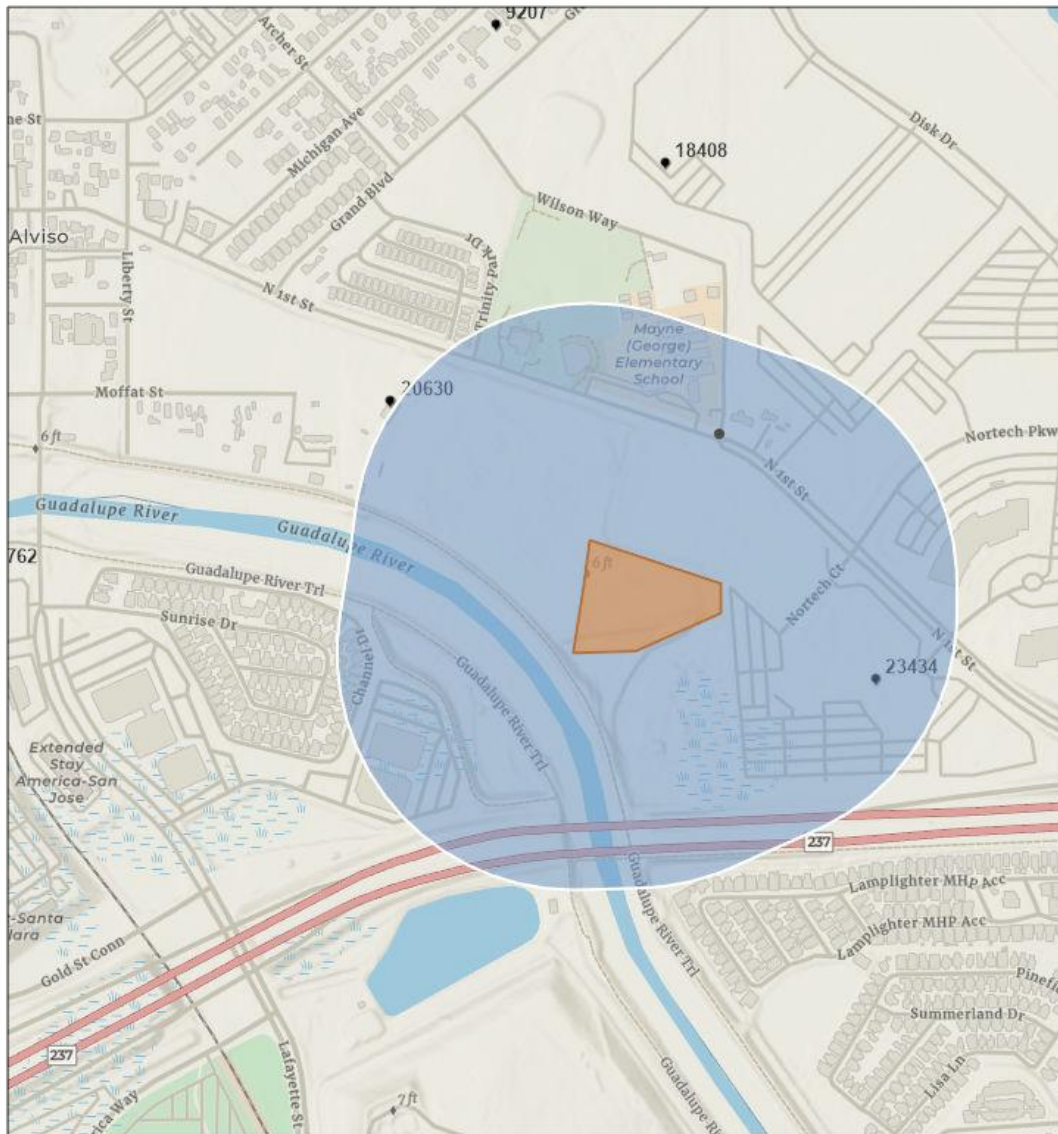


Stationary Source Risk & Hazards Screening Report

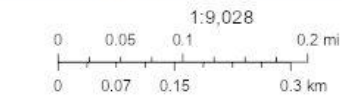
Area of Interest (AOI) Information

Area : 5,181,518.58 ft²

Sep 24 2020 15:44:23 Pacific Daylight Time



● Permitted Facilities 2018



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and

Summary

Name	Count	Area(ft ²)	Length(ft)
Permitted Facilities 2018	1	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	23434	South Bay Development, LLC	4353 N 1st Street	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95134	Santa Clara	0.310	0.000	0.000	Generators	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

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