JEFFERSON UNION HIGH SCHOOL DISTRICT OFFICE AND ADULT EDUCATION PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Daly City, California

March 3, 2021

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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 mixed-use project located at 123 Edgemont Drive in Daly City, California. The air quality impacts and GHG emissions would be associated with the demolition of the existing land uses, construction of the new building and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impact (including construction and operation) and the impacts of existing toxic air contaminant (TAC) sources affecting the nearby existing 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 6.7-acre site is located along Edgemont Drive between Lincoln Avenue and Higate Drive in Daly City. The site currently contains a parking lot, one set of tennis courts, and an approximately 2,300 square foot (sf) sports clubhouse building. The applicant, Jefferson Union High School District (JUHSD), proposes to demolish the existing uses to construct a two-story, approximately 27,000-sf district office building and a two-story, approximately 37,700-sf adult education building. The district office building would be located in the southwest corner of the project site and the adult education building would be located on the eastern portion of the project site. Parking for 295 vehicles serving both the district office and adult education building would be provided in a surface-level parking lot located in the northwest portion of the site.

Setting

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

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter

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

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

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are in the single-family residences surrounding the project site to the west, south, and southeast. There are also students at the nearby Martin Luther King Jr. Educational Center (5 years and older) to the south of the site and the Westmoor High School (14 years and older) to the north of the site. This project would not introduce new sensitive receptors to the area.

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

Regulatory Setting

Federal Regulations

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

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of nitrogen oxides, or NO_X, and particulate matter (PM_{10} 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 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

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

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles[4]. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a

[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.

significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

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

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

Bay Area Air Quality Management District (BAAQMD)

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

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

BAAQMD's Community Air Risk Evaluation (CARE) program addresses communities with higher air pollution levels. The program identifies areas where vulnerable populations are exposed to higher levels, applies the scientific methods and strategies to reduce air pollution health impacts in these areas and engages the community and other agencies to develop additional actions to reduce impacts. BAAQMD has developed maps that show areas with

elevated pollution levels and identified impacted areas. Daly City does not fall under any of these impacted areas.

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.

Daly City 2030 General Plan

The following air resources policies and implementing tasks contained in the Resource Management Element of the Daly City 2030 General Plan[6] are applicable to the proposed project:

> *Policy RME-5:* Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, and relative to state and federal standards.
>
> - Task RME-5.1: Amend the Planning Division's development review procedures to include a formal step that would help identify how a development project can incorporate design or functional changes that will minimize air quality impacts.
>
> - Task RME-5.2: Incorporate air quality significance thresholds into the Local Thresholds of Significance document identified in Program RME-1.
>
> - Task RME-5.3: Consider cumulative air quality impacts consistent with the region's Clean Air Plan and State law.
>
> - Task RME-5.4: Require the preparation of a Transportation Systems Management plan for new development that has been determined to contribute to a reduction in location air quality. Daly City 2030 General Plan | Resource Management Element 193

[5] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)
[6] Daly City, 2013. *Daly City 2030 General Plan*. Adopted March 25, 2013.

- Task RME-5.5: 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. type, size and operations of the facility.

Policy RME-6: Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, and relative to state and federal standards.

- Task RME-6.1: For new, expanded, or modified development proposals (including tenant improvements) that are potential sources of objectionable smoke and odor, require an analysis of possible smoke and odor impacts and the provision of smoke and odor minimization and control measures as mitigation. The requirements for such shall be codified within the Daly City Municipal Code.

Task RME-6.2: Require new residential development projects and projects categorized as sensitive receptors to be located an adequate distance from facilities that are existing and potential sources of odor. An adequate separate distance will be determined based upon the type, size and operations of the facility.

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, which were used in this analysis and are summarized in Table 1. Impacts above the threshold are considered potentially significant.

Table 1. BAAQMD CEQA 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	None	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$	
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) *		

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

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

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: 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*.[7] 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 construction and operational emissions below the BAAQMD thresholds (see Impact 2 below) and 2) the project would be considered urban infill.

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 O_3 and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

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

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

to CalEEMod. The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[8] 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 project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Government Office Building	27.27	1,000-sf	27,266	6.7
Junior College (2Yr)	37.69	1,000-sf	37,690	
Parking Lot	295	Parking Spaces	118,000	

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 CalEEMod defaults for a project of this type and size that was then approved by the project applicant.

The construction equipment worksheet approved 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 January 2022, project construction would be five-days a week, and the project would be built out over a period of approximately 15 months, or 303 construction workdays. The earliest year of full operation was assumed to be 2024.

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

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

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 those were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for demolition and grading were estimated from the estimated demolition and grading volumes and assuming each truck could carry 10 tons per load. The number of concrete and asphalt total haul trips were estimated based on the building and pavement square footages and converted to total one-way trips, assuming two trips per round-trip 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 LDT1and 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 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 emissions in San Mateo County for the years 2022 - 2023 were used in these calculations. Table 3 provides the traffic inputs that were combined with the EMFAC2017 emission database to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	62.6% LDA 8.8% LDT1 28.5% LDT2	77.2% MHDT 22.8% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Demolition	260	-	10	2,300-sf of existing building demolition. CalEEMod default worker trips.
Site Preparation	40	-	-	CalEEMod default worker trips.
Grading	80	-	125	500-cy soil import and export. CalEEMod default worker trips.
Trenching	20	-	-	CalEEMod default worker trips.
Building Construction	17,020	6,900	222	Estimated 31,000-sf cement. CalEEMod default worker and vendor trips.
Architectural Coating	270	-	-	CalEEMod default worker trips.
Paving	234	-	200	Estimated 82,000-sf asphalt CalEEMod default worker trips.

Notes: [1] Based on 2022-2023 EMFAC2017 light-duty vehicle fleet mix for San Mateo 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, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 4, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2022	0.23	1.84	0.10	0.08
2023	0.30	0.14	0.01	0.01
Average Daily Construction Emissions Per Year (pounds/day)				
2022 (259 construction workdays)	1.77	14.22	0.74	0.64
2023 (44 construction workdays)	13.83	6.36	0.37	0.29
BAAQMD Thresholds (pounds per day)	*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 PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

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

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

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

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 employees and adult students. 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 input to CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation

would be 2024 if construction begins in 2022. Emissions associated with build-out later than 2024 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[9] The project would produce 1,426 net daily trips. The trip generation was provided in units of population which needed to be converted into units of square feet to match the modeling land use types. Therefore, the daily trip generation was calculated by converting the units from population to the known project's square footages and then adjusting the trip generation per land use. The Saturday and Sunday trip rates were adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip types and lengths 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.[10,11] 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.[12]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod

[9] Email correspondence with Kai-ling Kuo, Hexagon Transportation Consultants Inc., February 18, 2021.
[10] 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
[11] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts 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
[12] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E 2008 emissions rate. However, PG&E published in 2020 emissions rates for 2010 through 2018, which showed the emission rate for delivered electricity had been reduced to 206 pounds CO2 per megawatt of electricity delivered in the year 2018.[13] However, this project would use electricity supplied by Peninsula Clean Energy (PCE). PCE purchases carbon-free electricity and partners with PG&E to deliver this electricity over existing power lines that they maintain. PCE provides 100-percent carbon-free energy. However, customers have the option to opt out of the program and purchase electricity from PG&E, which is not carbon free, as described above. This analysis assumes a 10-percent non-participation rate with PCE. Therefore, an electricity emission rate of 136 pounds per of CO_2 per megawatt of electricity delivered was used for this analysis.

Other Inputs

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

Existing Uses

The existing land uses on the project site include a parking lot, tennis courts, and a small building. These uses produces little to no operational and traffic emissions which would not considerably offset emissions from the proposed project. Therefore, the emissions from the existing uses were not considered, nor used to offset proposed project conditions.

Summary of Computed Operational Period Emissions

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

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2024 Project Operational Emissions (*tons/year*)	0.70 tons	0.54 tons	0.93 tons	0.26 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2024 Project Operational Emissions (*lbs./day*)[1]	3.85 lbs.	2.95 lbs.	5.11 lbs.	1.42 lbs.
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

[13] PG&E Website, Climate Change Webpage - 2021. Web: https://www.pgecorp.com/corp_responsibility/reports/2019/en02_climate_change.html

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 and stationary 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 stand-by generators powered by a diesel engine, 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 low (i.e., 1,426 net daily trips)[14] and emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized. Therefore, project traffic was not be considered a local source of substantial TACs or $PM_{2.5}$.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. 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 which includes the project contribution.

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,[15] 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.

[14] Email correspondence with Kai-ling Kuo, Hexagon Transportation Consultants Inc., February 18, 2021.
[15] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines.* December 2016.

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 residences to the west, south, and southeast of the site, as shown in Figure 1. Also modeled were receptors at the Martin Luther King Jr. Educational Center to the south of the site and the Westmoor High School to the north of the site. Residential receptors are assumed to include all receptor groups (i.e., infants, children, and adults) with almost continuous exposure to project emissions. School receptors were assumed to be children ages 5 years and older at the Martin Luther King Jr. Educational Center and 14 years of age and older at the Westmoor High 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 $PM_{2.5}$.[16] This assessment included dispersion modeling to predict the offsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod and EMFAC2017 models provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.0798 tons (160 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 and EMFAC2017 as 0.0188 tons (38 pounds) for the overall construction period. The breakdown of yearly emissions is included in *Attachment 4*.

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

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

analysis of these types of emission activities for CEQA projects.[17] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[18] 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 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 three-year data set (2010, 2012, 2013) of hourly meteorological data from the Fort Funston prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring daily between 8:00 a.m. to 6:00 p.m., when the majority of construction activity would occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2022-2023 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) were used to represent the breathing height of receptors on the first floor of nearby single-family residences and older students at the high school.[19] Receptor heights of 3 feet (1 meter) were used to represent the breathing height of the children at the educational center.

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

[18] 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

[19] 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

Summary of Construction Community Risk Impacts

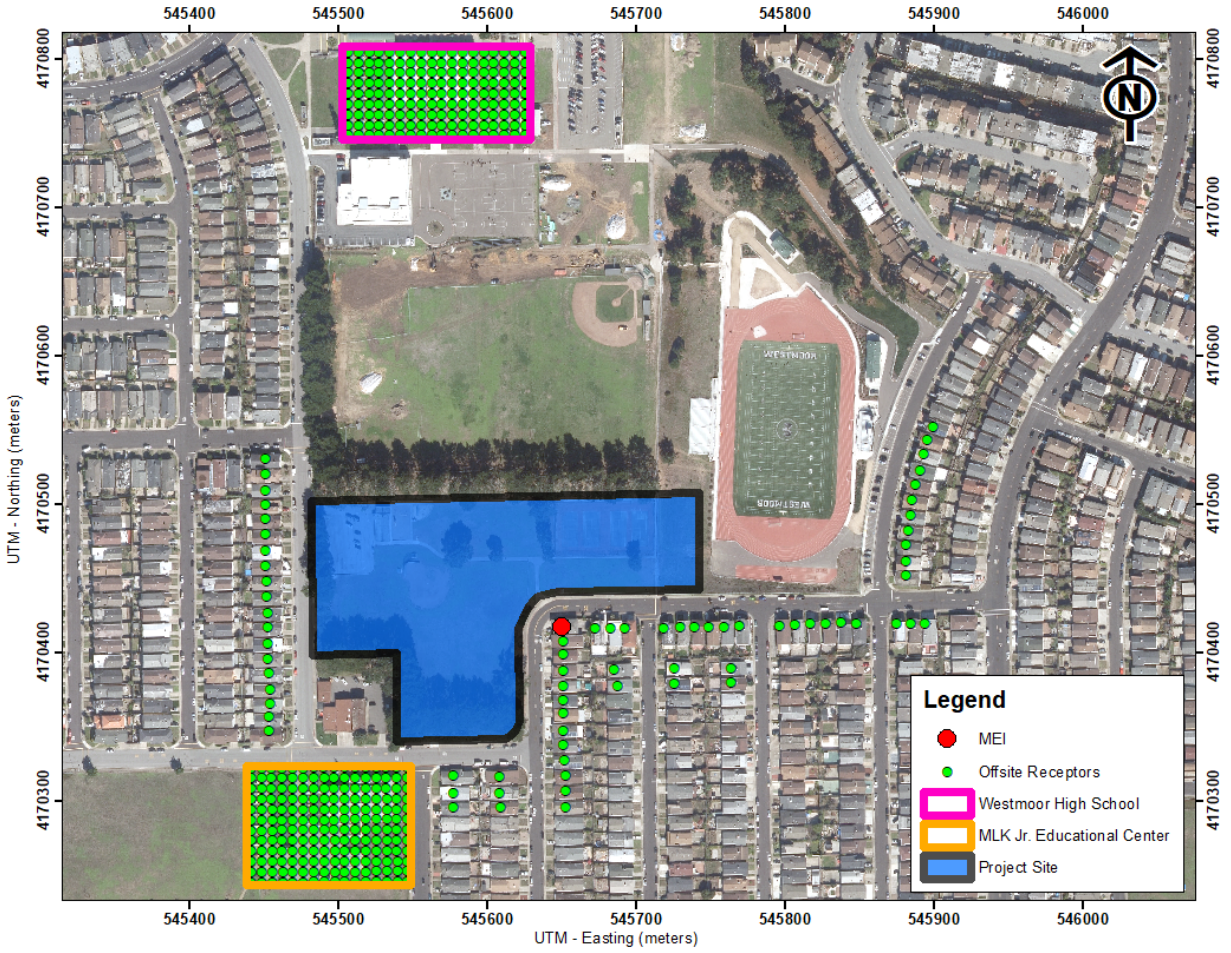
The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer causing TACs. The range of infant through adult exposures were assumed to occur at all residences. Infant exposure at residences was used as a worst-case assumption, while child and adult exposures would be less.

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 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which include both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors to find the MEI. Results indicated that the construction MEI was located on the first floor (5 feet above ground) of the single-family residence to the southeast of the project site opposite Mariposa Avenue. The location of the MEI is shown in Figure 1. Table 6 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby education center and high school. The maximum increased cancer risks were adjusted using child exposure parameters. The uncontrolled cancer risk, $PM_{2.5}$ concentration, and HI at the nearby education center and high school would not exceed their respective BAAQMD single-source significance thresholds, as shown in Table 6.

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



Community Risks from Project Operation – Generator and Traffic

Operation of the project would have long-term emissions from mobile sources (i.e., traffic). Stationary equipment that could emit substantial TACs (e.g., stand-by generators) are not planned. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicles per day is considered a low-impact source of TACs.[20] This project would generate 1,426 net daily trips dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is a fraction of 10,000 daily vehicles. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

[20] 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

Summary of Project-Related Community Risks at the Offs-Site Project MEI

For this project, the sensitive receptors identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to two years of construction cancer risks. The annual $PM_{2.5}$ concentration and HI values are based on an annual maximum risk for the entirety of the project. As shown in Table 6, the unmitigated maximum cancer risks from construction activities at the project MEI location would exceed the BAAQMD single-source significance threshold. However, with the incorporation of the *Mitigation Measure AQ-1 and AQ-2*, the mitigated risk would no longer exceed the BAAQMD single-source significance thresholds.

Table 6. Construction and Operation Risk Impacts at the Off-Site Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impact				
Project Construction	Unmitigated	**24.6 (infant)**	0.18	0.03
	Mitigated*	6.4 (infant)	0.06	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated*	*No*	*No*	*No*
Most Affected Nearby School – Martin Luther King Jr. Educational Center				
Project Construction	Unmitigated	1.5 (child)	0.03	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

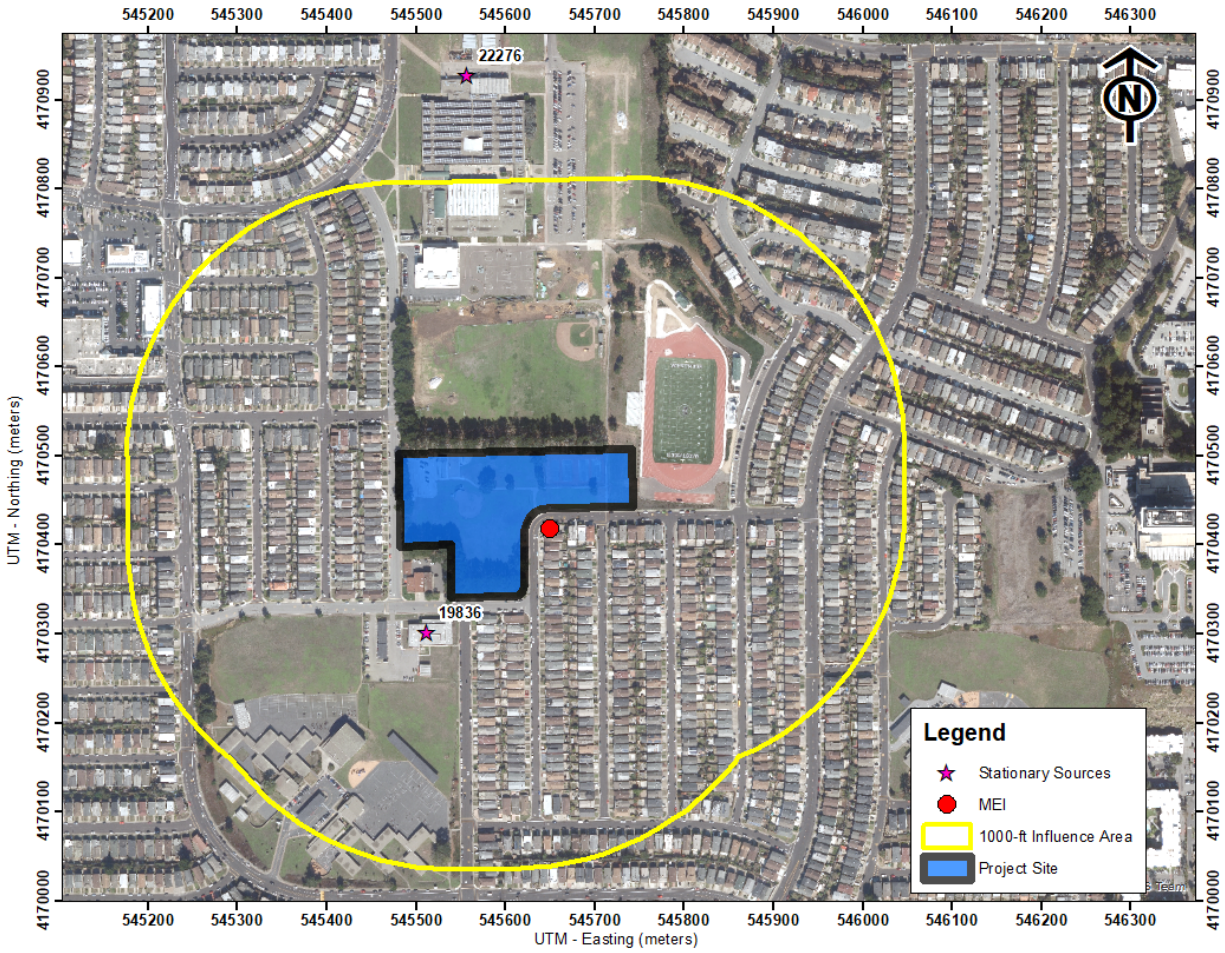
Notes: * Construction equipment with Tier 4 engines as Mitigation Measures.

Cumulative Community Risks of all TAC Sources at the Off-site Project MEIs

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (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 based on provided traffic information indicates that there are no roadways within the influence area that have an average daily traffic (ADT) of over 10,000 vehicles. A review of BAAQMD's stationary source map website identified two stationary sources with the potential to affect the project MEI. Figure 2 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI are reported in Tables 7. Details of the modeling and community risk calculations are included in *Attachment 5*.

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



BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* geographic information system (GIS) map website.[21] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. Two sources were identified using this tool with both the sources being generators. The BAAQMD GIS website provided screening risks and hazards for the source, so a stationary source information request was not required to be submitted to BAAQMD.

The screening risk and hazard levels posted on the GIS website for the stationary source was adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines*. Community risk impacts from the stationary sources upon the MEIs are reported in Table 7.

[21] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Summary of Cumulative Risks at Off-Site Project MEI

Both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e., the MEI) are reported in Table 7. Without mitigation, the project's community risk from project construction activities would exceed the maximum increased cancer risk for a single-source. With the incorporation of *Mitigation Measure AQ-1 and AQ-2*, the mitigated cancer risk would no longer exceed the BAAQMD single-source significance threshold. In addition, the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 7. Impacts from Combined Sources at Off-Site School MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	**24.6 (infant)**	0.18	0.03
	Mitigated	6.4 (infant)	0.06	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Sources				
JUHSD Westmoor High School (Facility ID #22276, Generator), MEI +1,000 feet		<0.01	0.00	0.00
City of Daly City (Facility ID #19836, Generator), MEI 580 feet		0.28	0.00	0.00
Cumulative Total	Unmitigated	24.88 (infant)	0.18	0.03
	Mitigated	6.68 (infant)	0.06	<0.01
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated	*No*	*No*	*No*

Mitigation Measure AQ-2: **Use construction equipment that has low diesel particulate matter exhaust to minimize emissions**

A feasible plan to reduce emissions such that increased cancer risk and annual $PM_{2.5}$ concentrations from construction would be reduced below significance levels is as follows:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for PM (PM_{10} and $PM_{2.5}$), if feasible, otherwise,

    a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 60 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

    b. Use of electrical or non-diesel fueled equipment.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 interim engines standards and BAAQMD best management practices for construction were included. With these implemented, the project's cancer risk levels (assuming infant exposure) and annual $PM_{2.5}$ concentrations would be reduced to 4.3 per million with use of Tier 4 equipment. Assuming a lesser level of mitigation that achieves a 60-percent reduction, increased cancer risks would be reduced to below 10 chances per million. As a result, the project's construction and operational risks would be reduced below the BAAQMD single-source thresholds.

GREENHOUSE GAS EMISSIONS

Setting

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

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

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

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

Recent Regulatory Actions for GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's

GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

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

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

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. [22] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

[22] California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets.* November. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

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

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

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

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

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

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

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

Senate Bill 350 - Renewable Portfolio Standards

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

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[23] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory

[23] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.

statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[24]

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[25] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[26] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[27] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Daly City "Green Vision" Climate Action Plan

The Daly City "Green Vision" Climate Action Plan (CAP)[28] seeks to reduce the City operation's overall carbon footprint through a series of ten goals by the year 2020. The goals cover topics such as reducing solid waste, recycling and reuse of wastewater, preservation of urban forests, adoption of a master pedestrian and bicycle plan, reuse of biosolids, the use of green building standards, and community education. However, the CAP does not have a specific metric ton

[24] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf
[25] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf
[26] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf
[27] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.
[28] Daly City, "Daly City's Green Vision" https://www.dalycity.org/DocumentCenter/View/694/Daly-City-Green-Vision-Final-PDF

GHG threshold for project-level construction or operation. Therefore, the BAAQMD's CEQA Air Quality Guideline's thresholds are used.

BAAQMD GHG Significance Thresholds

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

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels. [29] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold. Evidence published by the State indicates the AB 32 goal of reducing statewide GHG emissions to 1990 levels was met prior to 2020. Current State plans are to further reduce emissions to 40% below 1990 levels by 2030. Assuming statewide emissions are at 1990 levels or lower in 2020, it would be logical to reduce the BAAQMD-recommended threshold for meeting the AB 32 threshold by 40% to develop a threshold for 2030.

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

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

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Service Population

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

The project service population efficiency rate is based on the number of future adult students and full-time employees. For this project, the number of future adult students and full time employees was provided by the client. The total service population of 744 was used to calculate the per capita emissions.

Construction Emissions

GHG emissions associated with construction were computed at 398 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 9, the annual emissions resulting from operation of the proposed project are predicted to be 1,025 MT of CO_2e in 2024 and 953 MT of CO_{2e} in 2030. The service population emissions for the years 2024 and 2030 are predicted to be 1.4 and 1.3 MT/CO_{2e}/year/service population, respectively.

To be considered an exceedance of the threshold, the project emissions must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. As shown in Table 9, the project would not exceed the per service population threshold of 2.8 MT of CO_2e/year/service population in 2024 and 2030. Therefore, the project would not be in exceedance for GHG emissions.

Table 9. Annual Project GHG Emissions (CO_2e) in Metric Tons and Per Capita

Source Category	Proposed Project	
	2024	**2030**
Area	0.01	0.01
Energy Consumption	151	151
Mobile	823	751
Solid Waste Generation	37	37
Water Usage	14	14
Total	**1,025 MT CO_{2e}/year**	**953 MT CO_{2e}/year**
Significance Threshold		***660 MT CO_2e/year***
Service Population Emissions (MT CO_{2e}/year/service population)	1.4	1.3
Significance Threshold		***2.8 in 2030***
Exceeds both thresholds?		*No*

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan nor would the project conflict with SB 100 goals. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards.

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 construction health risk assessment. AERMOD dispersion modeling files for this assessment, 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 project site and project 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.[30] 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.[31] 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.[32] 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,

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[30] 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.

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

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

expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 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:

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

Where:

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

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

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-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 →	3rd 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) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th 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 ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: JUHSD Office/Adult Ed

See Equipment Type TAB for type, horsepower and load factor

Complete ALL Portions in Yellow

Project Size ____ Dwelling Units ____ total project acres disturbed

____ s.f. residential

____ s.f. retail

27,266 s.f. government office building

37,690 s.f. Adult education - Junior College

____ s.f. parking garage ____ spaces

____ s.f. parking lot 295 spaces

Construction Hours ____ am to ____ pm

Pile Driving? Y/N?

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

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**1/4/2022**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**1/31/2022**					
1	Concrete/Industrial Saws	81	0.73	8	20	8	160	**Demolition Volume**
	Excavators	158	0.38			0	0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	20	8	160	(*or* total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37	8	20	8	480	**2300** square feet *or*
								? Hauling volume (tons)
								Any pavement demolished and hauled? **?** **tons**
	Site Preparation	**Start Date:**	**2/1/2022**	**Total phase:**	**5**			
		End Date:	**2/7/2022**					
1	Graders	187	0.41	8	5	8	40	
1	Rubber Tired Dozers	247	0.4	7	5	7	35	
1	Tractors/Loaders/Backhoes	97	0.37	8	5	8	40	
	Grading / Excavation	**Start Date:**	**2/8/2022**	**Total phase:**	**8**			
		End Date:	**2/17/2022**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	8	8	64	Export volume = **500** cubic yards?
1	Graders	187	0.41	6	8	6	48	Import volume = **500** cubic yards?
1	Rubber Tired Dozers	247	0.4	6	8	6	48	
	Concrete/Industrial Saws	81	0.73			0	0	
1	Tractors/Loaders/Backhoes	97	0.37	7	8	7	56	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**2/18/2022**	**Total phase:**	**4**			
		End Date:	**2/23/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	4	8	32	
1	Excavators	158	0.38	8	4	8	32	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**2/24/2022**	**Total phase:**	**230**			**Cement Trucks? 111 Total Round-Trips**
		End Date:	**1/11/2023**					
1	Cranes	231	0.29	6	230	6	1380	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	6	230	6	1380	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	230	8	1840	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	6	230	6	1380	
3	Welders	46	0.45	8	230	8	5520	
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**2/7/2023**	**Total phase:**	**18**			
		End Date:	**3/2/2023**					
1	Air Compressors	78	0.48	6	18	6	108	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**1/12/2023**	**Total phase:**	**18**			
		Start Date:	**2/6/2023**					
1	Cement and Mortar Mixers	9	0.56	6	18	6	108	
1	Pavers	130	0.42	6	18	6	108	**Asphalt? ___ cubic yards or __100__ round trips?**
1	Paving Equipment	132	0.36	8	18	8	144	
1	Rollers	80	0.38	7	18	7	126	
1	Tractors/Loaders/Backhoes	97	0.37	8	18	8	144	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

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

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Traffic Consultant Trip Gen						CalEEMod Default		
Land Use	Units	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
District Office	SF	27.27	390	390	***14.29***	68.93	0	0
Adjusted trip gen from employees to SF						*Rev*	***0.00***	***0.00***
Adult Ed	SF	37.69	1036	1036	***27.43***	1.23	0.42	0.04
Adjusted trip gen from faculty and students to SF						*Rev*	***9.37***	***0.89***

		Daily		AM Peak Hour				PM Peak Hour			
		Trip		Trip	Trips			Trip	Trips		
Land Use	Size	Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
District Employees[1]	77 employees	5.06	390	0.83	49	15	64	0.72	9	46	55
Adult Education Program Faculty[2]	8 AM classes	2	16	1	8	0	8				
	10 PM classes	2	20					1	5	5	10
Adult Education Program Students[3]	368 AM students	1.54	567	0.77	283	0	283				
	281 PM students	1.54	433					0.77	216	0	216
Total Project Trips			**1,426**		**340**	**15**	**355**		**230**	**51**	**281**

Notes:

1. Trip rates (trips per employee) based on the ITE Trip Generation Manual, 10th Edition, for School District Office (Land Use 538).
2. It was assumed each class would generate one AM peak-hour inbound trip by instructors, and a half of the instructors would leave and return to the site for the evening classes during the PM peak hour.
3. The trip rate is calculated based on 90 percent of students attending the classes and about 15 percent of students carpooling or using transportations modes other than driving to access the site.

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2022	0.21	1.66	0.08	0.07	241.19	
2023	0.30	0.11	0.01	0.01	20.28	
EMFAC						
2022	0.019	0.185	0.017	0.008	117.95	
2023	0.003	0.025	0.003	0.001	19.20	
Total Construction Emissions by Year						
2022	0.23	1.84	0.10	0.08	359.14	
2023	0.30	0.14	0.01	0.01	39.48	
	Total Construction Emissions					
Tons	0.53	1.98	0.10	0.09	398.62	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2022	1.77	14.22	0.74	0.64		**259**
2023	13.83	6.36	0.37	0.29		**44**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	15.60	20.58	1.11	0.93	0.00	
Average	3.52	13.08	0.68	0.59	0.00	303.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Operational Criteria Air Pollutants						
Unmitigated	ROG	NOX	Total PM10	Total PM2.5		
Year	Tons					
Total	0.70	0.54	0.93	0.26		
	Existing Use Emissions					
Total	0.00	0.00	0.00	0.00		
	Net Annual Operational Emissions					
Tons/year	0.70	0.54	0.93	0.26		
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**		
	Average Daily Emissions					
Pounds Per Day	3.85	2.95	5.11	1.42		
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Area	0.01	0.00	0.01	0.00
Energy	151.23	0.00	151.23	0.00
Mobile	823.33	0.00	751.26	0.00
Waste	37.40	0.00	37.40	0.00
Water	13.73	0.00	13.73	0.00
TOTAL	1025.68	0.00	953.62	0.00
Net GHG Emissions		1025.68		953.62
Service Population	744.00			
Per Capita Emissions		1.38		1.28

JUHSD Office/Adult Education Facilities, Daly City

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	27.27	1000sqft	3.35	27,266.00	0
Junior College (2Yr)	37.69	1000sqft	3.35	37,690.00	0
Parking Lot	295.00	Space	0.00	118,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	136	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor = 10% PG&E 2018 + 90% PCE 2018 = 136

Land Use - Email Proj Description land uses, parking lot from PD, acreage from PD

Construction Phase - Construction schedule follows number of days stated in PD document. Added trenching from construction spreadsheet.

Off-road Equipment -

Off-road Equipment - Equipment and hours from construction spreadsheet

Off-road Equipment - Default construction

Off-road Equipment - Equipment and hours provided on construction spreadsheet

Off-road Equipment - Equipment and hours from construction spreadsheet

Off-road Equipment - Equipment and hours follows construction spreadsheet

Off-road Equipment - Trenching added. Equipment and hours from construction spreadsheet

Trips and VMT - Trips 0 and entered into EMFAC spreadsheet, assuming 25,000-sf concrete and 90,000-sf asphalt

Demolition - 2,300 exiting buidling dmeo, Square footage from Google Earth

Grading - Acreage provided in PD, assume 500 cy import & export

Architectural Coating - Non-residential interior square footage provided by client

Vehicle Trips - Trip gen provided by traffic adjusted to SF

Construction Off-road Equipment Mitigation - All construction equipment T4i

Vehicle Emission Factors - EF updated to EMFAC 2024

Energy Use - EMFAC

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	97,434.00	64,956.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	5.00
tblFleetMix	HHD	6.6180e-003	6.1801e-003
tblFleetMix	HHD	6.6180e-003	6.1801e-003
tblFleetMix	HHD	6.6180e-003	6.1801e-003
tblFleetMix	LDA	0.47	0.47
tblFleetMix	LDA	0.47	0.47
tblFleetMix	LDA	0.47	0.47
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03

tblFleetMix	LHD2	7.1130e-003	7.0621e-003
tblFleetMix	LHD2	7.1130e-003	7.0621e-003
tblFleetMix	LHD2	7.1130e-003	7.0621e-003
tblFleetMix	MCY	9.2350e-003	0.01
tblFleetMix	MCY	9.2350e-003	0.01
tblFleetMix	MCY	9.2350e-003	0.01
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MH	8.0800e-004	8.7394e-004
tblFleetMix	MH	8.0800e-004	8.7394e-004
tblFleetMix	MH	8.0800e-004	8.7394e-004
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	4.2590e-003	3.1903e-003
tblFleetMix	OBUS	4.2590e-003	3.1903e-003
tblFleetMix	OBUS	4.2590e-003	3.1903e-003
tblFleetMix	SBUS	5.0500e-004	5.5132e-004
tblFleetMix	SBUS	5.0500e-004	5.5132e-004
tblFleetMix	SBUS	5.0500e-004	5.5132e-004
tblFleetMix	UBUS	3.0670e-003	1.4819e-003
tblFleetMix	UBUS	3.0670e-003	1.4819e-003
tblFleetMix	UBUS	3.0670e-003	1.4819e-003
tblGrading	MaterialExported	0.00	500.00
tblGrading	MaterialImported	0.00	500.00
tblLandUse	BuildingSpaceSquareFeet	27,270.00	27,266.00
tblLandUse	LandUseSquareFeet	27,270.00	27,266.00
tblLandUse	LotAcreage	0.63	3.35
tblLandUse	LotAcreage	0.87	3.35

tblLandUse	LotAcreage	2.65	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	136
tblProjectCharacteristics	OperationalYear	2018	2024
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	HaulingTripNumber	125.00	0.00
tblTripsAndVMT	VendorTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	74.00	0.00

tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleEF	HHD	0.17	0.03
tblVehicleEF	HHD	0.26	0.17
tblVehicleEF	HHD	0.06	3.0000e-006
tblVehicleEF	HHD	1.39	5.25
tblVehicleEF	HHD	2.80	0.93
tblVehicleEF	HHD	10.84	0.03
tblVehicleEF	HHD	2,846.00	944.14
tblVehicleEF	HHD	1,765.86	1,618.63
tblVehicleEF	HHD	33.95	0.26
tblVehicleEF	HHD	13.68	5.30
tblVehicleEF	HHD	2.63	3.11
tblVehicleEF	HHD	16.32	2.39
tblVehicleEF	HHD	0.02	3.9570e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	7.2560e-003	0.02
tblVehicleEF	HHD	3.4700e-004	2.0000e-006
tblVehicleEF	HHD	0.02	3.7860e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4880e-003	8.7110e-003
tblVehicleEF	HHD	6.9400e-003	0.02
tblVehicleEF	HHD	3.1900e-004	2.0000e-006
tblVehicleEF	HHD	1.7700e-004	4.0000e-006
tblVehicleEF	HHD	0.01	1.8800e-004
tblVehicleEF	HHD	0.32	0.36
tblVehicleEF	HHD	1.3200e-004	3.0000e-006
tblVehicleEF	HHD	0.10	0.03
tblVehicleEF	HHD	1.4560e-003	8.8700e-004

tblVehicleEF	HHD	0.22	1.4000e-005
tblVehicleEF	HHD	0.02	8.4280e-003
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	5.1600e-004	3.0000e-006
tblVehicleEF	HHD	1.7700e-004	4.0000e-006
tblVehicleEF	HHD	0.01	1.8800e-004
tblVehicleEF	HHD	0.39	0.42
tblVehicleEF	HHD	1.3200e-004	3.0000e-006
tblVehicleEF	HHD	0.37	0.21
tblVehicleEF	HHD	1.4560e-003	8.8700e-004
tblVehicleEF	HHD	0.24	1.5000e-005
tblVehicleEF	LDA	2.8340e-003	1.5500e-003
tblVehicleEF	LDA	4.3930e-003	0.04
tblVehicleEF	LDA	0.42	0.49
tblVehicleEF	LDA	1.02	2.12
tblVehicleEF	LDA	217.10	235.88
tblVehicleEF	LDA	51.97	50.27
tblVehicleEF	LDA	0.04	0.03
tblVehicleEF	LDA	0.06	0.16
tblVehicleEF	LDA	1.5910e-003	1.2560e-003
tblVehicleEF	LDA	2.2220e-003	1.6730e-003
tblVehicleEF	LDA	1.4650e-003	1.1570e-003
tblVehicleEF	LDA	2.0430e-003	1.5380e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.09	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	7.1290e-003	5.8900e-003
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.06	0.19
tblVehicleEF	LDA	2.1730e-003	9.9000e-005

tblVehicleEF	LDA	5.3700e-004	0.00
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.09	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.01	8.5630e-003
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.06	0.21
tblVehicleEF	LDT1	4.3970e-003	2.4400e-003
tblVehicleEF	LDT1	6.5760e-003	0.05
tblVehicleEF	LDT1	0.62	0.65
tblVehicleEF	LDT1	1.50	2.22
tblVehicleEF	LDT1	269.07	277.00
tblVehicleEF	LDT1	63.27	59.09
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.08	0.18
tblVehicleEF	LDT1	1.8520e-003	1.5220e-003
tblVehicleEF	LDT1	2.6430e-003	1.9900e-003
tblVehicleEF	LDT1	1.7040e-003	1.4000e-003
tblVehicleEF	LDT1	2.4300e-003	1.8300e-003
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.12	0.10
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.01	0.01
tblVehicleEF	LDT1	0.11	0.39
tblVehicleEF	LDT1	0.09	0.22
tblVehicleEF	LDT1	2.6960e-003	2.5280e-003
tblVehicleEF	LDT1	6.5800e-004	0.00
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.12	0.10
tblVehicleEF	LDT1	0.04	0.04

tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	0.11	0.39
tblVehicleEF	LDT1	0.10	0.24
tblVehicleEF	LDT2	3.7090e-003	2.1380e-003
tblVehicleEF	LDT2	4.4920e-003	0.05
tblVehicleEF	LDT2	0.53	0.59
tblVehicleEF	LDT2	1.09	2.62
tblVehicleEF	LDT2	308.37	291.04
tblVehicleEF	LDT2	71.91	62.56
tblVehicleEF	LDT2	0.05	0.04
tblVehicleEF	LDT2	0.07	0.21
tblVehicleEF	LDT2	1.6790e-003	1.3620e-003
tblVehicleEF	LDT2	2.3810e-003	1.7390e-003
tblVehicleEF	LDT2	1.5440e-003	1.2530e-003
tblVehicleEF	LDT2	2.1900e-003	1.5990e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	9.2040e-003	8.2800e-003
tblVehicleEF	LDT2	0.06	0.30
tblVehicleEF	LDT2	0.06	0.24
tblVehicleEF	LDT2	3.0870e-003	0.01
tblVehicleEF	LDT2	7.3700e-004	9.8000e-005
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.30
tblVehicleEF	LDT2	0.07	0.26
tblVehicleEF	LHD1	4.6910e-003	4.8690e-003

tblVehicleEF	LHD1	0.01	6.2330e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.74	0.54
tblVehicleEF	LHD1	2.07	1.00
tblVehicleEF	LHD1	8.98	8.66
tblVehicleEF	LHD1	662.93	766.61
tblVehicleEF	LHD1	29.49	11.40
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.65	0.39
tblVehicleEF	LHD1	0.79	0.27
tblVehicleEF	LHD1	8.7900e-004	8.3600e-004
tblVehicleEF	LHD1	0.01	9.7710e-003
tblVehicleEF	LHD1	0.01	7.3860e-003
tblVehicleEF	LHD1	7.7300e-004	2.3100e-004
tblVehicleEF	LHD1	8.4100e-004	8.0000e-004
tblVehicleEF	LHD1	2.5690e-003	2.4430e-003
tblVehicleEF	LHD1	0.01	7.0200e-003
tblVehicleEF	LHD1	7.1100e-004	2.1200e-004
tblVehicleEF	LHD1	1.5650e-003	1.1350e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0000e-003	7.2100e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.26	0.35
tblVehicleEF	LHD1	0.19	0.06
tblVehicleEF	LHD1	9.0000e-005	8.4000e-005
tblVehicleEF	LHD1	6.4900e-003	7.4860e-003
tblVehicleEF	LHD1	3.3300e-004	1.1300e-004
tblVehicleEF	LHD1	1.5650e-003	1.1350e-003

tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.0000e-003	7.2100e-004
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.26	0.35
tblVehicleEF	LHD1	0.21	0.06
tblVehicleEF	LHD2	3.1330e-003	3.0260e-003
tblVehicleEF	LHD2	6.1020e-003	5.6680e-003
tblVehicleEF	LHD2	4.8830e-003	6.5810e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.45	0.47
tblVehicleEF	LHD2	1.04	0.59
tblVehicleEF	LHD2	13.77	13.42
tblVehicleEF	LHD2	693.82	742.79
tblVehicleEF	LHD2	23.62	7.75
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.35	0.43
tblVehicleEF	LHD2	0.36	0.16
tblVehicleEF	LHD2	1.1800e-003	1.3960e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8700e-004	1.2500e-004
tblVehicleEF	LHD2	1.1290e-003	1.3360e-003
tblVehicleEF	LHD2	2.6940e-003	2.6840e-003
tblVehicleEF	LHD2	9.7950e-003	0.01
tblVehicleEF	LHD2	3.5600e-004	1.1500e-004
tblVehicleEF	LHD2	4.6400e-004	6.1800e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.1400e-004	3.9800e-004

tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.05	0.19
tblVehicleEF	LHD2	0.07	0.03
tblVehicleEF	LHD2	1.3400e-004	1.2800e-004
tblVehicleEF	LHD2	6.7460e-003	7.1760e-003
tblVehicleEF	LHD2	2.5400e-004	7.7000e-005
tblVehicleEF	LHD2	4.6400e-004	6.1800e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.1400e-004	3.9800e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.05	0.19
tblVehicleEF	LHD2	0.07	0.04
tblVehicleEF	MCY	0.46	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	18.27	18.49
tblVehicleEF	MCY	10.42	9.24
tblVehicleEF	MCY	173.08	212.87
tblVehicleEF	MCY	43.17	60.07
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1120e-003	2.1340e-003
tblVehicleEF	MCY	3.5460e-003	3.1040e-003
tblVehicleEF	MCY	1.9710e-003	1.9920e-003
tblVehicleEF	MCY	3.3250e-003	2.9110e-003
tblVehicleEF	MCY	0.59	1.21
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	0.35	0.72
tblVehicleEF	MCY	2.16	2.18
tblVehicleEF	MCY	0.44	1.78

tblVehicleEF	MCY	2.17	1.94
tblVehicleEF	MCY	2.0940e-003	2.1060e-003
tblVehicleEF	MCY	6.6600e-004	5.9400e-004
tblVehicleEF	MCY	0.59	1.21
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	0.35	0.72
tblVehicleEF	MCY	2.71	2.72
tblVehicleEF	MCY	0.44	1.78
tblVehicleEF	MCY	2.36	2.11
tblVehicleEF	MDV	5.5560e-003	2.2040e-003
tblVehicleEF	MDV	8.9670e-003	0.06
tblVehicleEF	MDV	0.69	0.59
tblVehicleEF	MDV	1.77	2.76
tblVehicleEF	MDV	407.76	349.77
tblVehicleEF	MDV	93.74	74.18
tblVehicleEF	MDV	0.08	0.04
tblVehicleEF	MDV	0.14	0.23
tblVehicleEF	MDV	1.7240e-003	1.3900e-003
tblVehicleEF	MDV	2.3920e-003	1.7680e-003
tblVehicleEF	MDV	1.5880e-003	1.2820e-003
tblVehicleEF	MDV	2.2000e-003	1.6260e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.11	0.08
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.01	8.7610e-003
tblVehicleEF	MDV	0.09	0.30
tblVehicleEF	MDV	0.12	0.27
tblVehicleEF	MDV	4.0770e-003	3.3860e-003
tblVehicleEF	MDV	9.6800e-004	7.1900e-004
tblVehicleEF	MDV	0.03	0.04

tblVehicleEF	MDV	0.11	0.08
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.09	0.30
tblVehicleEF	MDV	0.13	0.30
tblVehicleEF	MH	0.01	6.1010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.78	0.49
tblVehicleEF	MH	4.09	1.85
tblVehicleEF	MH	1,188.16	1,447.76
tblVehicleEF	MH	56.77	17.04
tblVehicleEF	MH	0.84	0.95
tblVehicleEF	MH	0.61	0.23
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.3300e-004	2.4900e-004
tblVehicleEF	MH	3.2240e-003	3.2780e-003
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.5800e-004	2.2900e-004
tblVehicleEF	MH	0.31	0.28
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.14	0.12
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.01	0.65
tblVehicleEF	MH	0.23	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3800e-004	1.6900e-004
tblVehicleEF	MH	0.31	0.28
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.14	0.12

tblVehicleEF	MH	0.06	0.05
tblVehicleEF	MH	0.01	0.65
tblVehicleEF	MH	0.25	0.09
tblVehicleEF	MHD	0.02	3.9480e-003
tblVehicleEF	MHD	3.5600e-003	1.6080e-003
tblVehicleEF	MHD	0.04	9.9120e-003
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.30	0.22
tblVehicleEF	MHD	4.95	1.12
tblVehicleEF	MHD	134.76	63.54
tblVehicleEF	MHD	1,179.85	1,063.89
tblVehicleEF	MHD	59.49	9.92
tblVehicleEF	MHD	0.36	0.35
tblVehicleEF	MHD	1.03	1.29
tblVehicleEF	MHD	10.29	1.65
tblVehicleEF	MHD	8.5000e-005	2.8000e-004
tblVehicleEF	MHD	2.9330e-003	6.1520e-003
tblVehicleEF	MHD	8.5400e-004	1.2100e-004
tblVehicleEF	MHD	8.1000e-005	2.6800e-004
tblVehicleEF	MHD	2.8000e-003	5.8790e-003
tblVehicleEF	MHD	7.8500e-004	1.1200e-004
tblVehicleEF	MHD	5.5400e-004	2.8800e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.6300e-004	1.8700e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.29	0.05
tblVehicleEF	MHD	1.2980e-003	6.0300e-004
tblVehicleEF	MHD	0.01	0.01

tblVehicleEF	MHD	6.8100e-004	9.8000e-005
tblVehicleEF	MHD	5.5400e-004	2.8800e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.6300e-004	1.8700e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.32	0.06
tblVehicleEF	OBUS	0.01	6.6710e-003
tblVehicleEF	OBUS	4.9240e-003	2.8040e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.24	0.61
tblVehicleEF	OBUS	0.36	0.34
tblVehicleEF	OBUS	4.42	1.52
tblVehicleEF	OBUS	119.43	102.35
tblVehicleEF	OBUS	1,291.73	1,307.86
tblVehicleEF	OBUS	64.61	13.17
tblVehicleEF	OBUS	0.26	0.43
tblVehicleEF	OBUS	0.93	1.48
tblVehicleEF	OBUS	3.04	1.21
tblVehicleEF	OBUS	2.4000e-005	1.3800e-004
tblVehicleEF	OBUS	2.8670e-003	7.5690e-003
tblVehicleEF	OBUS	8.7500e-004	1.4400e-004
tblVehicleEF	OBUS	2.3000e-005	1.3200e-004
tblVehicleEF	OBUS	2.7230e-003	7.2290e-003
tblVehicleEF	OBUS	8.0400e-004	1.3200e-004
tblVehicleEF	OBUS	7.6700e-004	7.8300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	4.0900e-004	4.0400e-004

tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.02	0.14
tblVehicleEF	OBUS	0.27	0.07
tblVehicleEF	OBUS	1.1510e-003	9.7100e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2300e-004	1.3000e-004
tblVehicleEF	OBUS	7.6700e-004	7.8300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	4.0900e-004	4.0400e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.02	0.14
tblVehicleEF	OBUS	0.30	0.08
tblVehicleEF	SBUS	0.84	0.10
tblVehicleEF	SBUS	0.01	9.3480e-003
tblVehicleEF	SBUS	0.06	9.5380e-003
tblVehicleEF	SBUS	12.82	3.67
tblVehicleEF	SBUS	0.82	0.86
tblVehicleEF	SBUS	12.18	1.46
tblVehicleEF	SBUS	847.40	365.45
tblVehicleEF	SBUS	857.26	990.47
tblVehicleEF	SBUS	88.18	7.49
tblVehicleEF	SBUS	4.05	3.26
tblVehicleEF	SBUS	1.91	4.48
tblVehicleEF	SBUS	6.49	0.70
tblVehicleEF	SBUS	3.5340e-003	3.8180e-003
tblVehicleEF	SBUS	9.3400e-003	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	1.6920e-003	1.1800e-004
tblVehicleEF	SBUS	3.3820e-003	3.6530e-003

tblVehicleEF	SBUS	2.3350e-003	2.5480e-003
tblVehicleEF	SBUS	9.9510e-003	0.02
tblVehicleEF	SBUS	1.5560e-003	1.0800e-004
tblVehicleEF	SBUS	2.7680e-003	6.1300e-004
tblVehicleEF	SBUS	0.03	7.7700e-003
tblVehicleEF	SBUS	1.54	0.44
tblVehicleEF	SBUS	1.4670e-003	2.9600e-004
tblVehicleEF	SBUS	0.07	0.10
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.60	0.05
tblVehicleEF	SBUS	8.5390e-003	3.4950e-003
tblVehicleEF	SBUS	8.3790e-003	9.5210e-003
tblVehicleEF	SBUS	1.0910e-003	7.4000e-005
tblVehicleEF	SBUS	2.7680e-003	6.1300e-004
tblVehicleEF	SBUS	0.03	7.7700e-003
tblVehicleEF	SBUS	2.24	0.64
tblVehicleEF	SBUS	1.4670e-003	2.9600e-004
tblVehicleEF	SBUS	0.09	0.12
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.66	0.06
tblVehicleEF	UBUS	0.27	1.52
tblVehicleEF	UBUS	0.04	0.01
tblVehicleEF	UBUS	3.76	11.42
tblVehicleEF	UBUS	7.05	0.83
tblVehicleEF	UBUS	2,036.86	1,603.68
tblVehicleEF	UBUS	100.71	9.21
tblVehicleEF	UBUS	6.35	0.69
tblVehicleEF	UBUS	14.70	0.10
tblVehicleEF	UBUS	0.60	0.08
tblVehicleEF	UBUS	0.01	0.03

tblVehicleEF	UBUS	0.12	4.9940e-003
tblVehicleEF	UBUS	1.0950e-003	5.3000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.8010e-003
tblVehicleEF	UBUS	0.11	4.7760e-003
tblVehicleEF	UBUS	1.0070e-003	4.9000e-005
tblVehicleEF	UBUS	1.5390e-003	5.3200e-004
tblVehicleEF	UBUS	0.03	9.6610e-003
tblVehicleEF	UBUS	9.7100e-004	4.1000e-004
tblVehicleEF	UBUS	0.34	0.02
tblVehicleEF	UBUS	8.1300e-003	0.07
tblVehicleEF	UBUS	0.54	0.06
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.1340e-003	9.1000e-005
tblVehicleEF	UBUS	1.5390e-003	5.3200e-004
tblVehicleEF	UBUS	0.03	9.6610e-003
tblVehicleEF	UBUS	9.7100e-004	4.1000e-004
tblVehicleEF	UBUS	0.65	1.55
tblVehicleEF	UBUS	8.1300e-003	0.07
tblVehicleEF	UBUS	0.59	0.07
tblVehicleTrips	ST_TR	11.23	9.37
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	68.93	14.29
tblVehicleTrips	WD_TR	27.49	27.43

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2102	1.6557	1.6482	2.8900e-003	0.0353	0.0779	0.1133	0.0177	0.0748	0.0925	0.0000	240.0375	240.0375	0.0461	0.0000	241.1901
2023	0.3017	0.1147	0.1460	2.4000e-004	0.0000	5.4700e-003	5.4700e-003	0.0000	5.1900e-003	5.1900e-003	0.0000	20.1571	20.1571	4.7300e-003	0.0000	20.2753
Maximum	**0.3017**	**1.6557**	**1.6482**	**2.8900e-003**	**0.0353**	**0.0779**	**0.1133**	**0.0177**	**0.0748**	**0.0925**	**0.0000**	**240.0375**	**240.0375**	**0.0461**	**0.0000**	**241.1901**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0522	1.2644	1.7779	2.8900e-003	0.0159	0.0192	0.0351	7.9500e-003	0.0192	0.0271	0.0000	240.0372	240.0372	0.0461	0.0000	241.1898
2023	0.2921	0.1009	0.1591	2.4000e-004	0.0000	8.7000e-004	8.7000e-004	0.0000	8.7000e-004	8.7000e-004	0.0000	20.1571	20.1571	4.7300e-003	0.0000	20.2753
Maximum	**0.2921**	**1.2644**	**1.7779**	**2.8900e-003**	**0.0159**	**0.0192**	**0.0351**	**7.9500e-003**	**0.0192**	**0.0271**	**0.0000**	**240.0372**	**240.0372**	**0.0461**	**0.0000**	**241.1898**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**32.73**	**22.88**	**-7.95**	**0.00**	**54.98**	**75.93**	**69.69**	**55.01**	**74.97**	**71.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2022**	**4-3-2022**	0.4862	0.3054
2	**4-4-2022**	**7-3-2022**	0.4599	0.3378
3	**7-4-2022**	**10-3-2022**	0.4650	0.3415
4	**10-4-2022**	**1-3-2023**	0.4640	0.3415
5	**1-4-2023**	**4-3-2023**	0.3888	0.3686

		Highest	0.4862	0.3686

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	0.2980	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Energy	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	149.6820	149.6820	0.0130	4.0900e-003	151.2271
Mobile	0.3950	0.4484	3.1792	0.0103	0.9200	5.8700e-003	0.9259	0.2466	5.4700e-003	0.2520	0.0000	822.2606	822.2606	0.0427	0.0000	823.3284
Waste						0.0000	0.0000		0.0000	0.0000	15.0944	0.0000	15.0944	0.8921	0.0000	37.3958
Water						0.0000	0.0000		0.0000	0.0000	2.3052	3.7666	6.0718	0.2376	5.7600e-003	13.7266
Total	**0.7028**	**0.5379**	**3.2577**	**0.0109**	**0.9200**	**0.0127**	**0.9327**	**0.2466**	**0.0123**	**0.2588**	**17.3996**	**975.7157**	**993.1153**	**1.1854**	**9.8500e-003**	**1,025.6847**

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	0.2980	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Energy	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	149.6820	149.6820	0.0130	4.0900e-003	151.2271
Mobile	0.3950	0.4484	3.1792	0.0103	0.9200	5.8700e-003	0.9259	0.2466	5.4700e-003	0.2520	0.0000	822.2606	822.2606	0.0427	0.0000	823.3284
Waste						0.0000	0.0000		0.0000	0.0000	15.0944	0.0000	15.0944	0.8921	0.0000	37.3958
Water						0.0000	0.0000		0.0000	0.0000	2.3052	3.7666	6.0718	0.2376	5.7600e-003	13.7266
Total	**0.7028**	**0.5379**	**3.2577**	**0.0109**	**0.9200**	**0.0127**	**0.9327**	**0.2466**	**0.0123**	**0.2588**	**17.3996**	**975.7157**	**993.1153**	**1.1854**	**9.8500e-003**	**1,025.6847**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2022	1/31/2022	5	20	
2	Site Preparation	Site Preparation	2/1/2022	2/7/2022	5	5	
3	Grading	Grading	2/8/2022	2/17/2022	5	8	
4	Trenching	Trenching	2/18/2022	2/23/2022	5	4	
5	Building Construction	Building Construction	2/24/2022	1/11/2023	5	230	
6	Paving	Paving	1/12/2023	2/6/2023	5	18	
7	Architectural Coating	Architectural Coating	2/7/2023	3/2/2023	5	18	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 64,956; Non-Residential Outdoor: 32,478; Striped Parking Area:

OffRoad Equipment

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

Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	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	1	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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 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					
Fugitive Dust					1.1300e-003	0.0000	1.1300e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0180	0.1693	0.1701	3.0000e-004		8.2500e-003	8.2500e-003		7.7100e-003	7.7100e-003	0.0000	26.4875	26.4875	7.1200e-003	0.0000	26.6655
Total	**0.0180**	**0.1693**	**0.1701**	**3.0000e-004**	**1.1300e-003**	**8.2500e-003**	**9.3800e-003**	**1.7000e-004**	**7.7100e-003**	**7.8800e-003**	**0.0000**	**26.4875**	**26.4875**	**7.1200e-003**	**0.0000**	**26.6655**

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					5.1000e-004	0.0000	5.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2800e-003	0.1101	0.1975	3.0000e-004		9.4000e-004	9.4000e-004		9.0000e-004	9.0000e-004	0.0000	26.4875	26.4875	7.1200e-003	0.0000	26.6655
Total	**5.2800e-003**	**0.1101**	**0.1975**	**3.0000e-004**	**5.1000e-004**	**9.4000e-004**	**1.4500e-003**	**8.0000e-005**	**9.0000e-004**	**9.8000e-004**	**0.0000**	**26.4875**	**26.4875**	**7.1200e-003**	**0.0000**	**26.6655**

Mitigated Construction Off-Site

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

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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					
Fugitive Dust					0.0145	0.0000	0.0145	7.3800e-003	0.0000	7.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2800e-003	0.0366	0.0177	4.0000e-005		1.5600e-003	1.5600e-003		1.4300e-003	1.4300e-003	0.0000	3.7788	3.7788	1.2200e-003	0.0000	3.8094
Total	**3.2800e-003**	**0.0366**	**0.0177**	**4.0000e-005**	**0.0145**	**1.5600e-003**	**0.0161**	**7.3800e-003**	**1.4300e-003**	**8.8100e-003**	**0.0000**	**3.7788**	**3.7788**	**1.2200e-003**	**0.0000**	**3.8094**

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					6.5200e-003	0.0000	6.5200e-003	3.3200e-003	0.0000	3.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5000e-004	0.0127	0.0246	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.7788	3.7788	1.2200e-003	0.0000	3.8094
Total	**7.5000e-004**	**0.0127**	**0.0246**	**4.0000e-005**	**6.5200e-003**	**7.0000e-005**	**6.5900e-003**	**3.3200e-003**	**7.0000e-005**	**3.3900e-003**	**0.0000**	**3.7788**	**3.7788**	**1.2200e-003**	**0.0000**	**3.8094**

Mitigated Construction Off-Site

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

3.4 Grading - 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					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1400e-003	0.0551	0.0368	8.0000e-005		2.4100e-003	2.4100e-003		2.2200e-003	2.2200e-003	0.0000	6.7670	6.7670	2.1900e-003	0.0000	6.8217
Total	**5.1400e-003**	**0.0551**	**0.0368**	**8.0000e-005**	**0.0197**	**2.4100e-003**	**0.0221**	**0.0101**	**2.2200e-003**	**0.0123**	**0.0000**	**6.7670**	**6.7670**	**2.1900e-003**	**0.0000**	**6.8217**

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					8.8700e-003	0.0000	8.8700e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3500e-003	0.0254	0.0475	8.0000e-005		1.9000e-004	1.9000e-004		1.8000e-004	1.8000e-004	0.0000	6.7670	6.7670	2.1900e-003	0.0000	6.8217
Total	**1.3500e-003**	**0.0254**	**0.0475**	**8.0000e-005**	**8.8700e-003**	**1.9000e-004**	**9.0600e-003**	**4.5500e-003**	**1.8000e-004**	**4.7300e-003**	**0.0000**	**6.7670**	**6.7670**	**2.1900e-003**	**0.0000**	**6.8217**

Mitigated Construction Off-Site

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

3.5 Trenching - 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	7.3000e-004	6.9100e-003	0.0110	2.0000e-005		3.5000e-004	3.5000e-004		3.2000e-004	3.2000e-004	0.0000	1.4538	1.4538	4.7000e-004	0.0000	1.4655
Total	**7.3000e-004**	**6.9100e-003**	**0.0110**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**1.4538**	**1.4538**	**4.7000e-004**	**0.0000**	**1.4655**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	7.0600e-003	0.0123	2.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.4538	1.4538	4.7000e-004	0.0000	1.4655
Total	**3.2000e-004**	**7.0600e-003**	**0.0123**	**2.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**1.4538**	**1.4538**	**4.7000e-004**	**0.0000**	**1.4655**

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 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1830	1.3878	1.4126	2.4500e-003		0.0654	0.0654		0.0631	0.0631	0.0000	201.5504	201.5504	0.0351	0.0000	202.4280
Total	**0.1830**	**1.3878**	**1.4126**	**2.4500e-003**		**0.0654**	**0.0654**		**0.0631**	**0.0631**	**0.0000**	**201.5504**	**201.5504**	**0.0351**	**0.0000**	**202.4280**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0445	1.1092	1.4961	2.4500e-003		0.0180	0.0180		0.0180	0.0180	0.0000	201.5501	201.5501	0.0351	0.0000	202.4277
Total	**0.0445**	**1.1092**	**1.4961**	**2.4500e-003**		**0.0180**	**0.0180**		**0.0180**	**0.0180**	**0.0000**	**201.5501**	**201.5501**	**0.0351**	**0.0000**	**202.4277**

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 Building Construction - 2023

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	6.0900e-003	0.0468	0.0504	9.0000e-005		2.0600e-003	2.0600e-003		1.9900e-003	1.9900e-003	0.0000	7.2640	7.2640	1.2300e-003	0.0000	7.2948
Total	**6.0900e-003**	**0.0468**	**0.0504**	**9.0000e-005**		**2.0600e-003**	**2.0600e-003**		**1.9900e-003**	**1.9900e-003**	**0.0000**	**7.2640**	**7.2640**	**1.2300e-003**	**0.0000**	**7.2948**

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	1.6000e-003	0.0400	0.0539	9.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	7.2640	7.2640	1.2300e-003	0.0000	7.2948
Total	**1.6000e-003**	**0.0400**	**0.0539**	**9.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**7.2640**	**7.2640**	**1.2300e-003**	**0.0000**	**7.2948**

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 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8000e-003	0.0561	0.0792	1.2000e-004		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003	0.0000	10.5952	10.5952	3.3600e-003	0.0000	10.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8000e-003**	**0.0561**	**0.0792**	**1.2000e-004**		**2.7800e-003**	**2.7800e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**10.5952**	**10.5952**	**3.3600e-003**	**0.0000**	**10.6792**

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	1.9300e-003	0.0514	0.0887	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.5952	10.5952	3.3600e-003	0.0000	10.6791
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0514**	**0.0887**	**1.2000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.5952**	**10.5952**	**3.3600e-003**	**0.0000**	**10.6791**

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**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.2898**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	9.5400e-003	0.0165	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.2885**	**9.5400e-003**	**0.0165**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

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**

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	0.3950	0.4484	3.1792	0.0103	0.9200	5.8700e-003	0.9259	0.2466	5.4700e-003	0.2520	0.0000	822.2606	822.2606	0.0427	0.0000	823.3284
Unmitigated	0.3950	0.4484	3.1792	0.0103	0.9200	5.8700e-003	0.9259	0.2466	5.4700e-003	0.2520	0.0000	822.2606	822.2606	0.0427	0.0000	823.3284

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Government Office Building	389.69	0.00	0.00	477,335	477,335
Junior College (2Yr)	1,033.84	353.16	33.54	2,015,624	2,015,624
Parking Lot	0.00	0.00	0.00		
Total	1,423.53	353.16	33.54	2,492,959	2,492,959

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	92	7	1
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.006180	0.003190	0.001482	0.012899	0.000551	0.000874
Junior College (2Yr)	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.006180	0.003190	0.001482	0.012899	0.000551	0.000874
Parking Lot	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.006180	0.003190	0.001482	0.012899	0.000551	0.000874

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	52.2978	52.2978	0.0112	2.3100e-003	53.2642
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	52.2978	52.2978	0.0112	2.3100e-003	53.2642
NaturalGas Mitigated	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.3842	97.3842	1.8700e-003	1.7900e-003	97.9629
NaturalGas Unmitigated	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.3842	97.3842	1.8700e-003	1.7900e-003	97.9629

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					
Government Office Building	529506	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	28.2564	28.2564	5.4000e-004	5.2000e-004	28.4244
Junior College (2Yr)	1.29541e+006	6.9900e-003	0.0635	0.0533	3.8000e-004		4.8300e-003	4.8300e-003		4.8300e-003	4.8300e-003	0.0000	69.1278	69.1278	1.3200e-003	1.2700e-003	69.5386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.8500e-003**	**0.0895**	**0.0751**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.3842**	**97.3842**	**1.8600e-003**	**1.7900e-003**	**97.9629**

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					
Government Office Building	529506	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	28.2564	28.2564	5.4000e-004	5.2000e-004	28.4244
Junior College (2Yr)	1.29541e+006	6.9900e-003	0.0635	0.0533	3.8000e-004		4.8300e-003	4.8300e-003		4.8300e-003	4.8300e-003	0.0000	69.1278	69.1278	1.3200e-003	1.2700e-003	69.5386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.8500e-003**	**0.0895**	**0.0751**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.3842**	**97.3842**	**1.8600e-003**	**1.7900e-003**	**97.9629**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government Office Building	348187	21.4791	4.5800e-003	9.5000e-004	21.8760
Junior College (2Yr)	395745	24.4129	5.2100e-003	1.0800e-003	24.8640
Parking Lot	103840	6.4057	1.3700e-003	2.8000e-004	6.5241
Total		**52.2978**	**0.0112**	**2.3100e-003**	**53.2642**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Government Office Building	348187	21.4791	4.5800e-003	9.5000e-004	21.8760
Junior College (2Yr)	395745	24.4129	5.2100e-003	1.0800e-003	24.8640
Parking Lot	103840	6.4057	1.3700e-003	2.8000e-004	6.5241
Total		**52.2978**	**0.0112**	**2.3100e-003**	**53.2642**

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	0.2980	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Unmitigated	0.2980	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003

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	0.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2613					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Total	**0.2979**	**3.0000e-005**	**3.3000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.4300e-003**	**6.4300e-003**	**2.0000e-005**	**0.0000**	**6.8500e-003**

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	0.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2613					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.3000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Total	**0.2979**	**3.0000e-005**	**3.3000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.4300e-003**	**6.4300e-003**	**2.0000e-005**	**0.0000**	**6.8500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0718	0.2376	5.7600e-003	13.7266

Unmitigated	6.0718	0.2376	5.7600e-003	13.7266

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	5.41745 / 3.32037	4.2439	0.1771	4.2800e-003	9.9459
Junior College (2Yr)	1.84866 / 2.89149	1.8279	0.0605	1.4800e-003	3.7806
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.0718**	**0.2376**	**5.7600e-003**	**13.7266**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	5.41745 / 3.32037	4.2439	0.1771	4.2800e-003	9.9459
Junior College (2Yr)	1.84866 / 2.89149	1.8279	0.0605	1.4800e-003	3.7806
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.0718**	**0.2376**	**5.7600e-003**	**13.7266**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.0944	0.8921	0.0000	37.3958
Unmitigated	15.0944	0.8921	0.0000	37.3958

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government Office Building	25.36	5.1479	0.3042	0.0000	12.7536
Junior College (2Yr)	49	9.9466	0.5878	0.0000	24.6422
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**15.0944**	**0.8921**	**0.0000**	**37.3958**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government Office Building	25.36	5.1479	0.3042	0.0000	12.7536
Junior College (2Yr)	49	9.9466	0.5878	0.0000	24.6422
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**15.0944**	**0.8921**	**0.0000**	**37.3958**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

JUHSD Office/Adult Education Facilities, Daly City

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	27.27	1000sqft	3.35	27,266.00	0
Junior College (2Yr)	37.69	1000sqft	3.35	37,690.00	0
Parking Lot	295.00	Space	0.00	118,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	136	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor = 10% PG&E 2018 + 90% PCE 2018 = 136

Land Use - Email Proj Description land uses, parking lot from PD, acreage from PD

Construction Phase - Construction schedule follows number of days stated in PD document. Added trenching from construction spreadsheet.

Off-road Equipment -

Off-road Equipment - Equipment and hours from construction spreadsheet

Off-road Equipment - Default construction

Off-road Equipment - Equipment and hours provided on construction spreadsheet

Off-road Equipment - Equipment and hours from construction spreadsheet

Off-road Equipment - Equipment and hours follows construction spreadsheet

Off-road Equipment - Trenching added. Equipment and hours from construction spreadsheet

Trips and VMT - Trips 0 and entered into EMFAC spreadsheet, assuming 25,000-sf concrete and 90,000-sf asphalt

Demolition - 2,300 exiting buidling dmeo, Square footage from Google Earth

Grading - Acreage provided in PD, assume 500 cy import & export

Architectural Coating - Non-residential interior square footage provided by client

Vehicle Trips - Trip gen provided by traffic adjusted to SF

Construction Off-road Equipment Mitigation - All construction equipment T4i

Vehicle Emission Factors - EF updated to EMFAC 2030

Energy Use - EMFAC

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	97,434.00	64,956.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	5.00
tblFleetMix	HHD	6.8130e-003	6.3112e-003
tblFleetMix	HHD	6.8130e-003	6.3112e-003
tblFleetMix	HHD	6.8130e-003	6.3112e-003
tblFleetMix	LDA	0.45	0.44
tblFleetMix	LDA	0.45	0.44
tblFleetMix	LDA	0.45	0.44
tblFleetMix	LDT1	0.05	0.08
tblFleetMix	LDT1	0.05	0.08
tblFleetMix	LDT1	0.05	0.08
tblFleetMix	LDT2	0.28	0.24
tblFleetMix	LDT2	0.28	0.24
tblFleetMix	LDT2	0.28	0.24
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03

tblFleetMix	LHD2	7.6330e-003	7.8583e-003
tblFleetMix	LHD2	7.6330e-003	7.8583e-003
tblFleetMix	LHD2	7.6330e-003	7.8583e-003
tblFleetMix	MCY	9.5100e-003	0.01
tblFleetMix	MCY	9.5100e-003	0.01
tblFleetMix	MCY	9.5100e-003	0.01
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MH	8.9600e-004	9.6919e-004
tblFleetMix	MH	8.9600e-004	9.6919e-004
tblFleetMix	MH	8.9600e-004	9.6919e-004
tblFleetMix	MHD	0.03	0.03
tblFleetMix	MHD	0.03	0.03
tblFleetMix	MHD	0.03	0.03
tblFleetMix	OBUS	4.4760e-003	2.9572e-003
tblFleetMix	OBUS	4.4760e-003	2.9572e-003
tblFleetMix	OBUS	4.4760e-003	2.9572e-003
tblFleetMix	SBUS	6.0500e-004	6.1275e-004
tblFleetMix	SBUS	6.0500e-004	6.1275e-004
tblFleetMix	SBUS	6.0500e-004	6.1275e-004
tblFleetMix	UBUS	2.8550e-003	1.4301e-003
tblFleetMix	UBUS	2.8550e-003	1.4301e-003
tblFleetMix	UBUS	2.8550e-003	1.4301e-003
tblGrading	MaterialExported	0.00	500.00
tblGrading	MaterialImported	0.00	500.00
tblLandUse	BuildingSpaceSquareFeet	27,270.00	27,266.00
tblLandUse	LandUseSquareFeet	27,270.00	27,266.00
tblLandUse	LotAcreage	0.63	3.35
tblLandUse	LotAcreage	0.87	3.35

tblLandUse	LotAcreage	2.65	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	136
tblProjectCharacteristics	OperationalYear	2018	2030
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	HaulingTripNumber	125.00	0.00
tblTripsAndVMT	VendorTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	74.00	0.00

tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleEF	HHD	0.11	0.04
tblVehicleEF	HHD	0.28	0.19
tblVehicleEF	HHD	0.05	3.0000e-006
tblVehicleEF	HHD	1.07	5.46
tblVehicleEF	HHD	3.26	1.06
tblVehicleEF	HHD	13.75	0.04
tblVehicleEF	HHD	2,510.78	860.08
tblVehicleEF	HHD	1,676.74	1,405.74
tblVehicleEF	HHD	41.53	0.35
tblVehicleEF	HHD	10.05	5.01
tblVehicleEF	HHD	2.04	2.73
tblVehicleEF	HHD	15.12	2.40
tblVehicleEF	HHD	7.9170e-003	2.7380e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.04
tblVehicleEF	HHD	6.1140e-003	0.02
tblVehicleEF	HHD	4.7500e-004	3.0000e-006
tblVehicleEF	HHD	7.5750e-003	2.6200e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.5070e-003	8.7570e-003
tblVehicleEF	HHD	5.8470e-003	0.02
tblVehicleEF	HHD	4.3600e-004	3.0000e-006
tblVehicleEF	HHD	2.5200e-004	6.0000e-006
tblVehicleEF	HHD	0.01	3.2200e-004
tblVehicleEF	HHD	0.24	0.36
tblVehicleEF	HHD	1.9400e-004	5.0000e-006
tblVehicleEF	HHD	0.10	0.03
tblVehicleEF	HHD	2.1810e-003	1.5910e-003

tblVehicleEF	HHD	0.23	1.4000e-005
tblVehicleEF	HHD	0.02	7.5950e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	6.3800e-004	3.0000e-006
tblVehicleEF	HHD	2.5200e-004	6.0000e-006
tblVehicleEF	HHD	0.01	3.2200e-004
tblVehicleEF	HHD	0.30	0.43
tblVehicleEF	HHD	1.9400e-004	5.0000e-006
tblVehicleEF	HHD	0.39	0.23
tblVehicleEF	HHD	2.1810e-003	1.5910e-003
tblVehicleEF	HHD	0.26	1.6000e-005
tblVehicleEF	LDA	1.7710e-003	8.5200e-004
tblVehicleEF	LDA	2.2600e-003	0.03
tblVehicleEF	LDA	0.30	0.38
tblVehicleEF	LDA	0.65	1.73
tblVehicleEF	LDA	178.28	211.73
tblVehicleEF	LDA	42.09	44.88
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.12
tblVehicleEF	LDA	1.0490e-003	8.7300e-004
tblVehicleEF	LDA	1.7270e-003	1.2290e-003
tblVehicleEF	LDA	9.6500e-004	8.0300e-004
tblVehicleEF	LDA	1.5880e-003	1.1300e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	4.4340e-003	2.9350e-003
tblVehicleEF	LDA	0.04	0.17
tblVehicleEF	LDA	0.03	0.12
tblVehicleEF	LDA	1.7830e-003	9.2000e-005

tblVehicleEF	LDA	4.3100e-004	0.00
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	6.4520e-003	4.2640e-003
tblVehicleEF	LDA	0.04	0.17
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDT1	2.5780e-003	1.1990e-003
tblVehicleEF	LDT1	3.0940e-003	0.03
tblVehicleEF	LDT1	0.42	0.45
tblVehicleEF	LDT1	0.88	1.84
tblVehicleEF	LDT1	226.43	252.62
tblVehicleEF	LDT1	53.15	53.60
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.04	0.14
tblVehicleEF	LDT1	1.3290e-003	1.0040e-003
tblVehicleEF	LDT1	2.0980e-003	1.3910e-003
tblVehicleEF	LDT1	1.2220e-003	9.2400e-004
tblVehicleEF	LDT1	1.9290e-003	1.2790e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.08	0.07
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	6.3870e-003	4.4390e-003
tblVehicleEF	LDT1	0.08	0.28
tblVehicleEF	LDT1	0.04	0.13
tblVehicleEF	LDT1	2.2670e-003	2.4210e-003
tblVehicleEF	LDT1	5.4600e-004	0.00
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.08	0.07
tblVehicleEF	LDT1	0.02	0.03

tblVehicleEF	LDT1	9.3180e-003	6.4760e-003
tblVehicleEF	LDT1	0.08	0.28
tblVehicleEF	LDT1	0.05	0.14
tblVehicleEF	LDT2	2.6000e-003	1.3110e-003
tblVehicleEF	LDT2	2.6890e-003	0.04
tblVehicleEF	LDT2	0.44	0.48
tblVehicleEF	LDT2	0.82	2.26
tblVehicleEF	LDT2	259.84	258.02
tblVehicleEF	LDT2	60.40	55.03
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.04	0.15
tblVehicleEF	LDT2	1.2860e-003	9.9600e-004
tblVehicleEF	LDT2	2.0260e-003	1.3140e-003
tblVehicleEF	LDT2	1.1830e-003	9.1700e-004
tblVehicleEF	LDT2	1.8630e-003	1.2080e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	6.4580e-003	4.8000e-003
tblVehicleEF	LDT2	0.06	0.26
tblVehicleEF	LDT2	0.04	0.16
tblVehicleEF	LDT2	2.6010e-003	9.1510e-003
tblVehicleEF	LDT2	6.1700e-004	8.6000e-005
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	9.4150e-003	6.9660e-003
tblVehicleEF	LDT2	0.06	0.26
tblVehicleEF	LDT2	0.04	0.17
tblVehicleEF	LHD1	3.5790e-003	3.9860e-003

tblVehicleEF	LHD1	6.9490e-003	4.4850e-003
tblVehicleEF	LHD1	8.0930e-003	7.3910e-003
tblVehicleEF	LHD1	0.13	0.18
tblVehicleEF	LHD1	0.52	0.40
tblVehicleEF	LHD1	1.42	0.86
tblVehicleEF	LHD1	8.92	8.08
tblVehicleEF	LHD1	630.67	689.79
tblVehicleEF	LHD1	25.19	9.94
tblVehicleEF	LHD1	0.06	0.04
tblVehicleEF	LHD1	0.33	0.18
tblVehicleEF	LHD1	0.54	0.20
tblVehicleEF	LHD1	7.9500e-004	9.1600e-004
tblVehicleEF	LHD1	0.01	9.8940e-003
tblVehicleEF	LHD1	8.7410e-003	5.8960e-003
tblVehicleEF	LHD1	5.7500e-004	2.0100e-004
tblVehicleEF	LHD1	7.6000e-004	8.7600e-004
tblVehicleEF	LHD1	2.6230e-003	2.4740e-003
tblVehicleEF	LHD1	8.3320e-003	5.5970e-003
tblVehicleEF	LHD1	5.2800e-004	1.8500e-004
tblVehicleEF	LHD1	1.0880e-003	8.5500e-004
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	7.4600e-004	5.9000e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.20	0.29
tblVehicleEF	LHD1	0.11	0.03
tblVehicleEF	LHD1	8.8000e-005	7.8000e-005
tblVehicleEF	LHD1	6.1550e-003	6.7280e-003
tblVehicleEF	LHD1	2.7700e-004	9.8000e-005
tblVehicleEF	LHD1	1.0880e-003	8.5500e-004

tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.4600e-004	5.9000e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.20	0.29
tblVehicleEF	LHD1	0.12	0.04
tblVehicleEF	LHD2	2.5060e-003	2.4420e-003
tblVehicleEF	LHD2	5.0690e-003	4.9160e-003
tblVehicleEF	LHD2	2.8610e-003	4.1310e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.44
tblVehicleEF	LHD2	0.87	0.49
tblVehicleEF	LHD2	13.54	12.62
tblVehicleEF	LHD2	673.90	670.16
tblVehicleEF	LHD2	21.85	6.49
tblVehicleEF	LHD2	0.07	0.06
tblVehicleEF	LHD2	0.15	0.21
tblVehicleEF	LHD2	0.24	0.12
tblVehicleEF	LHD2	1.0250e-003	1.4740e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.6290e-003	0.01
tblVehicleEF	LHD2	3.7300e-004	1.0700e-004
tblVehicleEF	LHD2	9.8000e-004	1.4100e-003
tblVehicleEF	LHD2	2.7070e-003	2.7060e-003
tblVehicleEF	LHD2	8.2320e-003	0.01
tblVehicleEF	LHD2	3.4300e-004	9.9000e-005
tblVehicleEF	LHD2	3.6400e-004	4.2300e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	2.6800e-004	3.0400e-004

tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.11
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3200e-004	1.2100e-004
tblVehicleEF	LHD2	6.5470e-003	6.4670e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	3.6400e-004	4.2300e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.6800e-004	3.0400e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.04	0.11
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	MCY	0.47	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.68	17.76
tblVehicleEF	MCY	10.53	9.39
tblVehicleEF	MCY	173.86	212.58
tblVehicleEF	MCY	41.80	58.78
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.2080e-003	2.2180e-003
tblVehicleEF	MCY	3.4030e-003	3.0130e-003
tblVehicleEF	MCY	2.0580e-003	2.0680e-003
tblVehicleEF	MCY	3.1790e-003	2.8140e-003
tblVehicleEF	MCY	0.61	1.21
tblVehicleEF	MCY	0.50	0.49
tblVehicleEF	MCY	0.36	0.71
tblVehicleEF	MCY	2.13	2.13
tblVehicleEF	MCY	0.38	1.40

tblVehicleEF	MCY	2.12	1.89
tblVehicleEF	MCY	2.0910e-003	2.1040e-003
tblVehicleEF	MCY	6.5200e-004	5.8200e-004
tblVehicleEF	MCY	0.61	1.21
tblVehicleEF	MCY	0.50	0.49
tblVehicleEF	MCY	0.36	0.71
tblVehicleEF	MCY	2.68	2.68
tblVehicleEF	MCY	0.38	1.40
tblVehicleEF	MCY	2.31	2.06
tblVehicleEF	MDV	3.5530e-003	1.2400e-003
tblVehicleEF	MDV	4.8880e-003	0.04
tblVehicleEF	MDV	0.52	0.46
tblVehicleEF	MDV	1.17	2.24
tblVehicleEF	MDV	345.39	309.56
tblVehicleEF	MDV	79.35	64.69
tblVehicleEF	MDV	0.05	0.02
tblVehicleEF	MDV	0.08	0.15
tblVehicleEF	MDV	1.3240e-003	9.7100e-004
tblVehicleEF	MDV	2.0250e-003	1.2840e-003
tblVehicleEF	MDV	1.2200e-003	8.9500e-004
tblVehicleEF	MDV	1.8620e-003	1.1810e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.9310e-003	4.5600e-003
tblVehicleEF	MDV	0.08	0.26
tblVehicleEF	MDV	0.07	0.16
tblVehicleEF	MDV	3.4520e-003	2.8580e-003
tblVehicleEF	MDV	8.1300e-004	5.9800e-004
tblVehicleEF	MDV	0.03	0.03

tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.01	6.5940e-003
tblVehicleEF	MDV	0.08	0.26
tblVehicleEF	MDV	0.07	0.18
tblVehicleEF	MH	5.3780e-003	4.0670e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.26	0.22
tblVehicleEF	MH	3.31	1.59
tblVehicleEF	MH	1,174.79	1,315.39
tblVehicleEF	MH	56.01	15.06
tblVehicleEF	MH	0.68	0.84
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.9500e-003	9.1290e-003
tblVehicleEF	MH	8.6500e-004	2.2300e-004
tblVehicleEF	MH	3.2220e-003	3.2890e-003
tblVehicleEF	MH	6.6090e-003	8.6970e-003
tblVehicleEF	MH	7.9600e-004	2.0500e-004
tblVehicleEF	MH	0.22	0.16
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.11	0.08
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	5.4280e-003	0.25
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1700e-004	1.4900e-004
tblVehicleEF	MH	0.22	0.16
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.11	0.08

tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	5.4280e-003	0.25
tblVehicleEF	MH	0.21	0.08
tblVehicleEF	MHD	0.02	3.9010e-003
tblVehicleEF	MHD	2.5460e-003	9.3700e-004
tblVehicleEF	MHD	0.03	8.5280e-003
tblVehicleEF	MHD	0.36	0.38
tblVehicleEF	MHD	0.24	0.14
tblVehicleEF	MHD	3.51	0.87
tblVehicleEF	MHD	134.54	55.53
tblVehicleEF	MHD	1,162.44	958.82
tblVehicleEF	MHD	57.83	8.66
tblVehicleEF	MHD	0.34	0.29
tblVehicleEF	MHD	0.99	1.31
tblVehicleEF	MHD	10.23	1.67
tblVehicleEF	MHD	4.2000e-005	1.1600e-004
tblVehicleEF	MHD	2.8940e-003	6.3200e-003
tblVehicleEF	MHD	8.0800e-004	1.1300e-004
tblVehicleEF	MHD	4.0000e-005	1.1100e-004
tblVehicleEF	MHD	2.7630e-003	6.0400e-003
tblVehicleEF	MHD	7.4300e-004	1.0400e-004
tblVehicleEF	MHD	4.5900e-004	2.1500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.3600e-004	1.5500e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.06
tblVehicleEF	MHD	0.22	0.04
tblVehicleEF	MHD	1.2960e-003	5.2700e-004
tblVehicleEF	MHD	0.01	9.1510e-003

tblVehicleEF	MHD	6.3900e-004	8.6000e-005
tblVehicleEF	MHD	4.5900e-004	2.1500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	3.3600e-004	1.5500e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.01	0.06
tblVehicleEF	MHD	0.24	0.05
tblVehicleEF	OBUS	0.01	6.7860e-003
tblVehicleEF	OBUS	3.7210e-003	1.7360e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.24	0.67
tblVehicleEF	OBUS	0.29	0.22
tblVehicleEF	OBUS	3.83	1.34
tblVehicleEF	OBUS	125.90	104.99
tblVehicleEF	OBUS	1,274.07	1,195.47
tblVehicleEF	OBUS	63.49	11.93
tblVehicleEF	OBUS	0.28	0.47
tblVehicleEF	OBUS	0.88	1.49
tblVehicleEF	OBUS	3.03	1.22
tblVehicleEF	OBUS	2.6000e-005	1.5600e-004
tblVehicleEF	OBUS	2.9110e-003	8.0770e-003
tblVehicleEF	OBUS	9.4500e-004	1.4600e-004
tblVehicleEF	OBUS	2.5000e-005	1.4900e-004
tblVehicleEF	OBUS	2.7640e-003	7.7140e-003
tblVehicleEF	OBUS	8.6900e-004	1.3400e-004
tblVehicleEF	OBUS	8.1200e-004	6.9700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	4.5300e-004	3.8500e-004

tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	0.02	0.15
tblVehicleEF	OBUS	0.24	0.07
tblVehicleEF	OBUS	1.2120e-003	9.9600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.0200e-004	1.1800e-004
tblVehicleEF	OBUS	8.1200e-004	6.9700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	4.5300e-004	3.8500e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.02	0.15
tblVehicleEF	OBUS	0.27	0.07
tblVehicleEF	SBUS	0.82	0.16
tblVehicleEF	SBUS	6.7640e-003	5.7190e-003
tblVehicleEF	SBUS	0.05	0.01
tblVehicleEF	SBUS	13.58	5.81
tblVehicleEF	SBUS	0.37	0.52
tblVehicleEF	SBUS	10.81	2.02
tblVehicleEF	SBUS	774.42	372.76
tblVehicleEF	SBUS	809.72	883.04
tblVehicleEF	SBUS	94.79	11.09
tblVehicleEF	SBUS	1.96	2.28
tblVehicleEF	SBUS	0.86	2.37
tblVehicleEF	SBUS	5.09	0.99
tblVehicleEF	SBUS	9.3400e-004	1.7990e-003
tblVehicleEF	SBUS	9.1050e-003	9.6950e-003
tblVehicleEF	SBUS	4.8090e-003	0.01
tblVehicleEF	SBUS	1.9160e-003	1.8900e-004
tblVehicleEF	SBUS	8.9300e-004	1.7210e-003

tblVehicleEF	SBUS	2.2760e-003	2.4240e-003
tblVehicleEF	SBUS	4.5600e-003	0.01
tblVehicleEF	SBUS	1.7620e-003	1.7400e-004
tblVehicleEF	SBUS	3.7070e-003	1.0240e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.61	0.71
tblVehicleEF	SBUS	2.0970e-003	5.6900e-004
tblVehicleEF	SBUS	0.04	0.06
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.55	0.08
tblVehicleEF	SBUS	7.8740e-003	3.5870e-003
tblVehicleEF	SBUS	7.9330e-003	8.5360e-003
tblVehicleEF	SBUS	1.1340e-003	1.1000e-004
tblVehicleEF	SBUS	3.7070e-003	1.0240e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	2.35	1.03
tblVehicleEF	SBUS	2.0970e-003	5.6900e-004
tblVehicleEF	SBUS	0.05	0.07
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.61	0.09
tblVehicleEF	UBUS	0.25	1.75
tblVehicleEF	UBUS	0.05	8.0630e-003
tblVehicleEF	UBUS	2.66	13.25
tblVehicleEF	UBUS	7.71	0.82
tblVehicleEF	UBUS	1,920.81	1,616.16
tblVehicleEF	UBUS	124.76	7.49
tblVehicleEF	UBUS	3.13	0.67
tblVehicleEF	UBUS	13.14	0.07
tblVehicleEF	UBUS	0.54	0.08
tblVehicleEF	UBUS	0.01	0.03

tblVehicleEF	UBUS	0.05	4.9300e-003
tblVehicleEF	UBUS	1.3970e-003	9.1000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	7.8010e-003
tblVehicleEF	UBUS	0.05	4.7140e-003
tblVehicleEF	UBUS	1.2850e-003	8.3000e-005
tblVehicleEF	UBUS	2.0810e-003	1.3500e-004
tblVehicleEF	UBUS	0.04	1.6730e-003
tblVehicleEF	UBUS	1.5040e-003	8.4000e-005
tblVehicleEF	UBUS	0.15	0.03
tblVehicleEF	UBUS	9.5820e-003	9.4520e-003
tblVehicleEF	UBUS	0.65	0.04
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.3880e-003	7.4000e-005
tblVehicleEF	UBUS	2.0810e-003	1.3500e-004
tblVehicleEF	UBUS	0.04	1.6730e-003
tblVehicleEF	UBUS	1.5040e-003	8.4000e-005
tblVehicleEF	UBUS	0.41	1.79
tblVehicleEF	UBUS	9.5820e-003	9.4520e-003
tblVehicleEF	UBUS	0.71	0.04
tblVehicleTrips	ST_TR	11.23	9.37
tblVehicleTrips	SU_TR	1.21	0.89
tblVehicleTrips	WD_TR	68.93	14.29
tblVehicleTrips	WD_TR	27.49	27.43

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	0.2980	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Energy	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	149.6820	149.6820	0.0130	4.0900e-003	151.2271
Mobile	0.3162	0.3777	2.6679	9.7600e-003	0.9215	4.6700e-003	0.9261	0.2472	4.3500e-003	0.2515	0.0000	750.3813	750.3813	0.0352	0.0000	751.2615
Waste						0.0000	0.0000		0.0000	0.0000	15.0944	0.0000	15.0944	0.8921	0.0000	37.3958
Water						0.0000	0.0000		0.0000	0.0000	2.3052	3.7666	6.0718	0.2376	5.7600e-003	13.7266
Total	**0.6239**	**0.4672**	**2.7463**	**0.0103**	**0.9215**	**0.0115**	**0.9329**	**0.2472**	**0.0112**	**0.2583**	**17.3996**	**903.8363**	**921.2359**	**1.1779**	**9.8500e-003**	**953.6178**

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	0.2980	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Energy	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	149.6820	149.6820	0.0130	4.0900e-003	151.2271
Mobile	0.3162	0.3777	2.6679	9.7600e-003	0.9215	4.6700e-003	0.9261	0.2472	4.3500e-003	0.2515	0.0000	750.3813	750.3813	0.0352	0.0000	751.2615
Waste						0.0000	0.0000		0.0000	0.0000	15.0944	0.0000	15.0944	0.8921	0.0000	37.3958
Water						0.0000	0.0000		0.0000	0.0000	2.3052	3.7666	6.0718	0.2376	5.7600e-003	13.7266
Total	**0.6239**	**0.4672**	**2.7463**	**0.0103**	**0.9215**	**0.0115**	**0.9329**	**0.2472**	**0.0112**	**0.2583**	**17.3996**	**903.8363**	**921.2359**	**1.1779**	**9.8500e-003**	**953.6178**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3162	0.3777	2.6679	9.7600e-003	0.9215	4.6700e-003	0.9261	0.2472	4.3500e-003	0.2515	0.0000	750.3813	750.3813	0.0352	0.0000	751.2615
Unmitigated	0.3162	0.3777	2.6679	9.7600e-003	0.9215	4.6700e-003	0.9261	0.2472	4.3500e-003	0.2515	0.0000	750.3813	750.3813	0.0352	0.0000	751.2615

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Government Office Building	389.69	0.00	0.00	477,335	477,335
Junior College (2Yr)	1,033.84	353.16	33.54	2,015,624	2,015,624
Parking Lot	0.00	0.00	0.00		
Total	1,423.53	353.16	33.54	2,492,959	2,492,959

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	92	7	1

Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.439373	0.076262	0.240335	0.155302	0.030200	0.007858	0.025976	0.006311	0.002957	0.001430	0.012414	0.000613	0.000969
Junior College (2Yr)	0.439373	0.076262	0.240335	0.155302	0.030200	0.007858	0.025976	0.006311	0.002957	0.001430	0.012414	0.000613	0.000969
Parking Lot	0.439373	0.076262	0.240335	0.155302	0.030200	0.007858	0.025976	0.006311	0.002957	0.001430	0.012414	0.000613	0.000969

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	52.2978	52.2978	0.0112	2.3100e-003	53.2642
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	52.2978	52.2978	0.0112	2.3100e-003	53.2642
NaturalGas Mitigated	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.3842	97.3842	1.8700e-003	1.7900e-003	97.9629
NaturalGas Unmitigated	9.8400e-003	0.0895	0.0751	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.3842	97.3842	1.8700e-003	1.7900e-003	97.9629

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					
Government Office Building	529506	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	28.2564	28.2564	5.4000e-004	5.2000e-004	28.4244
Junior College (2Yr)	1.29541e+006	6.9900e-003	0.0635	0.0533	3.8000e-004		4.8300e-003	4.8300e-003		4.8300e-003	4.8300e-003	0.0000	69.1278	69.1278	1.3200e-003	1.2700e-003	69.5386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.8500e-003**	**0.0895**	**0.0751**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.3842**	**97.3842**	**1.8600e-003**	**1.7900e-003**	**97.9629**

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					
Government Office Building	529506	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	28.2564	28.2564	5.4000e-004	5.2000e-004	28.4244
Junior College (2Yr)	1.29541e+006	6.9900e-003	0.0635	0.0533	3.8000e-004		4.8300e-003	4.8300e-003		4.8300e-003	4.8300e-003	0.0000	69.1278	69.1278	1.3200e-003	1.2700e-003	69.5386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.8500e-003**	**0.0895**	**0.0751**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.3842**	**97.3842**	**1.8600e-003**	**1.7900e-003**	**97.9629**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government Office Building	348187	21.4791	4.5800e-003	9.5000e-004	21.8760
Junior College (2Yr)	395745	24.4129	5.2100e-003	1.0800e-003	24.8640

Parking Lot	103840	6.4057	1.3700e-003	2.8000e-004	6.5241
Total		**52.2978**	**0.0112**	**2.3100e-003**	**53.2642**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government Office Building	348187	21.4791	4.5800e-003	9.5000e-004	21.8760
Junior College (2Yr)	395745	24.4129	5.2100e-003	1.0800e-003	24.8640
Parking Lot	103840	6.4057	1.3700e-003	2.8000e-004	6.5241
Total		**52.2978**	**0.0112**	**2.3100e-003**	**53.2642**

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	0.2980	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Unmitigated	0.2980	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003

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	0.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2613					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Total	**0.2979**	**3.0000e-005**	**3.2900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.4300e-003**	**6.4300e-003**	**2.0000e-005**	**0.0000**	**6.8500e-003**

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	0.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2613					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.4300e-003	6.4300e-003	2.0000e-005	0.0000	6.8500e-003
Total	**0.2979**	**3.0000e-005**	**3.2900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.4300e-003**	**6.4300e-003**	**2.0000e-005**	**0.0000**	**6.8500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0718	0.2376	5.7600e-003	13.7266
Unmitigated	6.0718	0.2376	5.7600e-003	13.7266

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	5.41745 / 3.32037	4.2439	0.1771	4.2800e-003	9.9459
Junior College (2Yr)	1.84866 / 2.89149	1.8279	0.0605	1.4800e-003	3.7806
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.0718**	**0.2376**	**5.7600e-003**	**13.7266**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government Office Building	5.41745 / 3.32037	4.2439	0.1771	4.2800e-003	9.9459
Junior College (2Yr)	1.84866 / 2.89149	1.8279	0.0605	1.4800e-003	3.7806
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.0718**	**0.2376**	**5.7600e-003**	**13.7266**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.0944	0.8921	0.0000	37.3958
Unmitigated	15.0944	0.8921	0.0000	37.3958

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Government Office Building	25.36	5.1479	0.3042	0.0000	12.7536
Junior College (2Yr)	49	9.9466	0.5878	0.0000	24.6422
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**15.0944**	**0.8921**	**0.0000**	**37.3958**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government Office Building	25.36	5.1479	0.3042	0.0000	12.7536
Junior College (2Yr)	49	9.9466	0.5878	0.0000	24.6422
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**15.0944**	**0.8921**	**0.0000**	**37.3958**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2017 Calculations

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	13	0	260	0	10	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2808	0	200
Site Preparation	8	0	40	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	0
Grading	10	0	80	0	125	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	864	0	2500
Trenching	5	0	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	216	0	0
Building Construction	74	30	17020	6900	222	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	183816	50370	4440
Architectural Coating	15	0	270	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2916	0	0
Paving	13	0	234	0	200	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2527.2	0	4000

Number of Days Per Year					
2022	1/4/22	12/31/22	362	**259**	
2023	1/1/23	3/2/23	61	**44**	
2024			1	**0**	
			424	**303**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/4/2022	1/31/2022	5	20
Site Preparation	2/1/2022	2/7/2022	5	5
Grading	2/8/2022	2/17/2022	5	8
Trenching	2/18/2022	2/23/2022	5	4
Building Construction	2/24/2022	1/11/2023	5	230
Architectural Coating	2/7/2023	3/2/2023	5	18
Paving	1/12/2023	2/6/2023	5	18

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
					Tons						*Metric Tons*
Criteria Pollutants											
2022	0.0194	0.1855	0.2070	0.0013	0.0718	0.0174	0.0892	0.0108	0.0081	0.0189	117.9535
2023	0.0026	0.0252	0.0319	0.0002	0.0121	0.0028	0.0149	0.0018	0.0012	0.0030	19.1998
Toxic Air Contaminants (1 Mile Trip Length)											
2022	0.0139	0.0462	0.0733	0.0002	0.0071	0.0019	0.0091	0.0011	0.0009	0.0020	15.3719
2023	0.0021	0.0071	0.0119	0.0000	0.0012	0.0003	0.0015	0.0002	0.0001	0.0003	2.4984

CalEEMod EMFAC2017 Emission Factors Input — Year 2024

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004869	0.003026	0.003948	0.032317006	0.006671	0	0	0.097744	0
A	CH4_RUNEX	0.00155	0.00244	0.002138	0.002204	0.006233	0.005668	0.001608	0.172889863	0.002804	1.520352	0.326553	0.009348	0.006101
A	CH4_STREX	0.042745	0.047998	0.053489	0.058021	0.011217	0.006581	0.009912	2.70104E-06	0.014575	0.012022	0.256701	0.009538	0.020863
A	CO_IDLEX	0	0	0	0	0.184301	0.139573	0.385441	5.250170075	0.6139	0	0	3.665623	0
A	CO_RUNEX	0.489303	0.646675	0.589272	0.586803	0.537226	0.472357	0.216416	0.928662654	0.343171	11.41551	18.4893	0.856959	0.48901
A	CO_STREX	2.11719	2.219808	2.621204	2.756257	1.000793	0.594598	1.121634	0.03370778	1.521325	0.828682	9.242251	1.461152	1.848543
A	CO2_NBIO_IDLEX	0	0	0	0	8.664402	13.41525	63.54448	944.1436444	102.3534	0	0	365.4506	0
A	CO2_NBIO_RUNEX	235.8763	277.0034	291.0409	349.7685	766.6129	742.7878	1063.891	1618.629109	1307.864	1603.683	212.8665	990.4698	1447.757
A	CO2_NBIO_STREX	50.26584	59.08658	62.56437	74.18018	11.40483	7.74892	9.923841	0.264556139	13.1732	9.208666	60.07322	7.489255	17.04161
A	NOX_IDLEX	0	0	0	0	0.049341	0.079381	0.352977	5.30478221	0.425649	0	0	3.26327	0
A	NOX_RUNEX	0.027737	0.047368	0.041799	0.043383	0.394771	0.425805	1.292944	3.111031942	1.482655	0.689432	1.149806	4.47673	0.945948
A	NOX_STREX	0.162664	0.182542	0.208393	0.231245	0.271477	0.163706	1.652154	2.393507004	1.206304	0.099853	0.273472	0.697965	0.232269
A	PM10_IDLEX	0	0	0	0	0.000836	0.001396	0.00028	0.003957259	0.000138	0	0	0.003818	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.059880209	0.13034	0.07505	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009771	0.010736	0.012	0.034843578	0.012	0.031203	0.004	0.01019	0.013111
A	PM10_RUNEX	0.001256	0.001522	0.001362	0.00139	0.007386	0.011729	0.006152	0.023101264	0.007569	0.004994	0.002134	0.025209	0.012833
A	PM10_STREX	0.001673	0.00199	0.001739	0.001768	0.000231	0.000125	0.000121	1.95185E-06	0.000144	5.3E-05	0.003104	0.000118	0.000249
A	PM25_IDLEX	0	0	0	0	0.0008	0.001336	0.000268	0.00378607	0.000132	0	0	0.003653	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025662946	0.05586	0.032164	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002443	0.002684	0.003	0.008710895	0.003	0.007801	0.001	0.002548	0.003278
A	PM25_RUNEX	0.001157	0.0014	0.001253	0.001282	0.00702	0.011196	0.005879	0.022101747	0.007229	0.004776	0.001992	0.02409	0.012237
A	PM25_STREX	0.001538	0.00183	0.001599	0.001626	0.000212	0.000115	0.000112	1.79466E-06	0.000132	4.87E-05	0.002911	0.000108	0.000229
A	ROG_DIURN	0.029176	0.040523	0.034047	0.038801	0.001135	0.000618	0.000288	3.79012E-06	0.000783	0.000532	1.210994	0.000613	0.278537
A	ROG_HTSK	0.082122	0.096642	0.077716	0.084998	0.049895	0.028654	0.016834	0.000187979	0.012165	0.009661	0.520736	0.00777	0.027721
A	ROG_IDLEX	0	0	0	0	0.019862	0.015184	0.018737	0.357828703	0.046668	0	0	0.441096	0
A	ROG_RESTL	0.029888	0.039422	0.037624	0.043072	0.000721	0.000398	0.000187	2.65765E-06	0.000404	0.00041	0.719873	0.000296	0.122645
A	ROG_RUNEX	0.00589	0.01003	0.00828	0.008761	0.075128	0.094665	0.014294	0.03416666	0.020037	0.022352	2.177825	0.095536	0.040769
A	ROG_RUNLS	0.19313	0.385923	0.299334	0.302399	0.352109	0.191949	0.094836	0.000886658	0.144476	0.065855	1.782828	0.049351	0.652847
A	ROG_STREX	0.192572	0.221087	0.240368	0.27289	0.055414	0.032219	0.051021	1.41258E-05	0.072206	0.060317	1.938248	0.054828	0.081301
A	SO2_IDLEX	0	0	0	0	8.41E-05	0.000128	0.000603	0.008428261	0.000971	0	0	0.003495	0
A	SO2_RUNEX	9.92E-05	0.002528	0.010157	0.003386	0.007486	0.007176	0.010157	0.013773094	0.012569	0.010738	0.002106	0.009521	0.014208
A	SO2_STREX	0	0	9.82E-05	0.000719	0.000113	7.67E-05	9.82E-05	2.618E-06	0.00013	9.11E-05	0.000594	7.41E-05	0.000169
A	TOG_DIURN	0.029176	0.040523	0.034047	0.038801	0.001135	0.000618	0.000288	3.79012E-06	0.000783	0.000532	1.210994	0.000613	0.278537
A	TOG_HTSK	0.082122	0.096642	0.077716	0.084998	0.049895	0.028654	0.016834	0.000187979	0.012165	0.009661	0.520736	0.00777	0.027721
A	TOG_IDLEX	0	0	0	0	0.027921	0.0204	0.025758	0.423143224	0.059411	0	0	0.63685	0
A	TOG_RESTL	0.029888	0.039422	0.037624	0.043072	0.000721	0.000398	0.000187	2.65765E-06	0.000404	0.00041	0.719873	0.000296	0.122645
A	TOG_RUNEX	0.008563	0.014625	0.012045	0.012703	0.090692	0.109904	0.018069	0.211362231	0.026366	1.552378	2.720963	0.118845	0.052527
A	TOG_RUNLS	0.19313	0.385923	0.299334	0.302399	0.352109	0.191949	0.094836	0.000886658	0.144476	0.065855	1.782828	0.049351	0.652847
A	TOG_STREX	0.210842	0.242063	0.263172	0.298779	0.060672	0.035276	0.055861	1.54659E-05	0.079056	0.06604	2.110423	0.06003	0.089015

CalEEMod EMFAC2017 Fleet Mix Input — Year 2024

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Buildir	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.00618	0.00319	0.001482	0.012899	0.000551	0.000874
Junior College (2Yr)	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.00618	0.00319	0.001482	0.012899	0.000551	0.000874
Parking Lot	0.471019	0.071439	0.229021	0.145399	0.028465	0.007062	0.022417	0.00618	0.00319	0.001482	0.012899	0.000551	0.000874

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	0.003986	0.002442	0.003901	0.035131351	0.006786	0	0	0.158711	0
A	CH4_RUNEX	0.000852	0.001199	0.001311	0.00124	0.004485	0.004916	0.000937	0.194137316	0.001736	1.753545	0.321443	0.005719	0.004067
A	CH4_STREX	0.027995	0.030375	0.036629	0.037086	0.007391	0.004131	0.008528	2.75285E-06	0.013378	0.008063	0.251027	0.013855	0.018813
A	CO_IDLEX	0	0	0	0	0.17763	0.133247	0.380682	5.462542353	0.673868	0	0	5.80684	0
A	CO_RUNEX	0.38385	0.449439	0.477534	0.458815	0.395104	0.439535	0.137795	1.060042122	0.215989	13.24814	17.75932	0.518437	0.217504
A	CO_STREX	1.729372	1.837412	2.255504	2.243412	0.858889	0.486179	0.872262	0.044453299	1.342846	0.821747	9.386142	2.016593	1.589632
A	CO2_NBIO_IDLEX	0	0	0	0	8.079577	12.61932	55.53125	860.0795253	104.9894	0	0	372.7606	0
A	CO2_NBIO_RUNEX	211.7346	252.6221	258.0227	309.5606	689.792	670.1618	958.8152	1405.743927	1195.474	1616.163	212.5811	883.0362	1315.392
A	CO2_NBIO_STREX	44.87769	53.59628	55.03331	64.68695	9.940355	6.489172	8.663679	0.349370929	11.93019	7.489838	58.78275	11.08551	15.05823
A	NOX_IDLEX	0	0	0	0	0.040506	0.063426	0.285781	5.005792806	0.4738	0	0	2.284358	0
A	NOX_RUNEX	0.018181	0.025489	0.025605	0.024058	0.183135	0.213543	1.305825	2.726806679	1.491679	0.672477	1.144949	2.365155	0.842357
A	NOX_STREX	0.12348	0.136613	0.146271	0.15042	0.202777	0.117445	1.670496	2.401347627	1.221337	0.066175	0.273196	0.990806	0.220861
A	PM10_IDLEX	0	0	0	0	0.000916	0.001474	0.000116	0.00273804	0.000156	0	0	0.001799	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060218687	0.13034	0.07505	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009894	0.010825	0.012	0.035029144	0.012	0.031203	0.004	0.009695	0.013156
A	PM10_RUNEX	0.000873	0.001004	0.000996	0.000971	0.005896	0.012009	0.00632	0.021830158	0.008077	0.00493	0.002218	0.014432	0.009129
A	PM10_STREX	0.001229	0.001391	0.001314	0.001284	0.000201	0.000107	0.000113	3.44186E-06	0.000146	9.08E-05	0.003013	0.000189	0.000223
A	PM25_IDLEX	0	0	0	0	0.000876	0.00141	0.000111	0.002619594	0.000149	0	0	0.001721	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025808009	0.05586	0.032164	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002474	0.002706	0.003	0.008757286	0.003	0.007801	0.001	0.002424	0.003289
A	PM25_RUNEX	0.000803	0.000924	0.000917	0.000895	0.005597	0.011466	0.00604	0.020885574	0.007714	0.004714	0.002068	0.013773	0.008697
A	PM25_STREX	0.00113	0.001279	0.001208	0.001181	0.000185	9.87E-05	0.000104	3.16466E-06	0.000134	8.34E-05	0.002814	0.000174	0.000205
A	ROG_DIURN	0.020899	0.026166	0.029262	0.034946	0.000855	0.000423	0.000215	6.30401E-06	0.000697	0.000135	1.211607	0.001024	0.162772
A	ROG_HTSK	0.060613	0.065951	0.062747	0.06946	0.038129	0.018293	0.012334	0.00032247	0.011675	0.001673	0.490116	0.011684	0.014309
A	ROG_IDLEX	0	0	0	0	0.016705	0.013194	0.017988	0.358082865	0.050724	0	0	0.707161	0
A	ROG_RESTL	0.022062	0.027928	0.033593	0.039866	0.00059	0.000304	0.000155	4.76063E-06	0.000385	8.4E-05	0.713444	0.000569	0.082497
A	ROG_RUNEX	0.002935	0.004439	0.0048	0.00456	0.066593	0.091611	0.01069	0.030162405	0.014725	0.025667	2.134664	0.057034	0.030394
A	ROG_RUNLS	0.167086	0.27842	0.260943	0.256642	0.291514	0.109021	0.06354	0.001590977	0.145084	0.009452	1.403908	0.077014	0.251023
A	ROG_STREX	0.120212	0.129657	0.157885	0.163786	0.034932	0.019233	0.041593	1.43663E-05	0.065349	0.038467	1.8899	0.078938	0.069343
A	SO2_IDLEX	0	0	0	0	7.83E-05	0.000121	0.000527	0.007595194	0.000996	0	0	0.003587	0
A	SO2_RUNEX	9.16E-05	0.002421	0.009151	0.002858	0.006728	0.006467	0.009151	0.01166111	0.011484	0.010159	0.002104	0.008536	0.012904
A	SO2_STREX	0	0	8.57E-05	0.000598	9.84E-05	6.42E-05	8.57E-05	3.45731E-06	0.000118	7.41E-05	0.000582	0.00011	0.000149
A	TOG_DIURN	0.020899	0.026166	0.029262	0.034946	0.000855	0.000423	0.000215	6.30401E-06	0.000697	0.000135	1.211607	0.001024	0.162772
A	TOG_HTSK	0.060613	0.065951	0.062747	0.06946	0.038129	0.018293	0.012334	0.00032247	0.011675	0.001673	0.490116	0.011684	0.014309
A	TOG_IDLEX	0	0	0	0	0.023206	0.017394	0.024835	0.426245447	0.06396	0	0	1.026146	0
A	TOG_RESTL	0.022062	0.027928	0.033593	0.039866	0.00059	0.000304	0.000155	4.76063E-06	0.000385	8.4E-05	0.713444	0.000569	0.082497
A	TOG_RUNEX	0.004264	0.006476	0.006966	0.006594	0.078009	0.105237	0.01288	0.228314044	0.018506	1.790343	2.681801	0.071055	0.037597
A	TOG_RUNLS	0.167086	0.27842	0.260943	0.256642	0.291514	0.109021	0.06354	0.001590977	0.145084	0.009452	1.403908	0.077014	0.251023
A	TOG_STREX	0.131617	0.141959	0.172864	0.179325	0.038246	0.021057	0.045539	1.57293E-05	0.071549	0.042116	2.05874	0.086427	0.075922

CalEEMod EMFAC2017 Fleet Mix Input — Year 2030

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Buildir	0.439373	0.076262	0.240335	0.155302	0.0302	0.007858	0.025976	0.006311	0.002957	0.00143	0.012414	0.000613	0.000969
Junior College (2Yr)	0.439373	0.076262	0.240335	0.155302	0.0302	0.007858	0.025976	0.006311	0.002957	0.00143	0.012414	0.000613	0.000969
Parking Lot	0.439373	0.076262	0.240335	0.155302	0.0302	0.007858	0.025976	0.006311	0.002957	0.00143	0.012414	0.000613	0.000969

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: 2030	**1.0047**	**1.0051**	**1.0037**	**1.0142**	**1.0156**	**1.0702**

*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

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PM10_PM	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREI	TOG_HOTS	TOG_RUNI	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2022	HHDT	Aggregate	Aggregate	Gasoline	2.777853	472.715	55.57928	2.748403	0	0.013457	0.000841	0	0.000287	0.005	0.02646	0.000914	0	0.0000312	0.02	0.06174	1993.356	0	47.87156	0.066368	0	0.000589	0.122942	0	0.000657	0.295052	0	0.003082	0.032556	0.152655	0.008908	0.013368	0.43054	0	0.003374	0.032556	0.152655	0.008908	0.013368	26.85146	0	6.517482	0.019726	0	0.000474
San Mateo	2022	HHDT	Aggregate	Aggregate	Diesel	1215.42	107659.4	10539.66	4.165704	50.99253	2.212041	0.03369	0.041677	0	0.008693	0.025559	0.035214	0.043562	0	0.034774	0.059637	1648.504	8572.517	0	0.004229	0.152316	0	0.259122	1.34748	0	0.091043	3.27933	0	0	0	0	0	0.103645	3.733267	0	0	0	0	0	0.380722	42.35619	0	0.015574	0.080989	0
San Mateo	2022	HHDT	Aggregate	Aggregate	Natural Ga	134.8882	5494.913	526.064	1.204197	21.39831	0	0.00421	0.020699	0	0.009	0.02646	0.004401	0.021634	0	0.036	0.06174	3157.131	4089.807	0	3.342946	1.208742	0	0.643602	0.833734	0	0.116887	0.033614	0	0	0	0	0	3.490479	1.252231	0	0	0	0	0	10.906	19.18613	0	0	0	0
San Mateo	2022	LDA	Aggregate	Aggregate	Gasoline	285883.4	8730359	1356969	0.03605	0	0.193174	0.00125	0	0.001731	0.002	0.01575	0.00136	0	0.001882	0.008	0.03675	254.7223	0	54.53474	0.002104	0	0.052491	0.004124	0	0.025575	0.008184	0	0.24181	0.09584	0.215371	0.166346	0.165388	0.01194	0	0.26475	0.09584	0.215371	0.166346	0.165388	0.581955	0	2.356656	0.002521	0	0.00054
San Mateo	2022	LDA	Aggregate	Aggregate	Diesel	3168.217	96975.13	14978.02	0.065635	0	0	0.005571	0	0	0.002	0.01575	0.005823	0	0	0.008	0.03675	201.5201	0	0	0.000546	0	0	0.031676	0	0	0.011746	0	0	0	0	0	0	0.013372	0	0	0	0	0	0.18472	0	0	0.001905	0	0
San Mateo	2022	LDA	Aggregate	Aggregate	Electricity	7621.214	256590.1	37762.18	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2022	LDT1	Aggregate	Aggregate	Gasoline	41432.75	1266108	196720.5	0.063699	0	0.213989	0.001597	0	0.002094	0.002	0.01575	0.001737	0	0.002277	0.008	0.03675	290.5103	0	61.94231	0.003311	0	0.058348	0.005522	0	0.026341	0.014006	0	0.277497	0.117193	0.451758	0.222711	0.237262	0.020427	0	0.303823	0.117193	0.451758	0.222711	0.237262	0.787692	0	2.384672	0.002875	0	0.000613
San Mateo	2022	LDT1	Aggregate	Aggregate	Diesel	16.25248	284.3033	56.05197	0.973767	0	0	0.132117	0	0	0.002	0.01575	0.13809	0	0	0.008	0.03675	403.6574	0	0	0.008132	0	0	0.063449	0	0	0.175077	0	0	0	0	0	0	0.199314	0	0	0	0	0	0.968724	0	0	0.003816	0	0
San Mateo	2022	LDT1	Aggregate	Aggregate	Electricity	359.7921	12796.34	1812.632	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2022	LDT2	Aggregate	Aggregate	Gasoline	132267.5	4056131	631991.8	0.054439	0	0.253266	0.00135	0	0.001756	0.002	0.01575	0.001468	0	0.00191	0.008	0.03675	309.9528	0	67.29858	0.002693	0	0.063591	0.005055	0	0.030403	0.010574	0	0.290905	0.08787	0.321064	0.193616	0.17912	0.015425	0	0.318504	0.08787	0.321064	0.193616	0.17912	0.675215	0	2.833844	0.003067	0	0.000666
San Mateo	2022	LDT2	Aggregate	Aggregate	Diesel	1027.683	34465.38	5067.758	0.036059	0	0	0.00431	0	0	0.002	0.01575	0.004505	0	0	0.008	0.03675	272.2158	0	0	0.000608	0	0	0.042789	0	0	0.013089	0	0	0	0	0	0	0.014901	0	0	0	0	0	0.113636	0	0	0.002573	0	0
San Mateo	2022	LDT2	Aggregate	Aggregate	Electricity	1743.196	47537.34	8780.26	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2022	LHDT1	Aggregate	Aggregate	Gasoline	8860.681	296397.6	132010.9	0.164845	0.037097	0.481227	0.002071	0	0.000356	0.002	0.03276	0.002252	0	0.000387	0.008	0.07644	992.6659	119.525	18.77226	0.007781	0.119821	0.021008	0.01052	0.003169	0.039372	0.036446	0.425239	0.104681	0.089625	0.634387	0.018517	0.029926	0.053182	0.620507	0.114613	0.089625	0.634387	0.018517	0.029926	0.672007	3.760132	1.686748	0.009823	0.001183	0.000186
San Mateo	2022	LHDT1	Aggregate	Aggregate	Diesel	5881.241	218648.3	73978.61	1.008919	1.817135	0	0.015674	0.026708	0	0.003	0.03276	0.016383	0.027916	0	0.012	0.07644	530.9331	129.4717	0	0.006468	0.005098	0	0.083455	0.020351	0	0.139258	0.10976	0	0	0	0	0	0.158536	0.124954	0	0	0	0	0	0.540902	0.909745	0	0.005019	0.001224	0
San Mateo	2022	LHDT2	Aggregate	Aggregate	Gasoline	1238.578	40924.28	18452.97	0.180484	0.036448	0.486851	0.002003	0	0.000323	0.002	0.03822	0.002179	0	0.000351	0.008	0.08918	1131.957	137.2937	21.32692	0.006639	0.117752	0.020688	0.011966	0.003025	0.038755	0.028918	0.417874	0.102654	0.089873	0.641758	0.017651	0.028619	0.042197	0.60976	0.112393	0.089873	0.641758	0.017651	0.028619	0.528397	3.761867	1.697237	0.011202	0.001359	0.000211
San Mateo	2022	LHDT2	Aggregate	Aggregate	Diesel	2262.753	83013.72	28462.58	0.757324	1.796044	0	0.016155	0.026868	0	0.003	0.03822	0.016885	0.028083	0	0.012	0.08918	595.284	207.3357	0	0.006136	0.005098	0	0.09357	0.03259	0	0.132094	0.10976	0	0	0	0	0	0.15038	0.124954	0	0	0	0	0	0.510466	0.909745	0	0.005628	0.00196	0
San Mateo	2022	MCY	Aggregate	Aggregate	Gasoline	16529.54	149168.5	33059.08	1.153943	0	0.273469	0.001956	0	0.003138	0.001	0.00504	0.002094	0	0.003337	0.004	0.01176	213.0842	0	60.80181	0.329874	0	0.259736	0.066591	0	0.015569	2.210717	0	1.965768	0.5674	1.990179	0.756717	1.245335	2.749517	0	2.139822	0.5674	1.990179	0.756717	1.245335	19.01708	0	9.173957	0.002109	0	0.000602
San Mateo	2022	MDV	Aggregate	Aggregate	Gasoline	80314	2498802	381574.2	0.06087	0	0.297162	0.001379	0	0.001889	0.002	0.01575	0.0015	0	0.002054	0.008	0.03675	372.4557	0	81.68051	0.002995	0	0.073	0.00551	0	0.032365	0.01208	0	0.352502	0.099964	0.339622	0.228954	0.209677	0.017601	0	0.385941	0.099964	0.339622	0.228954	0.209677	0.708583	0	3.157881	0.003686	0	0.000808
San Mateo	2022	MDV	Aggregate	Aggregate	Diesel	2272.544	78162.23	11166.87	0.030566	0	0	0.003443	0	0	0.002	0.01575	0.003598	0	0	0.008	0.03675	354.0945	0	0	0.000407	0	0	0.055659	0	0	0.008755	0	0	0	0	0	0	0.009967	0	0	0	0	0	0.162994	0	0	0.003347	0	0
San Mateo	2022	MDV	Aggregate	Aggregate	Electricity	791.7548	22645.44	4049.972	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2022	MH	Aggregate	Aggregate	Gasoline	1080.218	11056.79	108.065	0.243025	0	0.33071	0.001467	0	0.000343	0.003	0.05586	0.001595	0	0.000373	0.012	0.13034	1694.184	0	24.78959	0.009323	0	0.030643	0.018018	0	0.037255	0.037663	0	0.123517	0.051682	1.255047	0.02193	0.051653	0.054958	0	0.135236	0.051682	1.255047	0.02193	0.051653	0.903608	0	2.791484	0.016765	0	0.000245
San Mateo	2022	MH	Aggregate	Aggregate	Diesel	406.2479	4155.317	40.62479	3.121607	0	0	0.049181	0	0	0.004	0.05586	0.051405	0	0	0.016	0.13034	992.5125	0	0	0.003823	0	0	0.156009	0	0	0.08231	0	0	0	0	0	0	0.093704	0	0	0	0	0	0.268912	0	0	0.009383	0	0
San Mateo	2022	MHDT	Aggregate	Aggregate	Gasoline	956.0975	56310.16	19129.6	0.401293	0.088681	0.375151	0.001267	0	0.000435	0.003	0.05586	0.001378	0	0.000473	0.012	0.13034	1713.287	529.7913	38.50416	0.01254	0.269583	0.039811	0.020842	0.007794	0.030516	0.060239	1.015611	0.211025	0.073361	0.429541	0.015892	0.025569	0.0879	1.481978	0.231046	0.073361	0.429541	0.015892	0.025569	1.376857	15.15013	4.694572	0.016954	0.005243	0.000381
San Mateo	2022	MHDT	Aggregate	Aggregate	Diesel	5059.28	329296.5	52181.07	1.960322	6.832488	1.758779	0.030959	0.013394	0	0.003	0.05586	0.032358	0.013999	0	0.012	0.13034	1018.114	861.5358	0	0.003362	0.004323	0	0.160033	0.135421	0	0.072373	0.093082	0	0	0	0	0	0.082391	0.105966	0	0	0	0	0	0.263752	2.486018	0	0.009619	0.008139	0
San Mateo	2022	OBUS	Aggregate	Aggregate	Gasoline	309.4493	17506.11	6191.461	0.33037	0.065013	0.303626	0.001018	0	0.000244	0.003	0.05586	0.001107	0	0.000265	0.012	0.13034	1751.792	374.5056	25.80105	0.010497	0.206047	0.028879	0.018303	0.005993	0.026834	0.049402	0.745556	0.143567	0.02327	0.273775	0.015372	0.030329	0.072088	1.087914	0.157188	0.02327	0.273775	0.015372	0.030329	1.088572	5.770329	3.038446	0.017335	0.003706	0.000255
San Mateo	2022	OBUS	Aggregate	Aggregate	Diesel	640.9896	44517.47	5852.545	2.479476	10.18109	1.868753	0.0211	0.014245	0	0.003	0.05586	0.022055	0.014889	0	0.012	0.13034	1198.226	1839.754	0	0.002945	0.026687	0	0.188345	0.289184	0	0.063402	0.574566	0	0	0	0	0	0.072178	0.654099	0	0	0	0	0	0.255295	8.204825	0	0.01132	0.017381	0
San Mateo	2022	SBUS	Aggregate	Aggregate	Gasoline	77.55394	3920.213	310.2158	0.624562	0.923435	0.499036	0.001669	0	0.000705	0.002	0.3192	0.001815	0	0.000767	0.008	0.7448	829.8891	2479.137	49.61529	0.018397	2.444511	0.064533	0.031012	0.089824	0.04739	0.090991	10.59598	0.372063	0.057941	0.422429	0.008158	0.017898	0.132774	15.46163	0.407362	0.057941	0.422429	0.008158	0.017898	2.030575	81.96501	10.05224	0.008212	0.024533	0.000491
San Mateo	2022	SBUS	Aggregate	Aggregate	Diesel	187.2294	5867.013	2160.601	8.328847	46.1304	0.635561	0.046003	0.057864	0	0.003	0.3192	0.048083	0.060481	0	0.012	0.7448	1161.116	3723.952	0	0.005644	0.013947	0	0.182511	0.585353	0	0.121506	0.300269	0	0	0	0	0	0.138326	0.341834	0	0	0	0	0	0.309322	5.361526	0	0.01097	0.035182	0
San Mateo	2022	UBUS	Aggregate	Aggregate	Gasoline	38.25826	926.8645	153.033	0.309327	0	0.947655	0.00108	0	0.000458	0.00277	0.051797	0.001175	0	0.000498	0.011079	0.120859	2030.959	0	92.62484	0.005436	0	0.113553	0.023538	0	0.07018	0.019935	0	0.563609	0.063702	0.409387	0.011307	0.01505	0.029089	0	0.617081	0.063702	0.409387	0.011307	0.01505	0.364269	0	8.245509	0.020098	0	0.000917
San Mateo	2022	UBUS	Aggregate	Aggregate	Diesel	304.5567	24358.67	1218.227	3.892763	0	0	0.008124	0	0	0.007894	0.031881	0.008491	0	0	0.031575	0.074388	1767.776	0	0	0.243684	0	0	0.27787	0	0	0.003482	0	0	0	0	0	0	0.248697	0	0	0	0	0	0.395545	0	0	0.016712	0	0
San Mateo	2022	UBUS	Aggregate	Aggregate	Natural Ga	39.98943	2699.2	159.9577	0.496847	0	0	0.003228	0	0	0.008689	0.027983	0.003374	0	0	0.034756	0.065295	2042.54	0	0	6.539969	0	0	0.416385	0	0	0.093443	0	0	0	0	0	0	6.674518	0	0	0	0	0	50.8863	0	0	0	0	0

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_SPM	PM2.5_PMP	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PMP	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	TOG_RUNI	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2023	HHDT	Aggregate	Aggregate	Gasoline	3.055671	500.2206	61.13787	2.755843	0	0.01246	0.000878	0	0.000296	0.005	0.02646	0.000955	0	0.000322	0.02	0.06174	1954.399	0	46.5388	0.065813	0	0.000543	0.123296	0	0.000608	0.290899	0	0.002838	0.032034	0.150551	0.00894	0.01303	0.42448	0	0.003108	0.032034	0.150551	0.00894	0.01303	26.71612	0	6.086187	0.01934	0	0.000461
San Mateo	2023	HHDT	Aggregate	Aggregate	Diesel	1217.472	108876.1	10616.4	3.274343	47.17369	2.526956	0.023047	0.035282	0	0.008703	0.025588	0.024089	0.036878	0	0.034813	0.059704	1567.157	8337.763	0	0.001381	0.153153	0	0.246335	1.31058	0	0.029726	3.297349	0	0	0	0.033841	3.753781	0	0	0	0	0	0	0.243071	45.76251	0	0.014806	0.078771	0
San Mateo	2023	HHDT	Aggregate	Aggregate	Natural Ga	142.9084	5821.917	557.3427	1.080351	20.97355	0	0.003989	0.018645	0	0.009	0.02646	0.004169	0.019488	0	0.036	0.06174	3118.198	4027.532	0	3.300878	1.201413	0	0.635665	0.821039	0	0.106733	0.03124	0	0	0	3.436662	1.242166	0	0	0	0	0	0	10.94908	19.46289	0	0	0	0
San Mateo	2023	LDA	Aggregate	Aggregate	Gasoline	290091.8	8594894	1377124	0.031902	0	0.181025	0.001203	0	0.001666	0.002	0.01575	0.001309	0	0.001812	0.008	0.03675	247.6502	0	53.03308	0.001842	0	0.048451	0.003817	0	0.02447	0.007025	0	0.220481	0.090373	0.208168	0.156774	0.154182	0.542949	0	0.241399	0.090373	0.208168	0.156774	0.154182	0.542949	0	2.287996	0.002451	0	0.000525
San Mateo	2023	LDA	Aggregate	Aggregate	Diesel	3279.935	97210.11	15502.41	0.054028	0	0	0.004751	0	0	0.002	0.01575	0.004966	0	0	0.008	0.03675	196.2112	0	0	0.000484	0	0	0.030842	0	0	0.010417	0	0	0	0	0.011859	0	0	0	0	0	0	0.175149	0	0	0.001855	0	0
San Mateo	2023	LDA	Aggregate	Aggregate	Electricity	8626.436	291225.7	42688.73	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2023	LDT1	Aggregate	Aggregate	Gasoline	43880.84	1298514	208454.6	0.054941	0	0.198438	0.001488	0	0.001966	0.002	0.01575	0.001619	0	0.002138	0.008	0.03675	283.161	0	60.31638	0.002854	0	0.053222	0.004998	0	0.02519	0.011876	0	0.248796	0.106557	0.417878	0.204729	0.214117	0.713777	0	0.2724	0.106557	0.417878	0.204729	0.214117	0.713777	0	2.314924	0.002802	0	0.000597
San Mateo	2023	LDT1	Aggregate	Aggregate	Diesel	15.42592	269.9834	53.74669	0.87106	0	0	0.118273	0	0	0.002	0.01575	0.12362	0	0	0.008	0.03675	395.0075	0	0	0.007307	0	0	0.06209	0	0	0.157316	0	0	0	0	0.179094	0	0	0	0	0	0	0.873515	0	0	0.003734	0	0
San Mateo	2023	LDT1	Aggregate	Aggregate	Electricity	484.2286	17303.16	2439.045	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2023	LDT2	Aggregate	Aggregate	Gasoline	139623.2	4143078	666842.2	0.047793	0	0.23213	0.001291	0	0.001695	0.002	0.01575	0.001404	0	0.001843	0.008	0.03675	299.7391	0	65.10466	0.002417	0	0.059096	0.004623	0	0.028692	0.009361	0	0.267629	0.083347	0.312906	0.188362	0.172142	0.613659	0	0.29302	0.083347	0.312906	0.188362	0.172142	0.633607	0	2.757648	0.002966	0	0.000644
San Mateo	2023	LDT2	Aggregate	Aggregate	Diesel	1137.767	36481.51	5588.799	0.034085	0	0	0.004138	0	0	0.002	0.01575	0.004326	0	0	0.008	0.03675	264.8656	0	0	0.000596	0	0	0.041633	0	0	0.012839	0	0	0	0	0.014616	0	0	0	0	0	0	0.1146	0	0	0.002504	0	0
San Mateo	2023	LDT2	Aggregate	Aggregate	Electricity	2196.859	57597.23	11035.52	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2023	LHDT1	Aggregate	Aggregate	Gasoline	9184.647	298155	136837.6	0.146508	0.03583	0.457992	0.002064	0	0.000349	0.002	0.03276	0.002245	0	0.000379	0.008	0.07644	980.2064	118.3172	18.57441	0.006991	0.116393	0.019428	0.00946	0.0031	0.037858	0.032554	0.410777	0.096398	0.084689	0.596453	0.017895	0.028534	0.047503	0.599405	0.105544	0.084689	0.596453	0.017895	0.028534	0.60669	3.762478	1.646126	0.0097	0.001171	0.000184
San Mateo	2023	LHDT1	Aggregate	Aggregate	Diesel	6380.21	228898.1	80255.01	0.853532	1.693904	0	0.014342	0.026611	0	0.003	0.03276	0.01499	0.027815	0	0.012	0.07644	522.6595	127.566	0	0.006314	0.005098	0	0.082155	0.020052	0	0.135941	0.10976	0	0	0	0.15476	0.124954	0	0	0	0	0	0	0.531625	0.909745	0	0.004941	0.001206	0
San Mateo	2023	LHDT2	Aggregate	Aggregate	Gasoline	1294.417	41593.11	19284.88	0.156581	0.035085	0.461892	0.001986	0	0.000314	0.002	0.03822	0.00216	0	0.000342	0.008	0.08918	1116.901	135.7867	21.07235	0.005714	0.114172	0.019063	0.010577	0.002966	0.037259	0.024468	0.402353	0.093964	0.082901	0.573458	0.016702	0.026503	0.035703	0.587113	0.102878	0.082901	0.573458	0.016702	0.026503	0.452094	3.765356	1.642524	0.011053	0.001344	0.000209
San Mateo	2023	LHDT2	Aggregate	Aggregate	Diesel	2480.443	87385.41	31200.85	0.647819	1.675799	0	0.015717	0.026806	0	0.003	0.03822	0.016428	0.028018	0	0.012	0.08918	586.252	204.497	0	0.006045	0.005098	0	0.092151	0.032144	0	0.130142	0.10976	0	0	0	0.148158	0.124954	0	0	0	0	0	0	0.508254	0.909745	0	0.005542	0.001933	0
San Mateo	2023	MCY	Aggregate	Aggregate	Gasoline	17505.45	153578.5	35010.89	1.151567	0	0.273452	0.001976	0	0.003018	0.001	0.00504	0.002116	0	0.003215	0.004	0.01176	212.962	0	60.40771	0.328042	0	0.258109	0.066467	0	0.015578	2.192298	0	1.950915	0.54113	1.878993	0.73591	1.225431	2.733575	0	2.123956	0.54113	1.878993	0.73591	1.225431	18.72293	0	9.210173	0.002107	0	0.000598
San Mateo	2023	MDV	Aggregate	Aggregate	Gasoline	84888.43	2564795	403532.7	0.051866	0	0.267833	0.001306	0	0.001792	0.002	0.01575	0.00142	0	0.001949	0.008	0.03675	360.0032	0	78.91241	0.002616	0	0.066619	0.004935	0	0.030278	0.010357	0	0.317241	0.093907	0.326327	0.2209	0.200463	0.615098	0	0.347337	0.093907	0.326327	0.2209	0.200463	0.653382	0	3.015158	0.003563	0	0.000781
San Mateo	2023	MDV	Aggregate	Aggregate	Diesel	2504.464	82454.58	12262.04	0.027008	0	0	0.003149	0	0	0.002	0.01575	0.003292	0	0	0.008	0.03675	344.0779	0	0	0.000379	0	0	0.054084	0	0	0.008161	0	0	0	0	0.009291	0	0	0	0	0	0	0.159494	0	0	0.003253	0	0
San Mateo	2023	MDV	Aggregate	Aggregate	Electricity	1127.588	30889.87	5745.933	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0
San Mateo	2023	MH	Aggregate	Aggregate	Gasoline	1145.726	11538.86	114.6184	0.209755	0	0.327506	0.00142	0	0.000329	0.003	0.05586	0.001544	0	0.000358	0.012	0.13034	1669.736	0	24.30987	0.007984	0	0.029821	0.016595	0	0.037509	0.03098	0	0.118003	0.044332	1.064545	0.019179	0.044385	0.045207	0	0.129198	0.044332	1.064545	0.019179	0.044385	0.711006	0	2.673899	0.016523	0	0.000241
San Mateo	2023	MH	Aggregate	Aggregate	Diesel	442.5346	4384.325	44.25346	3.009774	0	0	0.04433	0	0	0.004	0.05586	0.046334	0	0	0.016	0.13034	979.6965	0	0	0.003713	0	0	0.153995	0	0	0.079949	0	0	0	0	0.091017	0	0	0	0	0	0	0.257494	0	0	0.009262	0	0
San Mateo	2023	MHDT	Aggregate	Aggregate	Gasoline	1005.267	58375.19	20113.38	0.326754	0.088843	0.364081	0.001259	0	0.000421	0.003	0.05586	0.001369	0	0.000458	0.012	0.13034	1687.924	523.2546	37.58737	0.010187	0.272601	0.03807	0.017922	0.007997	0.030497	0.048173	1.018022	0.198688	0.06715	0.385691	0.014669	0.023108	0.070294	1.485496	0.217538	0.06715	0.385691	0.014669	0.023108	1.087844	15.17813	4.394059	0.016703	0.005178	0.000372
San Mateo	2023	MHDT	Aggregate	Aggregate	Diesel	5163.769	346456	53270.39	1.451235	5.25095	2.128242	0.006583	0.004461	0	0.003	0.05586	0.00688	0.004663	0	0.012	0.13034	982.8961	824.864	0	0.000473	0.003346	0	0.154498	0.129657	0	0.010189	0.072039	0	0	0	0.0116	0.082011	0	0	0	0	0	0	0.106142	2.550357	0	0.009286	0.007793	0
San Mateo	2023	OBUS	Aggregate	Aggregate	Gasoline	315.3513	17191.6	6309.548	0.29929	0.065034	0.300413	0.001056	0	0.00025	0.003	0.05586	0.001148	0	0.000271	0.012	0.13034	1727.964	370.8985	25.47761	0.009528	0.206062	0.028265	0.016983	0.006019	0.026672	0.04465	0.745868	0.14028	0.023356	0.275563	0.015574	0.03045	0.065153	1.088369	0.153589	0.023356	0.275563	0.015574	0.03045	0.973782	5.772212	2.970347	0.0171	0.00367	0.000252
San Mateo	2023	OBUS	Aggregate	Aggregate	Diesel	626.0608	43885.37	5714.531	1.904485	8.061567	2.209676	0.009144	0.002511	0	0.003	0.05586	0.009558	0.002625	0	0.012	0.13034	1162.895	1773.289	0	0.000565	0.023803	0	0.182791	0.278736	0	0.012172	0.512466	0	0	0	0.013856	0.583403	0	0	0	0	0	0	0.141092	8.772493	0	0.010986	0.016753	0
San Mateo	2023	SBUS	Aggregate	Aggregate	Gasoline	88.08169	4315.388	352.3267	0.56414	0.924307	0.490842	0.001598	0	0.000687	0.002	0.3192	0.001738	0	0.000747	0.008	0.7448	819.9261	2453.017	48.5941	0.016081	2.446674	0.062153	0.028362	0.091262	0.047262	0.079637	10.60902	0.357857	0.050554	0.320788	0.007462	0.015764	0.116207	15.48066	0.391809	0.050554	0.320788	0.007462	0.015764	1.727863	82.04355	9.671696	0.008114	0.024275	0.000481
San Mateo	2023	SBUS	Aggregate	Aggregate	Diesel	185.0286	5789.663	2135.205	8.059283	45.23191	0.685163	0.044415	0.054023	0	0.003	0.3192	0.046424	0.056466	0	0.012	0.7448	1152.743	3714.11	0	0.00555	0.013712	0	0.181195	0.583806	0	0.119491	0.295224	0	0	0	0.136031	0.33609	0	0	0	0	0	0	0.307201	5.542436	0	0.010891	0.035089	0
San Mateo	2023	UBUS	Aggregate	Aggregate	Gasoline	38.27565	927.2857	153.1026	0.318928	0	0.967963	0.001081	0	0.000458	0.00277	0.051797	0.001176	0	0.000498	0.011079	0.120859	2030.835	0	92.66062	0.005413	0	0.115956	0.024057	0	0.071047	0.019896	0	0.577057	0.082372	0.544278	0.014394	0.018819	0.029032	0	0.631805	0.082372	0.544278	0.014394	0.018819	0.372309	0	8.242634	0.020097	0	0.000917
San Mateo	2023	UBUS	Aggregate	Aggregate	Diesel	304.6684	24367.43	1218.674	3.891644	0	0	0.008123	0	0	0.007894	0.03188	0.00849	0	0	0.031575	0.074388	1767.673	0	0	0.243623	0	0	0.277854	0	0	0.003481	0	0	0	0	0.248635	0	0	0	0	0	0	0.395448	0	0	0.016711	0	0
San Mateo	2023	UBUS	Aggregate	Aggregate	Natural Ga	40.03458	2702.739	160.1383	0.496814	0	0	0.003228	0	0	0.008688	0.027988	0.003374	0	0	0.034753	0.065306	2042.425	0	0	6.539416	0	0	0.416362	0	0	0.093435	0	0	0	0	6.673954	0	0	0	0	0	0	50.88157	0	0	0	0	0

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDL	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLE	N2O_STRE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2024	HHDT	Aggregate	Aggregate	Gasoline	3.340078	525.6092	66.82827	2.774135	0	0.009948	0.000913	0	0.000307	0.005	0.02646	0.000993	0	0.000334	0.02	0.06174	1907.586	0	45.28841	0.065949	0	0.000462	0.123949	0	0.000487	0.290626	0	0.002418	0.03218	0.151784	0.009103	0.012982	0.42408	0	0.002648	0.03218	0.151784	0.009103	0.012982	26.75024	0	5.770314	0.018877	0	0.000448
San Mateo	2024	HHDT	Aggregate	Aggregate	Diesel	1224.629	110155.8	10786.66	3.231435	47.0274	2.538439	0.023221	0.033293	0	0.008713	0.025615	0.024271	0.034798	0	0.03485	0.059768	1536.379	8333.857	0	0.001365	0.155094	0	0.241497	1.309966	0	0.029382	3.339132	0	0	0	0	0.03345	3.801348	0	0	0	0	0	0.245991	46.61969	0	0.014515	0.078734	0
San Mateo	2024	HHDT	Aggregate	Aggregate	Natural Ga	150.4116	6128.064	586.6051	0.97561	20.58415	0	0.003801	0.016897	0	0.009	0.02646	0.003973	0.017661	0	0.036	0.06174	3072.34	3957.216	0	3.265335	1.195233	0	0.626317	0.806704	0	0.098169	0.029231	0	0	0	0	3.391208	1.23367	0	0	0	0	0	10.98538	19.74996	0	0	0	0
San Mateo	2024	LDA	Aggregate	Aggregate	Gasoline	294102.5	8474944	1396041	0.028591	0	0.169928	0.001163	0	0.001609	0.002	0.01575	0.001265	0	0.001749	0.008	0.03675	240.5649	0	51.50724	0.001623	0	0.044708	0.003567	0	0.023375	0.006075	0	0.201191	0.085637	0.201794	0.148134	0.144307	0.008864	0	0.220279	0.085637	0.201794	0.148134	0.144307	0.50983	0	2.204685	0.002381	0	0.00051
San Mateo	2024	LDA	Aggregate	Aggregate	Diesel	3374.638	97387.27	15964.24	0.044485	0	0	0.004031	0	0	0.002	0.01575	0.004213	0	0	0.008	0.03675	190.833	0	0	0.00043	0	0	0.029996	0	0	0.009262	0	0	0	0	0	0.010545	0	0	0	0	0	0.167062	0	0	0.001804	0	0
San Mateo	2024	LDA	Aggregate	Aggregate	Electricity	9734.825	330411.9	48125.24	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2024	LDT1	Aggregate	Aggregate	Gasoline	46274.85	1327671	219789.5	0.047965	0	0.184968	0.001396	0	0.001857	0.002	0.01575	0.001518	0	0.002019	0.008	0.03675	275.9301	0	58.728	0.002481	0	0.048694	0.004575	0	0.024108	0.010162	0	0.224048	0.097876	0.39113	0.189726	0.194905	0.014827	0	0.245304	0.097876	0.39113	0.189726	0.194905	0.654648	0	2.242142	0.002731	0	0.000581
San Mateo	2024	LDT1	Aggregate	Aggregate	Diesel	14.75135	259.1631	51.99878	0.775067	0	0	0.105387	0	0	0.002	0.01575	0.110152	0	0	0.008	0.03675	385.7069	0	0	0.006548	0	0	0.060628	0	0	0.140973	0	0	0	0	0	0.160488	0	0	0	0	0	0.78782	0	0	0.003646	0	0
San Mateo	2024	LDT1	Aggregate	Aggregate	Electricity	623.569	22341.13	3136.187	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2024	LDT2	Aggregate	Aggregate	Gasoline	146815.9	4222216	700530.3	0.042505	0	0.213971	0.001241	0	0.001644	0.002	0.01575	0.00135	0	0.001787	0.008	0.03675	289.996	0	63.01171	0.002186	0	0.054987	0.004273	0	0.027118	0.008364	0	0.246826	0.079717	0.307408	0.184309	0.166616	0.012204	0	0.270243	0.079717	0.307408	0.184309	0.166616	0.60044	0	2.682789	0.00287	0	0.000624
San Mateo	2024	LDT2	Aggregate	Aggregate	Diesel	1244.83	38275.94	6089.109	0.032852	0	0	0.004089	0	0	0.002	0.01575	0.004274	0	0	0.008	0.03675	257.6915	0	0	0.000593	0	0	0.040506	0	0	0.012762	0	0	0	0	0	0.014528	0	0	0	0	0	0.116086	0	0	0.002436	0	0
San Mateo	2024	LDT2	Aggregate	Aggregate	Electricity	2699.962	68242.72	13524.39	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2024	LHDT1	Aggregate	Aggregate	Gasoline	9501.865	299875.4	141563.6	0.130571	0.034643	0.437271	0.00206	0	0.000342	0.002	0.03276	0.00224	0	0.000372	0.008	0.07644	966.9313	117.0214	18.3699	0.006265	0.113155	0.018067	0.008554	0.003033	0.036513	0.028882	0.397231	0.089256	0.080366	0.567146	0.017295	0.027231	0.042145	0.579638	0.097724	0.080366	0.567146	0.017295	0.027231	0.54566	3.764648	1.611989	0.009569	0.001158	0.000182
San Mateo	2024	LHDT1	Aggregate	Aggregate	Diesel	6873.07	238144.2	86454.57	0.727458	1.589011	0	0.013266	0.026539	0	0.003	0.03276	0.013866	0.027739	0	0.012	0.07644	514.3685	125.6672	0	0.006194	0.005098	0	0.080852	0.019753	0	0.133361	0.10976	0	0	0	0	0.151822	0.124954	0	0	0	0	0	0.526606	0.909745	0	0.004863	0.001188	0
San Mateo	2024	LHDT2	Aggregate	Aggregate	Gasoline	1349.157	42194	20100.42	0.137328	0.03386	0.439648	0.001977	0	0.000308	0.002	0.03822	0.00215	0	0.000335	0.008	0.08918	1101.051	134.1889	20.8104	0.004998	0.110899	0.017673	0.009465	0.002908	0.035917	0.021039	0.388401	0.086527	0.076952	0.515495	0.015916	0.024736	0.0307	0.566754	0.094736	0.076952	0.515495	0.015916	0.024736	0.393259	3.768238	1.596845	0.010896	0.001328	0.000206
San Mateo	2024	LHDT2	Aggregate	Aggregate	Diesel	2693.515	91287.51	33881.03	0.559143	1.573942	0	0.015457	0.02677	0	0.003	0.03822	0.016156	0.02798	0	0.012	0.08918	577.195	201.6447	0	0.005978	0.005098	0	0.090727	0.031696	0	0.128697	0.10976	0	0	0	0	0.146512	0.124954	0	0	0	0	0	0.508917	0.909745	0	0.005457	0.001906	0
San Mateo	2024	MCY	Aggregate	Aggregate	Gasoline	18448	157304.8	36896.01	1.149806	0	0.273472	0.001992	0	0.002911	0.001	0.00504	0.002134	0	0.003104	0.004	0.01176	212.8665	0	60.07322	0.326553	0	0.256701	0.066367	0	0.015587	2.177825	0	1.938248	0.520736	1.782828	0.719873	1.210994	2.720963	0	2.110423	0.520736	1.782828	0.719873	1.210994	18.4893	0	9.242251	0.002106	0	0.000594
San Mateo	2024	MDV	Aggregate	Aggregate	Gasoline	89318.17	2622366	424585	0.044619	0	0.242362	0.001242	0	0.001706	0.002	0.01575	0.001351	0	0.001856	0.008	0.03675	348.1193	0	76.26116	0.002298	0	0.060884	0.004468	0	0.028361	0.008921	0	0.286038	0.089014	0.317001	0.214581	0.19315	0.013012	0	0.313174	0.089014	0.317001	0.214581	0.19315	0.607111	0	2.879564	0.003445	0	0.000755
San Mateo	2024	MDV	Aggregate	Aggregate	Diesel	2729.074	86264.84	13313.03	0.02405	0	0	0.00287	0	0	0.002	0.01575	0.003	0	0	0.008	0.03675	334.3395	0	0	0.000354	0	0	0.052554	0	0	0.00763	0	0	0	0	0	0.008686	0	0	0	0	0	0.156702	0	0	0.003161	0	0
San Mateo	2024	MDV	Aggregate	Aggregate	Electricity	1504.029	39563.92	7633.364	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2024	MH	Aggregate	Aggregate	Gasoline	1208.61	11930.07	120.9093	0.186095	0	0.324161	0.001387	0	0.00032	0.003	0.05586	0.001509	0	0.000348	0.012	0.13034	1634.372	0	23.78371	0.007051	0	0.029117	0.015584	0	0.037574	0.026395	0	0.113466	0.038688	0.911129	0.017124	0.038889	0.038516	0	0.124231	0.038688	0.911129	0.017124	0.038889	0.581499	0	2.579873	0.016173	0	0.000235
San Mateo	2024	MH	Aggregate	Aggregate	Diesel	478.3477	4588.34	47.83477	2.921628	0	0	0.040446	0	0	0.004	0.05586	0.042275	0	0	0.016	0.13034	962.5417	0	0	0.00363	0	0	0.151298	0	0	0.078141	0	0	0	0	0	0.088959	0	0	0	0	0	0.248533	0	0	0.009099	0	0
San Mateo	2024	MHDT	Aggregate	Aggregate	Gasoline	1056.323	60328.95	21134.91	0.270931	0.088973	0.354777	0.001256	0	0.000412	0.003	0.05586	0.001367	0	0.000448	0.012	0.13034	1654.741	515.0251	36.65381	0.00846	0.274828	0.036611	0.015729	0.008152	0.030448	0.039342	1.019943	0.188446	0.062176	0.350276	0.013807	0.021319	0.057408	1.488299	0.206325	0.062176	0.350276	0.013807	0.021319	0.87578	15.20046	4.142766	0.016375	0.005097	0.000363
San Mateo	2024	MHDT	Aggregate	Aggregate	Diesel	5509.863	363382.9	56927.12	1.462619	4.983811	2.133821	0.006646	0.003802	0	0.003	0.05586	0.006946	0.003974	0	0.012	0.13034	965.7975	801.5404	0	0.000471	0.003248	0	0.15181	0.125991	0	0.010135	0.069918	0	0	0	0	0.011538	0.079596	0	0	0	0	0	0.106949	2.546648	0	0.009124	0.007573	0
San Mateo	2024	OBUS	Aggregate	Aggregate	Gasoline	319.8786	16898.35	6400.131	0.268159	0.065066	0.298099	0.001086	0	0.000252	0.003	0.05586	0.001182	0	0.000274	0.012	0.13034	1696.804	366.2147	25.08678	0.008521	0.206241	0.027757	0.015711	0.006049	0.026575	0.039552	0.746341	0.137507	0.023166	0.275136	0.015412	0.029824	0.057714	1.08906	0.150553	0.023166	0.275136	0.015412	0.029824	0.855315	5.775055	2.897182	0.016791	0.003624	0.000248
San Mateo	2024	OBUS	Aggregate	Aggregate	Diesel	633.1641	43400.84	5788.151	1.955526	8.16078	2.210534	0.009621	0.002546	0	0.003	0.05586	0.010056	0.002661	0	0.012	0.13034	1156.428	1785.269	0	0.000578	0.024213	0	0.181774	0.280619	0	0.012438	0.521292	0	0	0	0	0.01416	0.593451	0	0	0	0	0	0.143765	8.899863	0	0.010925	0.016866	0
San Mateo	2024	SBUS	Aggregate	Aggregate	Gasoline	98.97302	4714.794	395.8921	0.50402	0.924673	0.482576	0.001579	0	0.000685	0.002	0.3192	0.001717	0	0.000745	0.008	0.7448	805.9695	2415.198	47.32818	0.01408	2.445895	0.060277	0.026024	0.092284	0.047021	0.06948	10.61437	0.346485	0.049105	0.311874	0.00748	0.015494	0.101386	15.48847	0.379358	0.049105	0.311874	0.00748	0.015494	1.525795	82.07604	9.233718	0.007976	0.0239	0.000468
San Mateo	2024	SBUS	Aggregate	Aggregate	Diesel	182.4926	5705.621	2105.939	7.759546	44.2354	0.738456	0.042692	0.050081	0	0.003	0.3192	0.044622	0.052345	0	0.012	0.7448	1142.93	3700.184	0	0.005437	0.013492	0	0.179653	0.581617	0	0.117067	0.290486	0	0	0	0	0.133272	0.330697	0	0	0	0	0	0.304272	5.739711	0	0.010798	0.034958	0
San Mateo	2024	UBUS	Aggregate	Aggregate	Gasoline	38.29304	927.707	153.1722	0.32832	0	1.000309	0.001339	0	0.000488	0.00277	0.051797	0.001456	0	0.000531	0.011079	0.120859	1981.131	0	92.25116	0.005145	0	0.120434	0.023945	0	0.072281	0.019066	0	0.604249	0.096785	0.659725	0.016417	0.02132	0.027821	0	0.661577	0.096785	0.659725	0.016417	0.02132	0.389818	0	8.301622	0.019605	0	0.000913
San Mateo	2024	UBUS	Aggregate	Aggregate	Diesel	259.3053	20272.14	1037.221	0.780823	0	0	0.005514	0	0	0.008023	0.031248	0.005763	0	0	0.032092	0.072911	1474.52	0	0	0.074531	0	0	0.231774	0	0	0.001065	0	0	0	0	0	0.076064	0	0	0	0	0	0.126054	0	0	0.01394	0	0
San Mateo	2024	UBUS	Aggregate	Aggregate	Natural Ga	86.01606	6810.325	344.0643	0.466581	0	0	0.003047	0	0	0.007825	0.032218	0.003185	0	0	0.031299	0.075176	1936.745	0	0	6.030496	0	0	0.394818	0	0	0.086164	0	0	0	0	0	6.154564	0	0	0	0	0	46.52249	0	0	0	0	0

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PMB	PM2.5_PMP	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PMB	PM10_PMP	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2030	HHDT	Aggregate	Aggregate	Gasoline	5.113414	649.1127	102.3092	2.873064	0	0.007414	0.001039	0	0.000366	0.005	0.02646	0.00113	0	0.000398	0.02	0.06174	1700.945	0	40.41508	0.067569	0	0.000318	0.127337	0	0.000362	0.296557	0	0.001662	0.037303	0.184044	0.011019	0.014591	28.36902	0	5.142338	0.016832	0	0.0004
San Mateo	2030	HHDT	Aggregate	Aggregate	Diesel	1199.067	115689.7	11004.9	2.865625	46.44733	2.582431	0.022164	0.024174	0	0.008762	0.025761	0.023166	0.025268	0	0.03505	0.06011	1312.394	7935.051	0	0.001217	0.164002	0	0.20629	1.247279	0	0.026212	3.530924	0	0	0	0	0	0.02984	4.019688	0	0	0	0	0	0.245616	50.64307	0	0.012399	0.074966	0
San Mateo	2030	HHDT	Aggregate	Aggregate	Natural Ga	186.6345	7606.951	727.8746	0.603115	19.02392	0	0.003143	0.010803	0	0.009	0.02646	0.003285	0.011292	0	0.036	0.06174	2800.257	3560.201	0	3.138945	1.174128	0	0.570851	0.72577	0	0.067517	0.022112	0	0	0	0	0	3.22935	1.204363	0	0	0	0	0	11.11587	21.03157	0	0	0	0
San Mateo	2030	LDA	Aggregate	Aggregate	Gasoline	317953.1	8058428	1505411	0.019181	0	0.13064	0.000828	0	0.001201	0.002	0.01575	0.0009	0	0.001307	0.008	0.03675	209.8182	0	44.57395	0.000909	0	0.029757	0.002852	0	0.019201	0.003066	0	0.12731	0.063852	0.176704	0.110314	0.104053	0.403053	0	1.810012	0.002076	0	0.000441
San Mateo	2030	LDA	Aggregate	Aggregate	Diesel	3763.411	97608.43	17969.64	0.016182	0	0	0.001681	0	0	0.002	0.01575	0.001757	0	0	0.008	0.03675	167.6824	0	0	0.000251	0	0	0.026357	0	0	0.005404	0	0	0	0	0	0	0.006152	0	0	0	0	0	0.136447	0	0	0.001585	0	0
San Mateo	2030	LDA	Aggregate	Aggregate	Electricity	15717.88	472761.9	76806.1	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2030	LDT1	Aggregate	Aggregate	Gasoline	59176.87	1450561	278726.9	0.026183	0	0.139669	0.000939	0	0.001313	0.002	0.01575	0.001021	0	0.001429	0.008	0.03675	243.6798	0	51.44143	0.001238	0	0.0312	0.003275	0	0.020136	0.004563	0	0.13269	0.067267	0.284534	0.13435	0.125638	0.006659	0	0.145278	0.067267	0.284534	0.13435	0.125638	0.45689	0	1.858349	0.002411	0	0.000509
San Mateo	2030	LDT1	Aggregate	Aggregate	Diesel	7.82438	191.2431	36.37998	0.090225	0	0	0.009078	0	0	0.002	0.01575	0.009488	0	0	0.008	0.03675	317.8497	0	0	0.000963	0	0	0.049962	0	0	0.020723	0	0	0	0	0	0	0.023591	0	0	0	0	0	0.186947	0	0	0.003005	0	0
San Mateo	2030	LDT1	Aggregate	Aggregate	Electricity	1531.704	46943.85	7537.293	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2030	LDT2	Aggregate	Aggregate	Gasoline	184911.9	4550707	873045.3	0.026152	0	0.151851	0.0009	0	0.00126	0.002	0.01575	0.000979	0	0.001371	0.008	0.03675	247.8203	0	53.63603	0.001354	0	0.038205	0.003204	0	0.021351	0.004837	0	0.164071	0.064952	0.27079	0.16449	0.142985	0.007058	0	0.179637	0.064952	0.27079	0.16449	0.142985	0.486457	0	2.316418	0.002452	0	0.000531
San Mateo	2030	LDT2	Aggregate	Aggregate	Diesel	1781.751	45196.6	8528.609	0.0282	0	0	0.003822	0	0	0.002	0.01575	0.003995	0	0	0.008	0.03675	225.6911	0	0	0.000575	0	0	0.035475	0	0	0.012386	0	0	0	0	0	0	0.014101	0	0	0	0	0	0.123286	0	0	0.002134	0	0
San Mateo	2030	LDT2	Aggregate	Aggregate	Electricity	5929.222	124002.8	29036.84	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2030	LHDT1	Aggregate	Aggregate	Gasoline	11350.29	312263.7	169102.4	0.069725	0.029133	0.348482	0.002051	0	0.000317	0.002	0.03276	0.002231	0	0.000345	0.008	0.07644	886.9279	108.6911	17.083	0.003248	0.097716	0.012702	0.005226	0.002684	0.030872	0.013009	0.33431	0.060033	0.065527	0.500981	0.015114	0.021887	0.018983	0.487824	0.065728	0.065527	0.500981	0.015114	0.021887	0.269047	3.773768	1.476043	0.008777	0.001076	0.000169
San Mateo	2030	LHDT1	Aggregate	Aggregate	Diesel	9659.833	280836.2	121508.6	0.309237	1.184374	0	0.009539	0.026356	0	0.003	0.03276	0.00997	0.027548	0	0.012	0.07644	470.5952	115.3579	0	0.005861	0.005098	0	0.073971	0.018133	0	0.126174	0.10976	0	0	0	0	0	0.14364	0.124954	0	0	0	0	0	0.535268	0.909745	0	0.004449	0.001091	0
San Mateo	2030	LHDT2	Aggregate	Aggregate	Gasoline	1659.183	45317.16	24719.36	0.0716	0.028572	0.349395	0.001983	0	0.000294	0.002	0.03822	0.002157	0	0.000319	0.008	0.08918	1009.387	124.3141	19.30514	0.002716	0.096291	0.01229	0.005721	0.00261	0.030542	0.010022	0.328029	0.057217	0.054422	0.324334	0.013458	0.018733	0.016624	0.478659	0.062645	0.054422	0.324334	0.013458	0.018733	0.206691	3.777799	1.446373	0.009989	0.00123	0.000191
San Mateo	2030	LHDT2	Aggregate	Aggregate	Diesel	3881.165	109011.2	48820.17	0.272551	1.189564	0	0.015408	0.026717	0	0.003	0.03822	0.016105	0.027925	0	0.012	0.08918	529.1422	185.9646	0	0.005831	0.005098	0	0.083174	0.029231	0	0.125529	0.10976	0	0	0	0	0	0.142906	0.124954	0	0	0	0	0	0.536331	0.909745	0	0.005002	0.001758	0
San Mateo	2030	MCY	Aggregate	Aggregate	Gasoline	23623.44	172244	47246.88	1.144949	0	0.273196	0.002068	0	0.002814	0.001	0.00504	0.002218	0	0.003013	0.004	0.01176	212.5811	0	58.78275	0.321443	0	0.251027	0.065996	0	0.015587	2.134664	0	1.8899	0.490116	1.403908	0.713444	1.211607	2.681801	0	2.05874	0.490116	1.403908	0.713444	1.211607	17.75932	0	9.386142	0.002104	0	0.000582
San Mateo	2030	MDV	Aggregate	Aggregate	Gasoline	113553.2	2864103	535566.8	0.025018	0	0.160361	0.00088	0	0.001265	0.002	0.01575	0.000958	0	0.001376	0.008	0.03675	297.71	0	64.74148	0.001311	0	0.039723	0.003177	0	0.021796	0.00464	0	0.174784	0.073843	0.273495	0.200265	0.175227	0.006771	0	0.191367	0.073843	0.273495	0.200265	0.175227	0.475919	0	2.366014	0.002946	0	0.000641
San Mateo	2030	MDV	Aggregate	Aggregate	Diesel	3880.476	101136.2	18546.09	0.013638	0	0	0.001671	0	0	0.002	0.01575	0.001747	0	0	0.008	0.03675	292.1091	0	0	0.00026	0	0	0.045915	0	0	0.005594	0	0	0	0	0	0	0.006368	0	0	0	0	0	0.146218	0	0	0.002761	0	0
San Mateo	2030	MDV	Aggregate	Aggregate	Electricity	3956.997	84717.34	19533.89	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0	0.004888	0	0.003128	0.012002	0	0	0	0	0
San Mateo	2030	MH	Aggregate	Aggregate	Gasoline	1577.324	13531.83	157.7955	0.116835	0	0.317062	0.0013	0	0.000294	0.003	0.05586	0.001413	0	0.00032	0.012	0.13034	1490.083	0	21.61722	0.004345	0	0.027007	0.012667	0	0.037956	0.013134	0	0.099548	0.020542	0.360362	0.011848	0.023377	0.019165	0	0.108992	0.020542	0.360362	0.011848	0.023377	0.216668	0	2.282036	0.014746	0	0.000214
San Mateo	2030	MH	Aggregate	Aggregate	Diesel	687.3174	5502.03	68.73174	2.626726	0	0	0.026889	0	0	0.004	0.05586	0.028105	0	0	0.016	0.13034	885.7522	0	0	0.003383	0	0	0.139228	0	0	0.072844	0	0	0	0	0	0	0.082928	0	0	0	0	0	0.219558	0	0	0.008374	0	0
San Mateo	2030	MHDT	Aggregate	Aggregate	Gasoline	1367.623	69688.29	27363.4	0.125655	0.089402	0.328961	0.001275	0	0.000392	0.003	0.05586	0.001386	0	0.000427	0.012	0.13034	1507.168	474.1802	32.72254	0.003982	0.279301	0.032211	0.009975	0.008491	0.030398	0.016227	1.026308	0.157097	0.046585	0.23999	0.011712	0.016221	0.023678	1.497586	0.172001	0.046585	0.23999	0.011712	0.016221	0.320525	15.27445	3.294517	0.014915	0.004692	0.000324
San Mateo	2030	MHDT	Aggregate	Aggregate	Diesel	7287.648	440448.8	75987.61	1.492552	4.036071	2.153588	0.006794	0.00157	0	0.003	0.05586	0.007101	0.001641	0	0.012	0.13034	872.0542	698.5396	0	0.000456	0.002903	0	0.137075	0.109801	0	0.009813	0.062506	0	0	0	0	0	0.011172	0.071158	0	0	0	0	0	0.108883	2.532261	0	0.008239	0.006599	0
San Mateo	2030	OBUS	Aggregate	Aggregate	Gasoline	348.0859	15996.2	6964.503	0.156982	0.065216	0.294936	0.001206	0	0.000259	0.003	0.05586	0.001312	0	0.000281	0.012	0.13034	1533.303	339.2798	23.04066	0.004734	0.205939	0.025837	0.011261	0.00608	0.026517	0.019722	0.748615	0.126208	0.022547	0.280199	0.014883	0.026926	0.028779	1.092377	0.138182	0.022547	0.280199	0.014883	0.026926	0.397437	5.788695	2.593425	0.015173	0.003357	0.000228
San Mateo	2030	OBUS	Aggregate	Aggregate	Diesel	698.7133	42079.28	6485.974	1.999056	9.075336	2.216088	0.010188	0.002867	0	0.003	0.05586	0.010649	0.002997	0	0.012	0.13034	1067.05	1849.414	0	0.000596	0.027992	0	0.167725	0.290702	0	0.012825	0.602651	0	0	0	0	0	0.0146	0.686072	0	0	0	0	0	0.147012	10.07397	0	0.010081	0.017472	0
San Mateo	2030	SBUS	Aggregate	Aggregate	Gasoline	164.2006	6933.108	656.8023	0.271643	0.92653	0.464165	0.001477	0	0.000672	0.002	0.3192	0.001607	0	0.000731	0.008	0.7448	750.9709	2266.296	42.78745	0.006869	2.437503	0.053477	0.016887	0.095975	0.046608	0.033149	10.64152	0.304681	0.045096	0.297256	0.008791	0.015813	0.048372	15.52808	0.333587	0.045096	0.297256	0.008791	0.015813	0.708856	82.24088	7.783571	0.007431	0.022427	0.000423
San Mateo	2030	SBUS	Aggregate	Aggregate	Diesel	162.7662	5100.58	1878.299	5.21082	34.64443	1.174961	0.030486	0.026809	0	0.003	0.3192	0.031864	0.028021	0	0.012	0.7448	1062.55	3519.519	0	0.004157	0.01295	0	0.167018	0.553219	0	0.089499	0.278819	0	0	0	0	0	0.101888	0.317415	0	0	0	0	0	0.259605	7.476546	0	0.010038	0.033251	0
San Mateo	2030	UBUS	Aggregate	Aggregate	Gasoline	38.39737	930.2347	153.5895	0.16565	0	0.663242	0.002175	0	0.000836	0.00277	0.051797	0.002366	0	0.00091	0.011079	0.120859	1578.369	0	75.06687	0.005192	0	0.080807	0.01452	0	0.057374	0.018571	0	0.385534	0.016767	0.094737	0.003367	0.005428	0.027099	0	0.422112	0.016767	0.094737	0.003367	0.005428	0.261989	0	8.235956	0.015619	0	0.000743
San Mateo	2030	UBUS	Aggregate	Aggregate	Diesel	246.7419	19341.25	986.9675	0.777949	0	0	0.005496	0	0	0.007973	0.031492	0.005745	0	0	0.031892	0.073481	1481.112	0	0	0.074172	0	0	0.23281	0	0	0.00106	0	0	0	0	0	0	0.075698	0	0	0	0	0	0.125387	0	0	0.014002	0	0
San Mateo	2030	UBUS	Aggregate	Aggregate	Natural Ga	99.69829	7815.006	398.7932	0.471774	0	0	0.003078	0	0	0.007973	0.031492	0.003218	0	0	0.031892	0.073481	1954.897	0	0	6.11791	0	0	0.398519	0	0	0.087413	0	0	0	0	0	0	6.243776	0	0	0	0	0	47.27122	0	0	0	0	0

Attachment 4: Project Construction Emissions and Health Risk Calculations

Jefferson Union High School District, Daly City, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0798	CON_DPM	159.7	0.04375	5.51E-03	27223	2.02E-07
2023	Construction	0.0058	CON_DPM	11.5	0.00316	3.99E-04	27224	1.46E-08
Total		***0.0798***		***159.7***	***0.0437***	***0.0055***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

Jefferson Union High School District, Daly City, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	CON_FUG	0.0188	37.5	0.01029	1.30E-03	27,223	4.76E-08
2023	Construction	CON_FUG	0.0002	0.4	0.00010	1.25E-05	27,224	4.59E-10
Total			***0.0188***	***37.5***	***0.0103***	***0.0013***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0211	CON_DPM	42.3	0.01158	1.46E-03	27223	5.36E-08
2023	Construction	0.0012	CON_DPM	2.3	0.00064	8.10E-05	27224	2.98E-09
Total		***0.0211***		***42.3***	***0.0116***	***0.0015***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	CON_FUG	0.0090	18.0	0.00495	6.23E-04	27,223	2.29E-08
2023	Construction	CON_FUG	0.0002	0.4	0.00010	1.25E-05	27,224	4.59E-10
Total			***0.0090***	***18.0***	***0.0049***	***0.0006***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

Jefferson Union High School District Office & Adult Ed, Daly City, CA
- Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.1295	0.0519	23.02	0.03	0.18
2023	0.0094	0.0005	1.54	0.00	0.01
Total	-	-	**24.6**	-	-
Maximum	0.1295	0.0519	**-**	**0.03**	**0.18**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0344	0.0250	6.11	0.007	0.06
2023	0.0019	0.0005	0.31	0.000	0.00
Total	-	-	**6.4**	-	-
Maximum	0.0344	0.0250	**-**	**0.007**	**0.06**

- Tier 4 Interim Engine Mitigation

Maximum Impacts at MLK Jr. Educational Center

Construction Year	Unmitigated Emissions: Maximum Concentrations: Exhaust PM2.5/DPM ($\mu g/m^3$)	Unmitigated Emissions: Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0224	0.0089	1.40	0.004	0.03
2023	0.0016	0.0001	0.10	0.000	0.00
Total	-	-	**1.5**	-	-
Maximum	0.0224	0.0089	**-**	**0.004**	**0.03**

Maximum Impacts at Westmoor High School

Construction Year	Unmitigated Emissions: Maximum Concentrations: Exhaust PM2.5/DPM ($\mu g/m^3$)	Unmitigated Emissions: Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0073	0.0018	0.45	0.001	0.01
2023	0.0005	0.0000	0.03	0.000	0.00
Total	-	-	**0.5**	-	-
Maximum	0.0073	0.0018	**-**	**0.001**	**0.01**

Jefferson Union High School District, Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
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

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
							Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.1295	10	1.76	2022	0.1295	-	-			
1	1	0 - 1	2022	0.1295	10	21.26	2022	0.1295	1	0.37	0.0259	0.0519	0.1813
2	1	1 - 2	2023	0.0094	10	1.54	2023	0.0094	1	0.03	0.0019	0.0005	0.0098
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						**24.6**				**0.40**			

* Third trimester of pregnancy

Jefferson Union High School District, Daly City, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
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

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled		Age	Adult			
Exposure	Exposure Duration				Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0344	10	0.47	2022	0.0344	-	-			
1	1	0 - 1	2022	0.0344	10	5.64	2022	0.0344	1	0.10	0.0069	0.0250	0.0593
2	1	1 - 2	2023	0.0019	10	0.31	2023	0.0019	1	0.01	0.0004	0.0005	0.0024
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						**6.4**				**0.10**			

* Third trimester of pregnancy

Jefferson Union High School District, Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Martin Luther King Jr. Educational Center - 1 meter - Child Exposure

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 $(\mu g/m^3)$
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: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	5 - 6	2022	0.0224	3	1.4
2	1	6 - 7	2023	0.0016	3	0.1
3	1			0.0000	3	0.0
4	1			0.0000	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**1.50**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.0045	0.0089	0.0313
0.0003	0.0001	0.0017

* Children assumed to be 5 years of age or older with 2 years of Construction Exposure

Jefferson Union High School District, Daly City, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Westmoor High School - 1.5 meter - Child Exposure

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 $(\mu g/m^3)$
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: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	14 - 15	2022	0.0073	3	0.5
2	1	15 - 16	2023	0.0005	3	0.0
3	1			0.0000	3	0.0
4	1			0.0000	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.49**

* Children assumed to be 14 years of age or older with 2 years of Construction Exposure

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.0015	0.0018	0.0091
0.0001	0.0000	0.0005

Attachment 5: Community Risk Modeling Information 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 coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

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

Table A: Requester Contact Information

Date of Request	**2/2/2021**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	JUHSD
Address	123 Edgemont Drive
City	Daly City
County	San Mateo
Type (residential, commercial, mixed use, industrial, etc.)	Mixed Use
Project Size (# of units or building square feet)	64,956 sqft
Comments:	

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

1. Complete all the contact and project information requested in Table A ncomplete 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 lue 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.

Table B: Google Earth data

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	Construction MEI: Distance Adjustment Multiplier	Construction MEI: Adjusted Cancer Risk Estimate	Construction MEI: Adjusted Hazard Risk	Construction MEI: Adjusted PM2.5
1000+	22276	Jefferson Union High School District (Westmoor HS)	131 Westmoor Ave.	0.07	--	--		Generators		2018 Dataset	0.04	0.00	#VALUE!	#VALUE!
580	19836	City of Daly City	191 Edgemont Dr.	3.16	--	--		Generators		2018 Dataset	0.09	0.28	#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 0.003
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

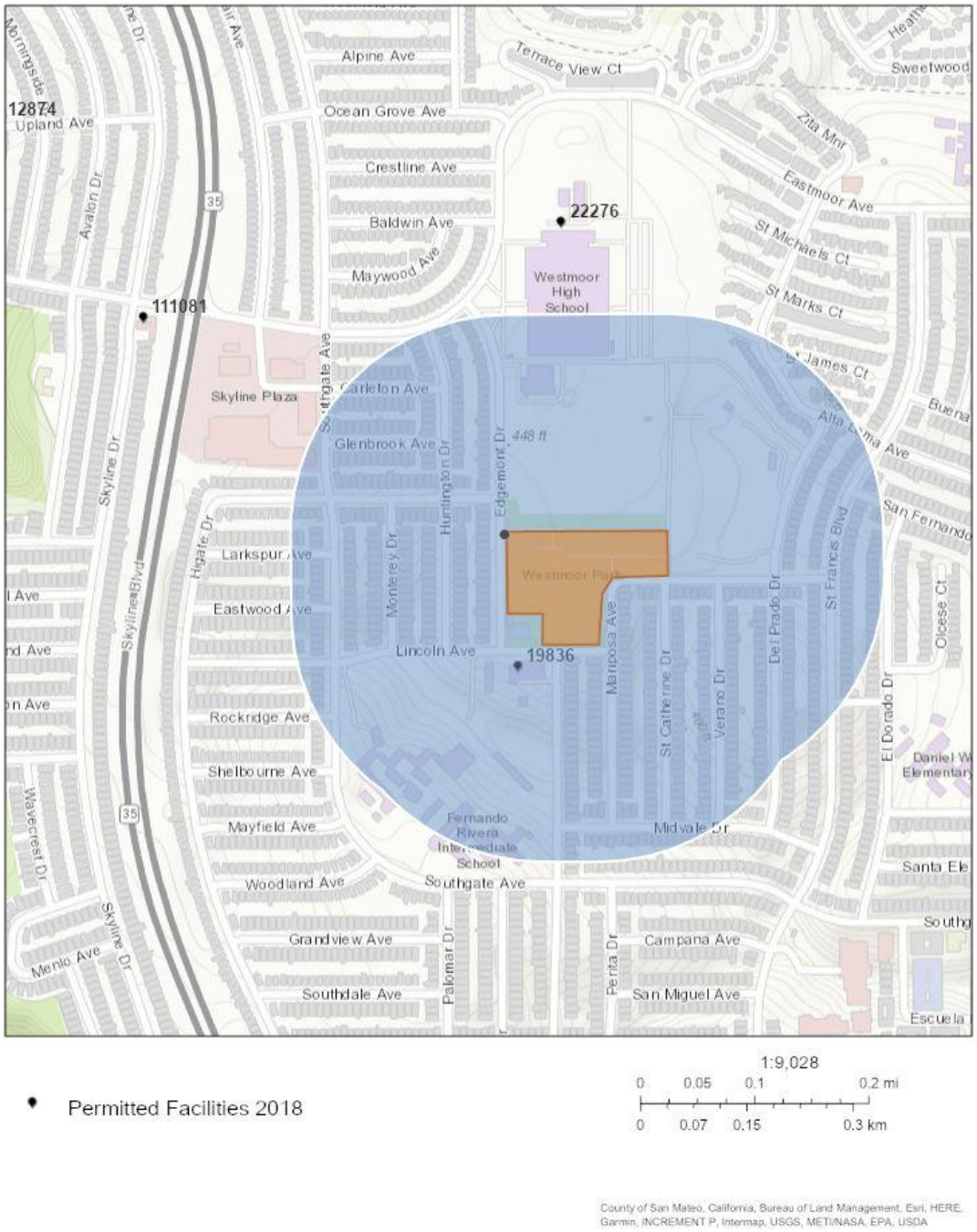
Date last updated:
03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 5,712,490.68 ft²

Feb 2 2021 15:58:57 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	1	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	19836	City of Daly City	191 Edgemont Drive	Daly City	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	94015	San Mateo	3.160	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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