AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

ATTACHMENT A

to the
888 Bransten Road Project Initial Study / Mitigated Negative Declaration

888 BRANSTEN ROAD AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

San Carlos, California

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Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed office/research and development project located at 888 Bransten Road in San Carlos, California. The air quality and GHG impacts from this project would be associated with demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the project. Air pollutants and GHG emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impacts (includes construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The existing project site is developed with three industrial buildings located at 814–870 Bransten Road and 797 Industrial Road that total 56,900 square feet (sf). The two, two-story buildings located at 814-870 Bransten Road consist of various multi-tenant spaces currently or recently occupied by retail, fabrication, auto stereo repair and installation, and wholesale sales and distribution uses. 797 Industrial Road consists of a two-story building with a single auto body repair and restoration tenant. Surface parking is located around each building.

The project proposes to demolish the existing uses on the site to construct a three-story, 105,416-sf office/research and development (R&D) building. Surface parking will also be constructed on the two project site borders adjacent to other lots that will total 88 parking spaces. The project would also include one emergency diesel generator located on the northwestern boundary of the property. Construction is proposed to begin in January 2023 and be completed by February 2024.

Air Quality 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.

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

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

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality often because they cause cancer. 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. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which 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 site are the residents in the single-family housing northwest of the project site. The project will not introduce new sensitive (i.e., residential) receptors.

[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 sets nationwide fuel standards, however California also has the ability to set motor vehicle emission standards and standards for fuel, as long as they are the same or more stringent than the nationwide standards.

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

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

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[4] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

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

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

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

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

Bay Area Air Quality Management District (BAAQMD)

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

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). 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 was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[5] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions,

[5] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.

modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[6] The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within a designated CARE area and not within a BAAQMD overburdened area as identified by BAAQMD's Overburdened Areas Map[7].

The BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*[8] 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 TACs, odors, and GHG 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.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and fume hoods that would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators. Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 2 – Permits
  - Rule 2-1: General Requirements
  - Rule 2-2: New Source Review
  - Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions
  - Rule 6-2: Commercial Cooking Equipment
  - Rule 6-3: Wood-Burning Devices
  - Rule 6-7: Odorous Substances
- Regulation 9 – Inorganic Gaseous Pollutants
  - Rule 9-1: Sulfur Dioxide

[6] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 11/23/2021.
[7] See BAAQMD: https://www.baaqmd.gov/about-air-quality/interactive-data-maps
[8] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NOx, SO_2, PM_{10}, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NOx emissions from the diesel-fueled generator engines.

Rule 2-5 applies to new and modified sources of TAC emissions. BAAQMD evaluates the TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Toxics BACT (or TBACT) is applied to any new or modified source of TACs where the source risk is a cancer risk greater than 1.0 in one million and/or a chronic hazard index greater than 0.20. Permits are not issued for any new or modified source that has risks or net project risks that exceed a cancer risk of 10.0 in one million or a chronic or acute hazard index of 1.0.

Stationary Diesel Airborne Toxic Control Measure

The BAAQMD administers the CARB's Airborne Toxic Control Measure (ACTM) for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's stationary sources will be new stationary emergency stationary emergency standby diesel engines larger than 50 hp. These limits vary based on maximum engine power. All engines are limited to PM emission rates of 0.15 g/hp-hour, regardless of size. This ACTM limits engine operation 50 hours per year for routine testing and maintenance.

Offsets

Rule 2-2-302 require that offsets be provided for a new or modified source that emits more than 10 tons per year of NOx or precursor organic compounds. It is not expected that emissions of any pollutant will exceed the offset thresholds.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NOx CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NOx and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

> I.C. Engine – Compression Ignition >50hp and <1.000hp: BAAQMD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM10 or PM2.5) limit is 0.15 g/hp-hr per CARB's ACTM.
>
> I.C. Engine – Compression Ignition >999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB

ACTM that ranges from 0.5 g/hp-hr. The PM (PM10 or PM2.5) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

City of San Carlos 2030 General Plan

The San Carlos 2030 General Plan's Environmental Management Element includes policies and actions to reduce exposure of the City's sensitive population to exposure of air pollution, toxic air contaminants, and GHG emissions. The following policies and actions are applicable to the proposed project:

Policies

Policy EM-6.1: Support and comply with the BAAQMD, State and federal standards and policies that improve air quality in the Bay Area.

Policy EM-6.2: Support and encourage commercial uses to adopt environmentally friendly technologies and reduce the release of pollutants.

Policy EM-6.3: Support the reduction of emissions of particulates from wood burning appliances, construction activity, automobiles, trucks and other sources.

Policy EM-6.6: BAAQMD recommended measures to reduce PM_{10} and exhaust emissions associated with construction shall be applied to new development in San Carlos.

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 its thresholds in the CEQA Air Quality Guidelines in 2017 and again in 2022 (GHG thresholds only). The latest BAAQMD significance thresholds, which were used in this analysis and are summarized in Table 1. Impacts above the threshold are considered potentially significant.

Per discussion with BAAQMD staff, in circumstances where a cumulative Health Risk and Hazards threshold is exceeded, a project's contribution would be considered cumulatively considerable if the project's risk exceeds the single source threshold.[9]

[9] Correspondence with Areana Flores, MSc, Environmental Planner, BAAQMD, February 23, 2021

Table 1. BAAQMD CEQA Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 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 – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).		

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.

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*.[10] 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 the planned land uses identified in local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

Conclusion AIR-1

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. General plans must show consistency with the control measures listed within the Clean Air Plan. However, at the project-level, there are no consistency measures or thresholds. Despite this, the proposed project would not conflict with the latest Clean Air planning efforts since 1) the project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below) and 2) the project would be considered urban infill, 3) the project would be located near employment centers, and 4) the project would be located near transit with regional connections.

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

The Bay Area is considered a non-attainment area for ground-level 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.

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

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2020.4.0 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types, size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[11] The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2021 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Uses

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	Acreage
Research & Development	105.42	1000sf	105,416	2.26
Parking Lot	88	Parking Space	35,200	

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 information generated using CalEEMod defaults for a project of this type and size that was reviewed by the project applicant.

The CalEEMod default construction equipment worksheets included the schedule for each phase of construction (included in *Attachment 2*). Within each construction phase, the quantity of equipment to be used along with the average use hours per day and total number of workdays were based on CalEEMod defaults. Since different equipment would have different estimates of the use per phase, the hours per day for each piece of equipment 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 2023 and would be built out over a period of approximately 14 months, or 293 construction workdays. The earliest year of full operation was assumed to be 2025.

Construction Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of demolition material to be exported, soil

[11] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory

material imported and/or exported to the site, and the estimate of concrete 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 provided demolition and grading volumes and assuming each truck could carry 10 tons per load. The number of concrete and asphalt total haul trips were provided and converted to total one-way trips, assuming two trips per round-trip delivery.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2017 motor vehicle emission factor model. This model has been superseded by the EMFAC2021 model; however, CalEEMod has not been updated to include EMFAC2021. The construction traffic information was combined with EMFAC2021 motor vehicle emissions factors. EMFAC2021 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 concrete 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. 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 2023 - 2024 were used in these calculations. Table 3 provides the traffic inputs that were combined with the EMFAC2021 emission database to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2021 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Worker Trips[1]	Vendor Trips[1]	Haul Trips[2]	
Vehicle mix[1]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	260	-	359	56,900-sf building demolition and est. 45,000-sf pavement demolition. CalEEMod default worker trips.
Site Preparation	24	-	-	CalEEMod default worker trips.
Grading	300	-	612	4,900-cy soil import. CalEEMod default worker trips.
Trenching	30	-	-	CalEEMod default worker trips.
Paving	150	-	78	39 asphalt round trips. CalEEMod default worker trips.
Building Construction	10,780	5,060	332	166 concrete round trips. CalEEMod default worker and vendor trips.
Architectural Coating	100	-	-	CalEEMod default worker trips.

Notes: [1] Based on 2023-2024 EMFAC2021 light-duty vehicle fleet mix for San Mateo County.
[2] Includes demolition and grading trips estimated by CalEEMod based on amount of material to be removed. Concrete and asphalt trips estimated based on data provided by the applicant.

Conclusion AIR-2.1

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions and dividing those emissions by the number of active workdays during that year. Table 4 shows the annualized 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 annualized project construction emissions would not exceed the BAAQMD significance thresholds during any year of construction.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2023 + 2024	0.81	2.17	0.10	0.09
Average Daily Construction Emissions Per Year (pounds/day)				
2023 + 2024 (293 construction workdays)	5.51	14.84	0.67	0.59
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 future employees and an emergency generator. 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.

CalEEMod Inputs

Land Uses

The project operational land uses were entered into CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the

model, the higher the emission rates utilized by CalEEMod. The earliest full year of operation would be 2025 if construction begins in 2023.

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.[12] The project would produce 1,168 daily trips. When considering the 389 existing use trips and a 20 percent TDM reduction applied in the traffic analysis, the project would result in 545 net daily trips. The daily trip generation was calculated using the size of the project land uses and the adjusted total automobile trips 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.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2017, which is an older CARB emission inventory for on road and off-road mobile sources. Since the release of CalEEMod Version 2020.4.0, new emission factors have been produced by CARB. EMFAC2021 became available for use in January 2021. It includes the latest data on California's car and truck fleets and travel activity. The CalEEMod default vehicle emission factors and fleet mix were updated using the emission rates and fleet mix from EMFAC2021. On road emission rates from 2025 San Mateo County were used (See *Attachment 3*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[13]

Energy

The City of San Carlos has banned natural gas from new construction.[14] As a result, the energy intensity factor for natural gas in CalEEMod was set to zero and added to the electricity intensity factor. GHG emissions modeling includes those indirect emissions from electricity consumption. The model has a default rate of 0 pounds of CO_2 per megawatt of electricity produced, which is based on Peninsula Clean Energy's 2019 emissions rate.

Project Generator

The project proposes to include one stand-by emergency diesel generator located on the northwestern boundary of the property to power the building in the event of a power failure. The standby generator will be a 1,000-kilowatt (kW) generator powered by a 1,341-horsepower (hp) engine. This generator would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generator would be operated

[12] W-Trans, *Draft 888 Bransten Road CEQA Transportation Analysis*, July 29, 2022.
[13] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[14] City of San Carlos Local Building Energy Standards, Reach Code, URL: https://www.cityofsancarlos.org/Home/ShowDocument?id=6531

primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. Additionally, the generator would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. The generator emissions were modeled using CalEEMod.

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use was estimated to be 100 percent aerobic conditions to represent City wastewater treatment plant conditions since the project site would not send wastewater to septic tanks or facultative lagoons.

Existing Uses

The existing site consists of 49,500-sf of General Light Industrial and 7,400-sf of Automobile Care Center land use types. Based on the traffic consultant's project-specific trip generation rates for the existing land uses, the existing conditions at the site account for 389 trips. A CalEEMod run for existing land uses was developed for this project.

Conclusion AIR-2.2

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows average daily construction emissions of ROG, NOX, 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}	$PM_{2.5}$
2025 Annual Project Operational Emissions (*tons/year*)	0.84	0.58	0.76	0.20
2022 Existing Use Operational Emissions (*tons/year*)	0.41	0.24	0.27	0.07
Net Total Operating Emissions	0.42	0.34	0.48	0.13
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2025 Daily Project Operational Emissions (*pounds/day*)[1]	2.33	1.87	2.66	0.69
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*
Note: [1]Assumes 365-day operation.				

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

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new

sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., stationary and mobile sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would include the installation of a stand-by generator powered by a diesel engine and traffic consisting of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions.

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

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 risk from construction and operation sources. These sources include on-site construction activity, construction truck hauling, project generator use, 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 contribution. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration, and HI values are not additive but based on an annual maximum risk for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

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

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the nearby existing residences northwest of the project site as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions.

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

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions (i.e., DPM) 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 impacts associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. DPM 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 EMFAC2021 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 of 0.08 tons (162 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. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.02 tons (31 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[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 be for a point source (exhaust stack). Therefore, the release height from an area source used to represent

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

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 five-year meteorological data set (2011-2015) from the San Carlos Airport prepared for use with the AERMOD model by the BAAQMD. Construction emissions were modeled as occurring daily between 8:00 a.m. to 5:00 p.m., when the majority of construction activity would occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2023 - 2024 periods were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. A receptor height of 5 feet (1.5 meters) was used to represent the breathing heights on the first floor of sensitive receptors in the residences near the site.

Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period.

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 refence exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the MEI most affected by construction was located on the first floor (5 feet above ground) of the single-family residence to the northwest of the project. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 6 lists the community risks from construction at the location of the residential MEI. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Figure 1. Location of Project Construction Site, Project Generator, Off-Site Sensitive Receptors, and Maximum TAC Impact (MEI)

Community Risks from Project Operation

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

Project Traffic

Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. This project would generate a net of 545 daily trips[19] with a majority of the trips being from light-duty gasoline-powered vehicles (i.e., passenger cars). The project is not anticipated to generate large amounts of truck trips that would involve diesel vehicles. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is considered a low-impact source of TACs and do not need to be considered in the CEQA analysis.[20] In addition, projects

[19] W-Trans, *Draft 888 Bransten Road CEQA Transportation Analysis*, July 29, 2022.
[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

with the potential to cause or contribute to increased cancer risk from traffic include those that have attract high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for non-BAAQMD permitted mobile sources. Emissions from project traffic are considered negligible and not included within this analysis.

Project Stand-By Diesel Generator

The project proposes to include one stand-by emergency diesel generator located on the northwestern boundary of the building to power the building in the event of a power failure. The standby generator will be a 1,000-kW generator powered by a 1,341-hp engine. This generator would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generator would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. Additionally, the generators would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. The generator emissions were modeled using CalEEMod.

This diesel engine would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD, since they will be equipped with an engine larger than 50-HP. As part of the BAAQMD permit requirements for toxics screening analysis, the engine emissions will have to meet Best Available Control Technology for Toxics (TBACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAQMD. Depending on results, BAAQMD would set limits for DPM emissions (e.g., more restricted engine operation periods). Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally will not be considered to have a significant air quality community risk impact.

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generator, the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences). The same receptors and breathing heights used in the construction dispersion modeling were used for the generator model. Additionally, the same BAAQMD San Carlos Airport meteorological data was used. Stack parameters (stack height, exhaust flow rate, and exhaust gas temperature) for modeling the generator were based on BAAQMD default parameters for emergency generators.[21] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator operation could occur at any time of the day (24 hours per day, 365 days per year).

To calculate the increased cancer risk from the generators at the MEI, the cancer risks were also adjusted for exposure duration to account for the MEI being exposed to construction for the first

[21] The San Francisco Community Risk Reduction Plan: Technical Support Document, BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

two years of the 30-year period. The exposure duration was adjusted for 28 years of exposure. Table 6 lists the community risks from stand-by diesel generators at the location of residential MEI. The emissions and health risk calculations for the proposed generators are included in *Attachment 4*.

Laboratories – Fume Hoods

This type of project may include research and manufacturing type laboratories. Since a specific user or type of lab use is not known at this time, it is not possible to predict whether there would be any TAC emissions and, if so, the quantities that would be emitted. Typically, laboratory uses have fume hoods and would employ appropriate exhaust systems to control any emission of air pollutants. Emissions of air pollutants or TACs are subject to BAAQMD permitting requirements that would require the District to apply all applicable rules and regulations to limit or control these emissions. Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants would apply to any potential emissions from these sources. The District's risk policy is to not issue a permit to any source that would cause a cancer risk of greater than 10 chances per million.

Summary of Project-Related Community Risks at the Offsite Project MEI

The cumulative risk impacts from a project are the combination of construction and operation sources. These sources include on-site construction activity and the project generator. The project impact is computed by adding the construction cancer risk for an infant to the increased cancer risk for the project operational conditions for the generator at the MEI over a 30-year period. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to 2 years of construction cancer risks and 28 years of operational (includes stand-by generator) cancer risks. The cancer risks from construction and operation of the project were summed together. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

Project risk impacts are shown in Table 6. The unmitigated maximum cancer risks, annual $PM_{2.5}$ concentration, and Hazard Index from construction activities at the residential project MEI location would not exceed the single-source significance thresholds.

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

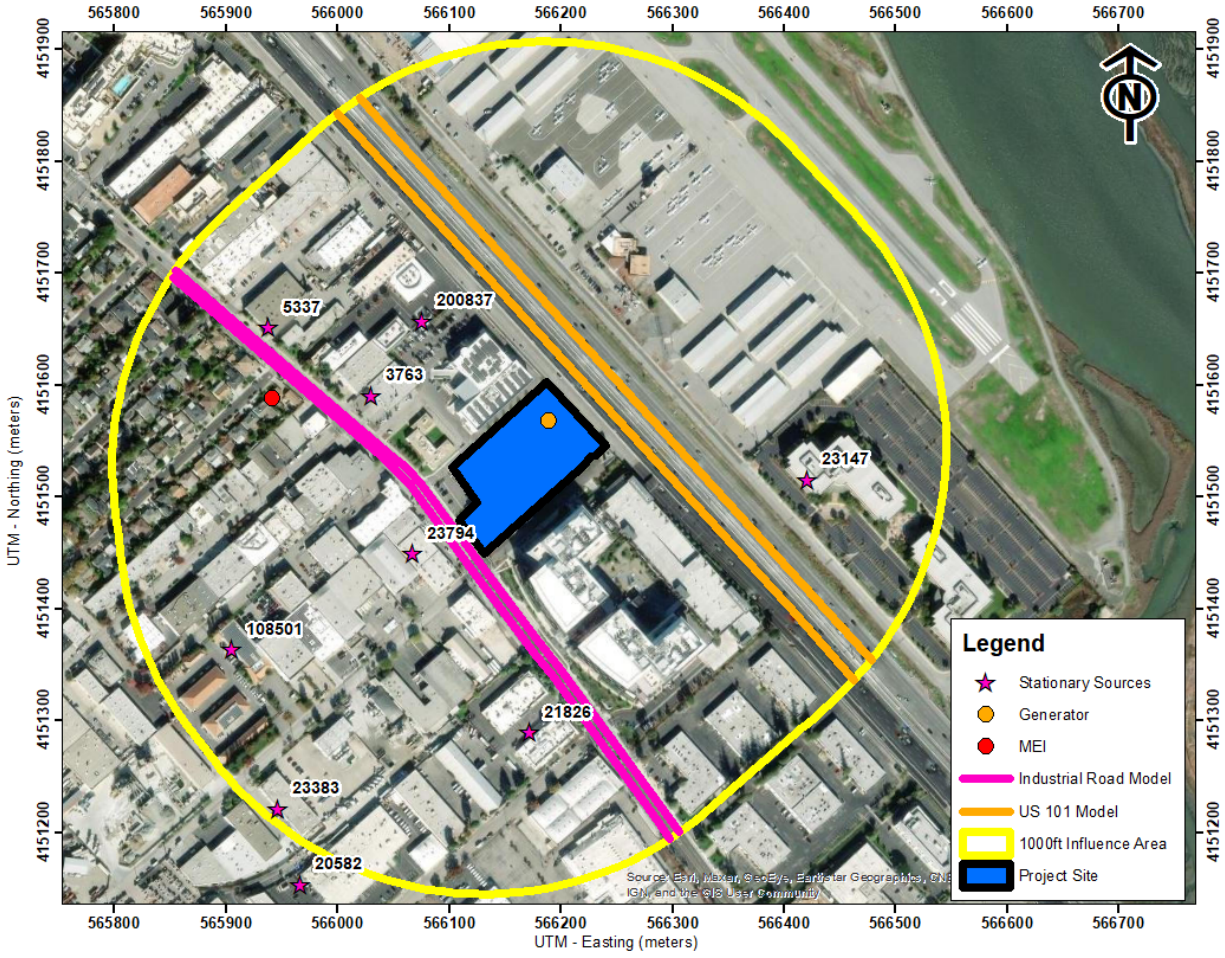
Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (Years 0 - 2)	Unmitigated	2.43 (infant)	0.02	<0.01
Project Generator Operation (Years 3 - 30)		0.14 (child)	0.01	<0.01
Total/Maximum Project Impact (Years 0 - 30)	Unmitigated	2.57 (infant)	0.02	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

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

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (i.e., influence area). These sources include freeways or highways, rail lines, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area indicates that traffic on Highway 101 and Industrial Road would exceed 10,000 vehicles per day. Other nearby streets would have less than 10,000 vehicles per day. A review of BAAQMD's stationary source map website identified twelve 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 reported in Table 7. Details of the modeling and community risk calculations are included in *Attachment 5*.

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



Highways and Local Roadways – U.S. Highway 101 and Industrial Road

The project MEI is located near Highway 101. A refined analysis of the impacts of TACs and $PM_{2.5}$ to the MEI receptor is necessary to evaluate potential cancer risks and $PM_{2.5}$

concentrations from Highway 101. A review of the traffic information reported by Caltrans indicates that Highway 101 traffic includes 176,000 vehicles per day (based on an annual average)[22] that are about 4.9 percent trucks, of which 1.9 percent are considered diesel heavy duty trucks and 3.0 percent are medium duty trucks.[23]

A refined analysis of potential health impacts from vehicle traffic on Industrial Road was also conducted. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how community risk impacts, including cancer risk are computed.

Traffic Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on Highway 101 and Industrial Road using the Caltrans version of the CARB EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (San Mateo County), type of road (freeway and major/collector), traffic mix assigned by CT-EMFAC2017 for the county, adjusted for the local truck mix on Highway 101 and truck percentage for non-state highways in San Mateo County (3.13 percent),[24] year of analysis (2023 – construction year), and season (annual).

To estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI and project site, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2023 (construction 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 CT-EMFAC2017. Year 2023 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future.

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[22] Caltrans. 2022. *2020 Traffic Volumes California State Highways.* Web: https://dot.ca.gov/programs/traffic-operations/census
[23] Caltrans. 2022. *2020 Annual Average Daily Truck Traffic on the California State Highway System.* Web: https://dot.ca.gov/programs/traffic-operations/census
[24] 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

Average daily traffic (ADT) volumes and truck percentages were based on Caltrans data for Highway 101. Traffic volumes were assumed to increase 1 percent per year for a total of 179,520 vehicles in 2023. Hourly traffic distributions specific to these segments of Highway 101 were obtained from Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.[25] The fraction of traffic volume each hour was calculated and applied to the 2023 average daily traffic volumes estimate to estimate hourly traffic emission rates for Highway 101.

Based on traffic data from the Caltrans PeMS, traffic speeds during the daytime and nighttime periods were identified. For northbound traffic on Highway 101, the following speeds were assumed for all vehicles:

- 70 mph – From 8:00 p.m. until 5:00 a.m.
- 65 mph – From 5:00 a.m. until 10:00 a.m., and from 6:00 p.m. until 8:00 p.m.
- 60 mph – From 10:00 a.m. until 2:00 p.m.
- 45 mph – From 2:00 p.m. until 6:00 p.m.

For southbound traffic on Highway 101, the following speeds were assumed for all vehicles:

- 70 mph – From 7:00 p.m. until 9:00 a.m.
- 65 mph – From 9:00 a.m. until 7:00 p.m.

The ADT for Industrial Road was based on traffic data provided by the traffic consultant.[26] The ADT on Industrial Road was 29,760 vehicles in 2023 based on a 1 percent per year increase from a 2022 ADT of 29,465. Average hourly traffic distributions for San Mateo County roadways were developed using the EMFAC model,[27] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. An average travel speed of 35 mph on Industrial Road was used for all hours of the day based on posted speed limit signs on the roadway.

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for future traffic on Highway 101 and Industrial Road, and using these emissions with an air quality dispersion model to calculate TAC and $PM_{2.5}$ concentrations at the project MEI receptor locations. Maximum increased lifetime cancer risks and annual $PM_{2.5}$ concentrations for the receptors were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

Roadway Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the U.S. EPA AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis.[28] TAC and

[25] https://dot.ca.gov/programs/traffic-operations/mpr/pems-source
[26] W-Trans, *Traffic Operations Analysis for the 888 Bransten Road Project*, June 22, 2022.
[27] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2021 does not include Burden type output with hour by hour traffic volume information.
[28] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

$PM_{2.5}$ emissions from each roadway within about 1,000 feet of the project site were evaluated with the model. Emissions from vehicle traffic travel were modeled in AERMOD using a series of volume sources along a line (line volume sources), with line segments used to represent opposing travel lanes on each roadway. The same meteorological data and off-site sensitive receptors used in the previous project dispersion modeling were used in the highway and roadway modeling. Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations and heights. Annual TAC and $PM_{2.5}$ concentrations for 2023 from traffic on each roadway were calculated using the model. Concentrations were calculated at the project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights on the first floor of the nearby residences. Community risk impacts from the roadway sources upon the MEI are reported in Table 7 and calculations are included in *Attachment 5*.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2020* geographic information system (GIS) map website.[29] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. Twelve sources were identified using this tool. The BAAQMD GIS website did not provide screening risks and hazards for all sources, so a stationary source information request was submitted to BAAQMD. BAAQMD provided updated emissions data and risk values.[30] Based on this, BAAQMD identified two sources that were shut down in 2020. Another source will be demolished as part of this project, leaving nine total sources operational near the project site. Further, the adjacent ACLS project is anticipated to include 12 diesel-fired emergency generators. The effects of those generators on the project MEI are included in this analysis.

The screening risk and hazard levels for the sources were adjusted for distance using BAAQMD's *Gasoline Dispensing Facility, Diesel Internal Combustion Engine, and Generic Equipment Distance Adjustment Multiplier Tools*. Estimated community risk values for the permitted stationary source is listed in Table 7.

Stationary-Source: ACLS Project (960 Industrial Road and 915 Commercial Street)

The project site is near to the ongoing construction of the ACLS project, located at 960 Industrial Road and 915 Commercial Street. That project is expected to construct a total of 12 generators, six of which would be 1,500-kW diesel-fired emergency generators powered by 2,000-hp engines, three would be 1,250-kW diesel-fired emergency generators powered by 1,675-hp engines, and the final three would be 1,000-kW diesel-fired emergency generators powered by 1,350-hp engines. Even though this adjacent project isn't projected to finish construction until 2029, operation of all generators is included in this analysis as it is unknown when the generators would become operational.

[29] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3
[30] Correspondence with Matthew Hanson, Environmental Planner II, BAAQMD, June 9, 2022.

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generators at the project MEI, the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences). The same receptors, breathing heights, and BAAQMD San Carlos Airport meteorological data used in the previous dispersion modeling were used for these generator models. Stack parameters for modeling the generators were based on BAAQMD default parameters (i.e., exhaust gas flowrate, stack diameter, stack height, and exhaust gas temperature) for stand-by diesel generators.[31] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time of the day (24 hours per day, 365 days per year).

Construction Risk Impacts from Nearby Developments

The ACLS Project is located at 960 Industrial Road and 915 Commercial Street, approximately 650 feet southeast of the project site. The project proposes the construction of 1,734,532-sf of R&D space across multiple life science buildings. The ACLS project has been analyzed by *Illingworth & Rodkin, Inc.* and is proposed to have simultaneous construction with this project. For conservatism, the risk values from the ACLS project are applied to this project's MEI as if it were the MEI for the ACLS project.

Conclusion AIR-3

Table 7 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by project construction and operation (i.e., the project MEI). As shown in Table 7, the MEI would experience a significant cumulative impact with respect to $PM_{2.5}$ concentration. As noted in the Significance Thresholds section, in circumstances where a cumulative risk threshold is exceeded, a project's contribution would be considered cumulatively considerable if the project's risk exceeds the single source threshold. The project's unmitigated $PM_{2.5}$ concentration represents about 1.8 percent of the total cumulative concentration and does not exceed the single source threshold. Because the project's community risk would not exceed the single source thresholds, the project would not be considered to have a cumulatively significant impact on the MEI as the contribution from the project is not cumulatively considerable. The cumulative cancer risk, HI, and annual $PM_{2.5}$ concentrations by source are provided in Table 7. As shown, cumulative $PM_{2.5}$ concentration thresholds at the MEI are exceeded primarily due to the MEI's location near one significant source of TAC emissions, Industrial Road.

[31] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department, 2012. *The San Francisco Community Risk Reduction Plan: Technical Support Document,* BAAQMD, December. Web: https://www.gsweventcenter.com/Appeal_Response_References/2012_1201_BAAQMD.pdf

Table 7. Cumulative Community Risk Impacts at the Location of the Project MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts			
Total/Maximum Project Impact (Years 0-30) Unmitigated	2.57 (infant)	0.02	<0.01
BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold? Unmitigated	*No*	*No*	*No*
Additional Cumulative Sources			
Highway 101, ADT 179,520	5.22	0.26	<0.01
Industrial Road, ADT 29,760	8.34	0.54	<0.01
ACLS project Generators[1]	0.21	<0.01	<0.01
Superior Body Shop (Facility ID #3763, Auto Body Coating Operation), MEI at 260 feet	-	-	<0.01
Midland Cabinet Co (Facility ID #5337, Wood Working Shop, Spraybooth), MEI at 150 feet	<0.01	0.01	<0.01
Hudson Pacific Properties (Facility ID #23147, Generators), MEI at 1000+ feet	0.08	<0.01	<0.01
Greenmarc, LLC (Facility ID #23383, Sub-slab Vapor Mitigation System), MEI at 1000+ feet	0.02	-	<0.01
Caliber Collision Center (Facility ID #23794, Auto Body Coating Operation), MEI at 500 feet	<0.01	<0.01	<0.01
City of San Carlos – Corporation Yard (Facility ID #108501, Gas Dispensing Facility), MEI at 640 feet	0.28	<0.01	<0.01
MBC Biolabs (Facility ID #200837, Generators), MEI at 480 feet	0.42	<0.01	<0.01
Nxedge San Carlos (Facility ID #20582, Generator, Boilers, Solvent Cleaning Operations), MEI at 1000+ feet	0.10	0.01	<0.01
Sutro BioPharma (Facility ID #21826, Generators), MEI at 1000+ feet	0.62	<0.01	<0.01
ACLS project Construction Emissions – 650 feet southeast	7.03	0.19	<0.03
Combined Sources Unmitigated	<24.91	**<1.09**	<0.16
BAAQMD Cumulative Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold? Unmitigated	*No*	***Yes***	*No*

[1] Emissions from all generators at the ACLS project have been modeled in AERMOD

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*. [32] 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.

[32] 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 has drafted a 2022 Scoping Plan Update to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2022 draft plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as a driving principle.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools, including carbon capture and sequestration as well a direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.

The draft Scoping Plan Update was published on May 10, 2022 and, once final, will lay out how the state can get to carbon neutrality by 2045 or earlier. It is also the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.[33]

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 2022 Draft 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 to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the draft 2022 Scoping Plan, CARB recommends:

- VMT per capita reduced 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.
- 100% of Light-duty vehicle sales are zero emissions vehicles (ZEV) by 2035.
- 100% of medium duty/heavy duty vehicle sales are ZEV by 2040.
- 100% of passenger and other locomotive sales are ZEV by 2030.
- 100% of line haul locomotive sales are ZEV by 2035.
- All electric appliances in new residential and commercial building beginning 2026 (residential) and 2029 (commercial).
- 80% of residential appliance sales are electric by 2030 and 100% of residential appliance sales are electric by 2035.
- 80% of commercial appliance sales are electric by 2030 and 100% of commercial

[33] https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

appliance sales are electric by 2045.

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. The Draft 2022 Scoping Plan Update addresses EO B-55-18 and would cost-effectively achieve carbon-neutrality by 2045 or earlier.

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.[34] 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 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.[35]

CEC studies have identified the most aggressive electrification scenario as putting the building sector on track to reach the carbon neutrality goal by 2045.[36] Installing new natural gas infrastructure in new buildings will interfere with this goal. To meet the State's goal, communities have been adopting "Reach" codes that prohibit natural gas connections in new and remodeled buildings.

Requirements for electric vehicle (EV) charging infrastructure are set forth in Title 24 of the California Code of Regulations and are regularly updated on a 3-year cycle. The CALGreen standards consist of a set of mandatory standards required for new development, as well as two more voluntary standards known as Tier 1 and Tier 2. The CalGreen standards have recently been updated (2022 version) to require deployment of additional EV chargers in various building types, including multifamily residential and nonresidential land uses. They include requirements for both EV capable parking spaces and the installation of Level 2 EV supply equipment for multifamily residential and nonresidential buildings. The 2022 CALGreen standards include requirements for both EV readiness and the actual installation of EV chargers. The 2022 CALGreen standards include both mandatory requirements and more aggressive voluntary Tier 1 and Tier 2 provisions. Providing EV charging infrastructure that meets current CALGreen requirements will not be sufficient to power the anticipated more extensive level of EV penetration in the future that is needed to meet SB 30 climate goals.

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[34] 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.

[35] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

[36] California Energy Commission. 2021. F*inal Commission Report: California Building Decarbonization Assessment. Publication Number CEC-400-2021-006-CMF*.August

SB 743 Transportation Impacts

Senate Bill 743 required lead agencies to abandon the old "level of service" metric for evaluating a project's transportation impacts, which was based solely on the amount of delay experienced by motor vehicles. In response, the Governor's Office of Planning and Research (OPR) developed a VMT metric that considered other factors such as reducing GHG emissions and developing multimodal transportation[37]. A VMT-per-capita metric was adopted into the CEQA Guidelines Section 15064.3 in November 2017. Given current baseline per-capita VMT levels computed by CARB in the 2030 Scoping Plan of 22.24 miles per day for light-duty vehicles and 24.61 miles per day for all vehicle types, the reductions needed to achieve the 2050 climate goal are 16.8 percent for light-duty vehicles and 14.3 percent for all vehicle types combined. Based on this analysis (as well as other factors), OPR recommended using a 15-percent reduction in per capita VMT as an appropriate threshold of significance for evaluating transportation impacts.

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).[38] 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.[39] 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.[40] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011

City of San Carlos 2030 General Plan

The City of San Carlos General Plan 2030 includes policies and programs to reduce exposure of the City's sensitive population to exposure of air pollution, TACs, and GHG emissions. The following policies and programs are applicable to the proposed project:

Policies

Policy EM-7.1: Take appropriate action to address climate change and reduce greenhouse gas emissions.

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[37] Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA.* December.

[38] 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

[39] 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

[40] 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.

Policy EM-7.3: Participate in regional, State, and federal efforts to reduce greenhouse gas emissions and mitigate the impacts resulting from climate change.

Policy EM-7.6: Support greenhouse gas (GHG) emission reduction measures and climate change resiliency strategies that are cost effective and help create an environmentally sustainable, livable, and equitable community. The cost of implementation to the City and private sector shall be considered prior to the adoption of any GHG reduction strategy.

City of San Carlos Climate Mitigation and Adaptative Plan (CMAP)

The City of San Carlos has adopted a new Climate Mitigation and Adaptation Plan (CMAP) to reduce greenhouse gas emissions[41]. The CMAP aims to reduce emissions 40% by 2030 and 80% by 2050 relative to 1990 levels. This CMAP is an update to the 2009 Climate Action Plan (2009 CAP) that provides updated information, an expanded set of GHG reduction strategies, climate adaptation strategies and a planning horizon out to 2050. The following goals and strategies found in the CMAP are relevant to this project:

- Goal 1: Reduce energy use
    - Strategy 1: Regional Energy Conservation and Efficiency Programs. Promote available energy efficiency and conservation opportunities, incentives, and technical assistance for businesses and residents.
- Goal 2: Transition to carbon-free energy sources
    - Strategy 4: Electrification. Transition to electricity as the primary energy source citywide.
    - Strategy 5: Building Codes. Advance electrification through local amendments to the California Building Code.
    - Strategy 7: Peninsula Clean Energy. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free renewable energy by 2025.
- Goal 4: Promote sustainable development that reduces vehicle miles traveled.
    - Strategy 17: Vehicles Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.
- Goal 7: Become a zero-waste community
    - Strategy 27: Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings.

BAAQMD GHG Significance Thresholds

[41] City of San Carlos Climate Mitigation and Adaptation Plan, URL: https://www.cityofsancarlos.org/government/departments/city-manager-s-office-communications/responsible-environment/climate-action-plan

The BAAQMD's 2017 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 had not published a quantified threshold for 2030, this assessment used a bright-line emission threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. 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.

On April 20, 2022, BAAQMD adopted new thresholds of significance for operational GHG emissions from land use projects for projects beginning the CEQA process. The following framework is how BAAQMD will determine GHG significance moving forward.[42] Note BAAQMD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency.

A. Projects must include, at a minimum, the following project design elements:
    a. Buildings
        i. The project will not include natural gas appliances or natural gas plumbing (in both residential and non-residential development).
        ii. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    b. Transportation
        i. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            1. Residential Projects: 15 percent below the existing VMT per capita
            2. Office Projects: 15 percent below the existing VMT per employee
            3. Retail Projects: no net increase in existing VMT

[42] Justification Report: BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en

ii. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Any new land use project would have to include either section A or B from the above list, not both, to be considered in compliance for GHG emissions from project operation.

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 construction period emissions. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future employees. For this project, the applicant provided their estimate for the service population, which was also used for this analysis, of 351 employees based on 300-sf per employee.

GHG Emissions

GHG emissions associated with construction were computed at 447 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. As is standard practice, construction emissions have been amortized over the average 40-year life-span of a building and added to the operational emissions for this analysis.

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 12, net annual GHG emissions resulting from operation of the proposed project are predicted to be, when including amortized construction GHG emissions, 615 MT of CO_2e in 2030. The service population emission for the year 2030, when including amortized construction GHG emissions, is predicted to be 1.75 MT/CO_{2e}/year/service population.

Conclusion GHG-1

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. Since the updated BAAQMD thresholds of significance for operational GHG emissions from land use projects have been adopted, the following table and compliance with the GHG significance thresholds are shown for informational purposes.

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

Source Category	Existing Use	Proposed Project	Net Increase
Construction (amortized)	0.00	11.17	11.17
Area	0.00	0.00	0.00
Energy Consumption	75.05	0.00	-75.05
Mobile	294.44	567.85	273.41
Solid Waste Generation	45.09	4.03	-41.06
Water Usage	16.53	31.80	15.27
Total (MT CO_{2e}/year)	431.10	614.85	183.75
Bright-Line Significance Threshold			***660 MT CO_2e/year***
Exceeds Bright-Line Threshold?			*No*
Service Population Emissions (MT CO_{2e}/year/service population)			1.75
Service Population Significance Threshold			***2.8 in 2030***
Exceeds Service Population Threshold?			*No*
Exceeds Both Significance 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 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. To avoid interference with statewide GHG reduction measures identified in CARB's Scoping Plan and SB 100 goals, the project would include the following standard requirements:

1. Avoid construction of new natural gas connections for the residential building,
    - Conforms – compliance with City Reach Code would prohibit natural gas infrastructure in new buildings.
2. Avoid wasteful or inefficient use of electricity,
    - Conforms – would meet CALGreen Building Standards Code requirements that are considered to be energy efficient.

3. Include electric vehicle charging infrastructure that meets current Building Code CALGreen Tier 2 compliance, and
    - Does not conform – project would need to convert 18 of the 88 proposed on-site parking spaces to EV parking spaces to be in compliance with this requirement.
4. Reduce VMT per service population by 15 percent over regional average.
    - Conforms – The project plans to include a TDM plan that would reduce vehicle trips by 20 percent to meet Section 18.25.030 of the City of San Carlos Municipal Code. At the time of this analysis, the traffic consultant could not assess the proposed effectiveness of the TDM plan's to reduce overall VMT since a copy was not available.[43] A final review of the TDM plan will need to be completed to confirm conformity with this requirement.

Conclusion GHG-2

Conformity with the requirements outlined in *Impact GHG-2* would also constitute conformity with the newly adopted BAAQMD GHG thresholds since these requirements align with the standard requirements outlined by BAAQMD as their GHG thresholds for land use projects.[44] Assuming the appropriate quantity of EV parking spaces are included in the construction of the project and that a review of the proposed TDM plan produces at least a 15 percent reduction in VMT, four out of four requirements would be met. Therefore, the project's GHG impacts would be considered less than significant, and conformity with the new BAAQMD GHG thresholds would be met.

[43] W-Trans, Draft CEQA Transportation Analysis for 888 Bransten Rd_2022-07-29.pdf
[44] Justification Report: BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en

Supporting Documentation

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

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant. The operational output for existing and 2030 project uses is 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 health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. The 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 MEI.

Attachment 1: Health Risk Calculation Methodology

Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[45] 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.[46] 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.[47] 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). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 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

[45] 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.
[46] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[47] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). 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.

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*

* 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 Input Assumptions and Outputs

Air Quality/Noise Construction Information Data Request

Project Name:

See Equipment Type TAB for type, horsepower and load factor

Complete ALL Portions in Yellow

Project Size		**Dwelling Units**	2.42 total project acres disturbed
		s.f. residential	
		s.f. retail	
	105,416	s.f. office/commercial	
		s.f. other, specify:	
		s.f. parking garage	spaces
		s.f. parking lot	88 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	HP Annual Hours	Comments
	Demolition	**Start Date:**	**1/1/2023**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**1/27/2023**					
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	**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	15808	(*or* total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37	8	20	8	17227	**56,900** square feet *or*
	Other Equipment?							**?** Hauling volume (tons)
								Any pavement demolished and hauled? **?** **tons**
	Site Preparation	**Start Date:**	**1/28/2023**	**Total phase:**	**3**			
		End Date:	**2/1/2023**					
1	Graders	187	0.41	8	3	8	1840	
1	Scrapers	367	0.48	8	3	8	4228	
1	Tractors/Loaders/Backhoes	97	0.37	7	3	7	754	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**2/2/2023**	**Total phase:**	**30**			
		End Date:	**3/15/2023**					**Soil Hauling Volume**
	Excavators	158	0.38			0	0	Export volume = **?** cubic yards?
1	Graders	187	0.41	8	30	8	18401	Import volume = **4,900** cubic yards?
1	Rubber Tired Dozers	247	0.4	8	30	8	23712	
	Concrete/Industrial Saws	81	0.73			0	0	
2	Tractors/Loaders/Backhoes	97	0.37	7	30	7	15074	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**3/8/2023**	**Total phase:**	**6**			
		End Date:	**3/15/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	6	8	1723	
1	Excavators	158	0.38	8	6	8	2882	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**3/16/2023**	**Total phase:**	**220**			**Cement Trucks? 166 Total Round-Trips**
		End Date:	**1/17/2024**					
1	Cranes	231	0.29	8	220	8	117902	Electric? (Y/N) ___ Otherwise assumed diesel
2	Forklifts	89	0.2	7	220	7	54824	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	220	8	109402	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	6	220	6	47375	
3	Welders	46	0.45	8	220	8	109296	
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**1/31/2024**	**Total phase:**	**10**			
		End Date:	**2/13/2024**					
1	Air Compressors	78	0.48	6	10	6	2246	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**1/18/2024**	**Total phase:**	**10**			**Asphalt? ___ cubic yards or __39__ round trips?**
		Start Date:	**1/31/2024**					
1	Cement and Mortar Mixers	9	0.56	8	10	8	403	
1	Pavers	130	0.42	8	10	8	4368	
1	Paving Equipment	132	0.36	8	10	8	3802	
2	Rollers	80	0.38	8	10	8	4864	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	2871	
	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

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2023 + 2024	0.79	1.96	0.09	0.08	292.70	
EMFAC						
2023 + 2024	0.02	0.21	0.01	0.00	153.95	
Total Construction Emissions by Year						
2023 + 2024	0.81	2.17	0.10	0.09	446.66	
	Total Construction Emissions					
Tons	0.81	2.17	0.10	0.09	446.66	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2023 + 2024	5.51	14.84	0.67	0.59		**293**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	5.51	14.84	0.67	0.59	0.00	
Average	5.51	14.84	0.67	0.59	0.00	293.00
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	0.84	0.58	0.76	0.20		
	Existing Use Emissions					
Total	0.41	0.24	0.27	0.07		
	Net Annual Operational Emissions					
Tons/year	0.42	0.34	0.48	0.13		
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**		
	Average Daily Emissions					
Pounds Per Day	2.33	1.87	2.66	0.69		
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Construction (Amortized	11.17	0.00	11.17	0.00
Area	0.00	0.00	0.00	0.00
Energy	0.00	75.05	0.00	75.05
Mobile	617.79	294.44	567.85	294.44
Waste	4.03	45.09	4.03	45.09
Water	31.80	16.53	31.80	16.53
TOTAL	653.63	431.10	614.85	431.10
Net GHG Emissions		222.53		183.75
Service Population	351.00			
Per Capita Emissions		1.86		1.75

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	**Size**	**Daily Trips**	**New Trips**	**Weekday Trip Gen**	**Weekday**	**Sat**	**Sun**
Apartments High Rise	105.416	1168	934	***8.86***	11.26	1.9	1.11
TDM Reduction		*-234*			*Rev*	***1.50***	***0.87***
Reduction		*0*					

Traffic Consultant Trip Gen - Existing Use					CalEEMod Default		
Land Use	**Size**	**Daily Trips**	**New Trips**	**Weekday Trip Gen**	**Weekday**	**Sat**	**Sun**
Automobile Care Center	7.4	148	148	***20.00***	23.72	23.72	11.88
					Rev	***20.00***	***10.02***
General Light Industrial	49.5	241	241	***4.87***	4.96	1.99	5
					Rev	***1.95***	***4.91***

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

22-059 888 Bransten Road Defaults

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	105.42	1000sqft	2.26	105,416.00	0
Parking Lot	88.00	Space	0.00	35,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Peninsula Clean Energy				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume PCE

Land Use - Unit amounts, acreage, and square footages provided by applicant.

Construction Phase - Defaults

Off-road Equipment -

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Trips and VMT - All trips entered into EMFAC2021

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - 814-870 bransten road + 797 industrial road, 49,485-sf + 7,415-sf

Grading -

Vehicle Trips - Trip rates provided by traffic consultant.

Vehicle Emission Factors - Emission factors from EMFAC2021

Energy Use - Project is all electric. Natural gas intensity included in electricity intensity.

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - All equipment t4i, BMP

Fleet Mix - Fleet mix from EMFAC2021

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Exhaust emissions test provided by applicant. Emission factors used here.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
tblEnergyUse	NT24E	3.36	5.38
tblEnergyUse	NT24NG	6.90	0.00
tblEnergyUse	T24E	1.08	6.26
tblEnergyUse	T24NG	17.67	0.00
tblFleetMix	HHD	2.0600e-003	7.1580e-003
tblFleetMix	HHD	2.0600e-003	7.1580e-003
tblFleetMix	LDA	0.47	0.44
tblFleetMix	LDA	0.47	0.44
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT2	0.24	0.28
tblFleetMix	LDT2	0.24	0.28
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD2	6.4120e-003	7.3010e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	LHD2	6.4120e-003	7.3010e-003
tblFleetMix	MCY	0.03	4.2410e-003
tblFleetMix	MCY	0.03	4.2410e-003
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MH	2.6570e-003	6.4200e-004
tblFleetMix	MH	2.6570e-003	6.4200e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	1.4460e-003	4.8380e-003
tblFleetMix	OBUS	1.4460e-003	4.8380e-003
tblFleetMix	SBUS	4.3200e-004	4.1400e-004
tblFleetMix	SBUS	4.3200e-004	4.1400e-004
tblFleetMix	UBUS	5.7200e-004	1.8390e-003
tblFleetMix	UBUS	5.7200e-004	1.8390e-003
tblGrading	MaterialImported	0.00	4,900.00
tblLandUse	LandUseSquareFeet	105,420.00	105,416.00
tblLandUse	LotAcreage	2.42	2.26
tblLandUse	LotAcreage	0.79	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,341.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	259.00	0.00
tblTripsAndVMT	HaulingTripNumber	613.00	0.00
tblTripsAndVMT	VendorTripNumber	23.00	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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	WorkerTripNumber	49.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblVehicleEF	HHD	0.03	0.27
tblVehicleEF	HHD	0.18	0.25
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	5.29	4.67
tblVehicleEF	HHD	0.95	1.65
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	931.63	768.77
tblVehicleEF	HHD	1,585.25	1,745.93
tblVehicleEF	HHD	0.28	0.28
tblVehicleEF	HHD	0.15	0.13
tblVehicleEF	HHD	0.26	0.28
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	5.24	3.87
tblVehicleEF	HHD	3.05	2.50
tblVehicleEF	HHD	2.40	2.74
tblVehicleEF	HHD	3.7460e-003	3.0270e-003
tblVehicleEF	HHD	0.06	0.09
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	3.5840e-003	2.8900e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.7190e-003	8.6260e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	4.0000e-006	5.8500e-004

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	HHD	2.0300e-004	1.7500e-004
tblVehicleEF	HHD	0.36	0.29
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	9.4000e-005	1.3050e-003
tblVehicleEF	HHD	1.4000e-005	3.0000e-006
tblVehicleEF	HHD	8.3030e-003	6.3920e-003
tblVehicleEF	HHD	0.01	0.02
tblVehicleEF	HHD	4.0000e-006	5.8500e-004
tblVehicleEF	HHD	2.0300e-004	1.7500e-004
tblVehicleEF	HHD	0.42	0.58
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	HHD	0.21	0.29
tblVehicleEF	HHD	9.4000e-005	1.3050e-003
tblVehicleEF	HHD	1.6000e-005	3.0000e-006
tblVehicleEF	LDA	1.3630e-003	1.6200e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.46	0.53
tblVehicleEF	LDA	2.01	2.73
tblVehicleEF	LDA	223.03	236.28
tblVehicleEF	LDA	47.59	61.79
tblVehicleEF	LDA	3.5080e-003	3.5770e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.15	0.21
tblVehicleEF	LDA	0.04	6.3990e-003
tblVehicleEF	LDA	1.2000e-003	1.1140e-003
tblVehicleEF	LDA	1.6180e-003	1.9130e-003
tblVehicleEF	LDA	0.02	2.2400e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	1.1050e-003	1.0250e-003
tblVehicleEF	LDA	1.4870e-003	1.7590e-003
tblVehicleEF	LDA	0.03	0.24
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	5.0920e-003	6.1730e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.17	0.27
tblVehicleEF	LDA	2.2060e-003	2.3360e-003
tblVehicleEF	LDA	4.7100e-004	6.1100e-004
tblVehicleEF	LDA	0.03	0.24
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.4000e-003	8.9940e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.19	0.30
tblVehicleEF	LDT1	2.1260e-003	4.1000e-003
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.59	0.99
tblVehicleEF	LDT1	2.12	4.22
tblVehicleEF	LDT1	263.34	307.95
tblVehicleEF	LDT1	56.19	80.32
tblVehicleEF	LDT1	4.1590e-003	6.8480e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.04	0.09
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	0.04	8.0170e-003
tblVehicleEF	LDT1	1.4220e-003	1.5650e-003
tblVehicleEF	LDT1	1.8860e-003	2.4740e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	0.02	2.8060e-003
tblVehicleEF	LDT1	1.3090e-003	1.4400e-003
tblVehicleEF	LDT1	1.7340e-003	2.2750e-003
tblVehicleEF	LDT1	0.04	0.42
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	8.5960e-003	0.02
tblVehicleEF	LDT1	0.06	0.34
tblVehicleEF	LDT1	0.20	0.42
tblVehicleEF	LDT1	2.6060e-003	3.0440e-003
tblVehicleEF	LDT1	5.5600e-004	7.9400e-004
tblVehicleEF	LDT1	0.04	0.42
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.06	0.34
tblVehicleEF	LDT1	0.22	0.46
tblVehicleEF	LDT2	1.9400e-003	1.9300e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.56	0.60
tblVehicleEF	LDT2	2.52	3.01
tblVehicleEF	LDT2	275.26	312.37
tblVehicleEF	LDT2	59.15	79.36
tblVehicleEF	LDT2	4.2420e-003	4.4120e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.19	0.25
tblVehicleEF	LDT2	0.04	7.6970e-003
tblVehicleEF	LDT2	1.3050e-003	1.1980e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	1.6860e-003	1.9510e-003
tblVehicleEF	LDT2	0.02	2.6940e-003
tblVehicleEF	LDT2	1.2010e-003	1.1020e-003
tblVehicleEF	LDT2	1.5500e-003	1.7940e-003
tblVehicleEF	LDT2	0.03	0.19
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	7.4300e-003	7.2480e-003
tblVehicleEF	LDT2	0.05	0.14
tblVehicleEF	LDT2	0.22	0.29
tblVehicleEF	LDT2	2.7230e-003	3.0880e-003
tblVehicleEF	LDT2	5.8500e-004	7.8500e-004
tblVehicleEF	LDT2	0.03	0.19
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.05	0.14
tblVehicleEF	LDT2	0.24	0.32
tblVehicleEF	LHD1	4.6830e-003	5.0900e-003
tblVehicleEF	LHD1	5.8360e-003	5.0980e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.51	0.68
tblVehicleEF	LHD1	0.97	2.39
tblVehicleEF	LHD1	8.57	8.29
tblVehicleEF	LHD1	751.95	745.68
tblVehicleEF	LHD1	11.12	18.86
tblVehicleEF	LHD1	7.2100e-004	5.7300e-004
tblVehicleEF	LHD1	0.04	0.04

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.34	0.35
tblVehicleEF	LHD1	0.26	0.39
tblVehicleEF	LHD1	8.5300e-004	6.1900e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7990e-003	9.3030e-003
tblVehicleEF	LHD1	7.0500e-003	8.5920e-003
tblVehicleEF	LHD1	2.2400e-004	1.6500e-004
tblVehicleEF	LHD1	8.1600e-004	5.9200e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4500e-003	2.3260e-003
tblVehicleEF	LHD1	6.6990e-003	8.1840e-003
tblVehicleEF	LHD1	2.0600e-004	1.5100e-004
tblVehicleEF	LHD1	1.0710e-003	0.08
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	0.00
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	0.14	0.12
tblVehicleEF	LHD1	0.05	0.09
tblVehicleEF	LHD1	8.3000e-005	8.1000e-005
tblVehicleEF	LHD1	7.3400e-003	7.2890e-003
tblVehicleEF	LHD1	1.1000e-004	1.8600e-004
tblVehicleEF	LHD1	1.0710e-003	0.08
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.9000e-004	0.00
tblVehicleEF	LHD1	0.09	0.07

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	0.14	0.12
tblVehicleEF	LHD1	0.06	0.10
tblVehicleEF	LHD2	2.8930e-003	2.9140e-003
tblVehicleEF	LHD2	5.4660e-003	4.9480e-003
tblVehicleEF	LHD2	5.9890e-003	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.46	0.43
tblVehicleEF	LHD2	0.57	1.33
tblVehicleEF	LHD2	13.29	13.09
tblVehicleEF	LHD2	728.51	785.97
tblVehicleEF	LHD2	7.48	10.02
tblVehicleEF	LHD2	1.6500e-003	1.5680e-003
tblVehicleEF	LHD2	0.06	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.08	0.07
tblVehicleEF	LHD2	0.37	0.47
tblVehicleEF	LHD2	0.15	0.22
tblVehicleEF	LHD2	1.4140e-003	1.3360e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.2000e-004	8.0000e-005
tblVehicleEF	LHD2	1.3530e-003	1.2780e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6890e-003	2.6520e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.1000e-004	7.4000e-005
tblVehicleEF	LHD2	5.6800e-004	0.05
tblVehicleEF	LHD2	0.03	0.01

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.7300e-004	0.00
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.03	0.05
tblVehicleEF	LHD2	1.2700e-004	1.2600e-004
tblVehicleEF	LHD2	7.0360e-003	7.5740e-003
tblVehicleEF	LHD2	7.4000e-005	9.9000e-005
tblVehicleEF	LHD2	5.6800e-004	0.05
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.7300e-004	0.00
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	MCY	0.33	0.14
tblVehicleEF	MCY	0.26	0.17
tblVehicleEF	MCY	18.30	10.67
tblVehicleEF	MCY	9.27	7.69
tblVehicleEF	MCY	212.79	186.43
tblVehicleEF	MCY	59.80	44.64
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	7.1110e-003
tblVehicleEF	MCY	1.15	0.51
tblVehicleEF	MCY	0.27	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.1570e-003	2.0310e-003
tblVehicleEF	MCY	3.1010e-003	3.7190e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MCY	2.0130e-003	1.8970e-003
tblVehicleEF	MCY	2.9050e-003	3.4890e-003
tblVehicleEF	MCY	0.60	3.15
tblVehicleEF	MCY	0.51	3.55
tblVehicleEF	MCY	0.35	0.00
tblVehicleEF	MCY	2.17	0.89
tblVehicleEF	MCY	0.41	3.70
tblVehicleEF	MCY	1.93	1.22
tblVehicleEF	MCY	2.1060e-003	1.8430e-003
tblVehicleEF	MCY	5.9200e-004	4.4100e-004
tblVehicleEF	MCY	0.60	0.07
tblVehicleEF	MCY	0.51	3.55
tblVehicleEF	MCY	0.35	0.00
tblVehicleEF	MCY	2.71	1.08
tblVehicleEF	MCY	0.41	3.70
tblVehicleEF	MCY	2.10	1.33
tblVehicleEF	MDV	1.9550e-003	2.1320e-003
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.55	0.62
tblVehicleEF	MDV	2.62	3.10
tblVehicleEF	MDV	330.48	373.60
tblVehicleEF	MDV	69.96	94.35
tblVehicleEF	MDV	5.5310e-003	5.3190e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.21	0.29
tblVehicleEF	MDV	0.04	7.7240e-003
tblVehicleEF	MDV	1.3170e-003	1.2030e-003
tblVehicleEF	MDV	1.6910e-003	1.9650e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	0.02	2.7040e-003
tblVehicleEF	MDV	1.2140e-003	1.1080e-003
tblVehicleEF	MDV	1.5550e-003	1.8070e-003
tblVehicleEF	MDV	0.04	0.21
tblVehicleEF	MDV	0.08	0.06
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	7.6550e-003	8.4160e-003
tblVehicleEF	MDV	0.05	0.16
tblVehicleEF	MDV	0.25	0.34
tblVehicleEF	MDV	3.2660e-003	3.6910e-003
tblVehicleEF	MDV	6.9200e-004	9.3300e-004
tblVehicleEF	MDV	0.04	0.21
tblVehicleEF	MDV	0.08	0.06
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.05	0.16
tblVehicleEF	MDV	0.27	0.38
tblVehicleEF	MH	5.5960e-003	8.1070e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.42	0.70
tblVehicleEF	MH	1.78	2.27
tblVehicleEF	MH	1,419.69	1,667.34
tblVehicleEF	MH	16.60	21.42
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.92	1.15
tblVehicleEF	MH	0.23	0.27
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	2.4300e-004	2.9600e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2800e-003	3.3240e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	2.2300e-004	2.7200e-004
tblVehicleEF	MH	0.25	21.03
tblVehicleEF	MH	0.02	5.78
tblVehicleEF	MH	0.11	0.00
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	5.8350e-003	0.14
tblVehicleEF	MH	0.08	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.6400e-004	2.1200e-004
tblVehicleEF	MH	0.25	21.03
tblVehicleEF	MH	0.02	5.78
tblVehicleEF	MH	0.11	0.00
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	5.8350e-003	0.14
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MHD	3.9340e-003	0.01
tblVehicleEF	MHD	1.4090e-003	0.01
tblVehicleEF	MHD	9.5150e-003	0.01
tblVehicleEF	MHD	0.38	0.67
tblVehicleEF	MHD	0.19	0.33
tblVehicleEF	MHD	1.06	1.26
tblVehicleEF	MHD	61.97	147.67
tblVehicleEF	MHD	1,043.81	1,250.18
tblVehicleEF	MHD	9.62	10.56

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MHD	8.7820e-003	0.02
tblVehicleEF	MHD	0.13	0.14
tblVehicleEF	MHD	8.1610e-003	8.0710e-003
tblVehicleEF	MHD	0.34	0.80
tblVehicleEF	MHD	1.30	0.99
tblVehicleEF	MHD	1.66	1.31
tblVehicleEF	MHD	2.4000e-004	1.8050e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	6.2030e-003	0.01
tblVehicleEF	MHD	1.1800e-004	1.3100e-004
tblVehicleEF	MHD	2.3000e-004	1.7260e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	5.9280e-003	0.01
tblVehicleEF	MHD	1.0900e-004	1.2000e-004
tblVehicleEF	MHD	2.6600e-004	0.02
tblVehicleEF	MHD	0.02	6.3670e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	1.7600e-004	0.00
tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	5.8900e-004	1.3680e-003
tblVehicleEF	MHD	9.9640e-003	0.01
tblVehicleEF	MHD	9.5000e-005	1.0400e-004
tblVehicleEF	MHD	2.6600e-004	0.02
tblVehicleEF	MHD	0.02	6.3670e-003
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	1.7600e-004	0.00
tblVehicleEF	MHD	0.02	0.05

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	OBUS	6.7000e-003	6.5670e-003
tblVehicleEF	OBUS	2.5540e-003	7.1970e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.63	0.49
tblVehicleEF	OBUS	0.31	0.22
tblVehicleEF	OBUS	1.48	1.05
tblVehicleEF	OBUS	103.58	90.16
tblVehicleEF	OBUS	1,286.62	1,296.63
tblVehicleEF	OBUS	12.91	9.34
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.13	0.17
tblVehicleEF	OBUS	0.01	9.8750e-003
tblVehicleEF	OBUS	0.44	0.39
tblVehicleEF	OBUS	1.48	0.72
tblVehicleEF	OBUS	1.21	1.13
tblVehicleEF	OBUS	1.4300e-004	2.3300e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.6570e-003	8.2930e-003
tblVehicleEF	OBUS	1.4400e-004	9.9000e-005
tblVehicleEF	OBUS	1.3700e-004	2.2300e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.3130e-003	7.9280e-003
tblVehicleEF	OBUS	1.3300e-004	9.1000e-005
tblVehicleEF	OBUS	7.6700e-004	0.03
tblVehicleEF	OBUS	0.01	8.1250e-003
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	4.0100e-004	0.00

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.07	0.05
tblVehicleEF	OBUS	9.8300e-004	8.5000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.2800e-004	9.2000e-005
tblVehicleEF	OBUS	7.6700e-004	0.03
tblVehicleEF	OBUS	0.01	8.1250e-003
tblVehicleEF	OBUS	0.06	0.04
tblVehicleEF	OBUS	4.0100e-004	0.00
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.08	0.06
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	8.8090e-003	0.08
tblVehicleEF	SBUS	0.01	8.5690e-003
tblVehicleEF	SBUS	4.01	2.38
tblVehicleEF	SBUS	0.80	1.39
tblVehicleEF	SBUS	1.56	1.23
tblVehicleEF	SBUS	367.56	204.35
tblVehicleEF	SBUS	971.83	958.41
tblVehicleEF	SBUS	8.11	6.00
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.10	0.11
tblVehicleEF	SBUS	8.1850e-003	5.6650e-003
tblVehicleEF	SBUS	3.13	1.36
tblVehicleEF	SBUS	4.12	2.53
tblVehicleEF	SBUS	0.74	0.47
tblVehicleEF	SBUS	3.4540e-003	1.3780e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	1.3000e-004	7.9000e-005
tblVehicleEF	SBUS	3.3050e-003	1.3170e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.5240e-003	2.5140e-003
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	1.1900e-004	7.3000e-005
tblVehicleEF	SBUS	6.7200e-004	0.05
tblVehicleEF	SBUS	8.3910e-003	0.01
tblVehicleEF	SBUS	0.48	0.28
tblVehicleEF	SBUS	3.3200e-004	0.00
tblVehicleEF	SBUS	0.09	0.07
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	SBUS	3.5190e-003	1.8720e-003
tblVehicleEF	SBUS	9.3510e-003	8.9820e-003
tblVehicleEF	SBUS	8.0000e-005	5.9000e-005
tblVehicleEF	SBUS	6.7200e-004	0.05
tblVehicleEF	SBUS	8.3910e-003	0.01
tblVehicleEF	SBUS	0.70	0.44
tblVehicleEF	SBUS	3.3200e-004	0.00
tblVehicleEF	SBUS	0.11	0.17
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	UBUS	1.52	0.55
tblVehicleEF	UBUS	0.01	6.4140e-003
tblVehicleEF	UBUS	11.42	6.30

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	UBUS	0.83	0.87
tblVehicleEF	UBUS	1,603.69	1,061.97
tblVehicleEF	UBUS	9.21	5.58
tblVehicleEF	UBUS	0.26	0.16
tblVehicleEF	UBUS	7.3110e-003	9.5510e-003
tblVehicleEF	UBUS	0.69	0.25
tblVehicleEF	UBUS	0.10	0.07
tblVehicleEF	UBUS	0.08	0.14
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	4.9940e-003	4.6870e-003
tblVehicleEF	UBUS	5.3000e-005	2.3000e-005
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	7.8010e-003	0.01
tblVehicleEF	UBUS	4.7760e-003	4.4790e-003
tblVehicleEF	UBUS	4.9000e-005	2.1000e-005
tblVehicleEF	UBUS	6.3800e-004	0.02
tblVehicleEF	UBUS	0.01	8.0370e-003
tblVehicleEF	UBUS	4.9700e-004	0.00
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	4.4160e-003	0.02
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	0.01	8.5230e-003
tblVehicleEF	UBUS	9.1000e-005	5.5000e-005
tblVehicleEF	UBUS	6.3800e-004	0.02
tblVehicleEF	UBUS	0.01	8.0370e-003
tblVehicleEF	UBUS	4.9700e-004	0.00
tblVehicleEF	UBUS	1.55	0.61
tblVehicleEF	UBUS	4.4160e-003	0.02
tblVehicleEF	UBUS	0.07	0.03

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.90	1.50
tblVehicleTrips	SU_TR	1.11	0.87
tblVehicleTrips	WD_TR	11.26	8.86
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

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					
2023	0.2704	1.7596	1.8147	3.2100e-003	0.0519	0.0796	0.1315	0.0148	0.0759	0.0907	0.0000	268.2876	268.2876	0.0545	0.0000	269.6507
2024	0.5021	5.4800e-003	8.1500e-003	1.0000e-005	0.0000	2.7000e-004	2.7000e-004	0.0000	2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	**0.5021**	**1.7596**	**1.8147**	**3.2100e-003**	**0.0519**	**0.0796**	**0.1315**	**0.0148**	**0.0759**	**0.0907**	**0.0000**	**268.2876**	**268.2876**	**0.0545**	**0.0000**	**269.6507**

Mitigated Construction

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	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					
2023	0.1145	1.3789	1.9905	3.2100e-003	0.0234	0.0191	0.0424	6.6700e-003	0.0191	0.0257	0.0000	268.2872	268.2872	0.0545	0.0000	269.6504
2024	0.5016	4.7700e-003	8.2500e-003	1.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	**0.5016**	**1.3789**	**1.9905**	**3.2100e-003**	**0.0234**	**0.0191**	**0.0424**	**6.6700e-003**	**0.0191**	**0.0257**	**0.0000**	**268.2872**	**268.2872**	**0.0545**	**0.0000**	**269.6504**

	ROG	NOx	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	**20.26**	**21.61**	**-9.65**	**0.00**	**55.01**	**76.11**	**67.79**	**54.96**	**74.96**	**71.72**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2023**	**3-31-2023**	0.5089	0.3354
2	**4-1-2023**	**6-30-2023**	0.4985	0.3739
3	**7-1-2023**	**9-30-2023**	0.5039	0.3780
4	**10-1-2023**	**12-31-2023**	0.5792	0.4678
5	**1-1-2024**	**3-31-2024**	0.4432	0.4420
		Highest	0.5792	0.4678

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					

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Area	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2513	0.2658	2.0804	6.5800e-003	0.5932	4.1500e-003	0.5974	0.1480	3.8700e-003	0.1519	0.0000	609.1447	609.1447	0.0260	0.0269	617.7943
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	1.6260	0.0000	1.6260	0.0961	0.0000	4.0282
Water						0.0000	0.0000		0.0000	0.0000	18.3391	0.0000	18.3391	0.0631	0.0399	31.8018
Total	**0.7762**	**0.5118**	**2.2224**	**6.8400e-003**	**0.5932**	**0.0123**	**0.6055**	**0.1480**	**0.0120**	**0.1600**	**19.9650**	**634.6806**	**654.6456**	**0.1888**	**0.0667**	**679.2500**

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	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2513	0.2658	2.0804	6.5800e-003	0.5932	4.1500e-003	0.5974	0.1480	3.8700e-003	0.1519	0.0000	609.1447	609.1447	0.0260	0.0269	617.7943
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	1.6260	0.0000	1.6260	0.0961	0.0000	4.0282
Water						0.0000	0.0000		0.0000	0.0000	18.3391	0.0000	18.3391	0.0631	0.0399	31.8018
Total	**0.7762**	**0.5118**	**2.2224**	**6.8400e-003**	**0.5932**	**0.0123**	**0.6055**	**0.1480**	**0.0120**	**0.1600**	**19.9650**	**634.6806**	**654.6456**	**0.1888**	**0.0667**	**679.2500**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/1/2023	5	3	
3	Grading	Grading	2/2/2023	2/9/2023	5	6	
4	Trenching	Trenching	2/2/2023	2/9/2023	5	6	
5	Building Construction	Building Construction	2/10/2023	12/14/2023	5	220	
6	Paving	Paving	12/15/2023	12/28/2023	5	10	
7	Architectural Coating	Architectural Coating	12/29/2023	1/11/2024	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,124; Non-Residential Outdoor: 52,708; Striped Parking Area: 2,112

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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	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	8.00	231	0.29
Building Construction	Forklifts	2	7.00	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	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	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	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.2 Demolition - 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					
Fugitive Dust					0.0280	0.0000	0.0280	4.2400e-003	0.0000	4.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**	**0.0280**	**6.7700e-003**	**0.0348**	**4.2400e-003**	**6.3300e-003**	**0.0106**	**0.0000**	**21.0866**	**21.0866**	**5.3500e-003**	**0.0000**	**21.2202**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					0.0126	0.0000	0.0126	1.9100e-003	0.0000	1.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6300e-003	0.0854	0.1542	2.4000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	**4.6300e-003**	**0.0854**	**0.1542**	**2.4000e-004**	**0.0126**	**3.7000e-004**	**0.0130**	**1.9100e-003**	**3.7000e-004**	**2.2800e-003**	**0.0000**	**21.0865**	**21.0865**	**5.3500e-003**	**0.0000**	**21.2202**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 - 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					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9500e-003	0.0214	0.0147	4.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	**1.9500e-003**	**0.0214**	**0.0147**	**4.0000e-005**	**2.3900e-003**	**8.1000e-004**	**3.2000e-003**	**2.6000e-004**	**7.5000e-004**	**1.0100e-003**	**0.0000**	**3.2317**	**3.2317**	**1.0500e-003**	**0.0000**	**3.2578**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	0.0104	0.0205	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	**6.3000e-004**	**0.0104**	**0.0205**	**4.0000e-005**	**1.0700e-003**	**6.0000e-005**	**1.1300e-003**	**1.2000e-004**	**6.0000e-005**	**1.8000e-004**	**0.0000**	**3.2317**	**3.2317**	**1.0500e-003**	**0.0000**	**3.2578**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 - 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					
Fugitive Dust					0.0215	0.0000	0.0215	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-003	0.0434	0.0261	6.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**4.0000e-003**	**0.0434**	**0.0261**	**6.0000e-005**	**0.0215**	**1.8100e-003**	**0.0233**	**0.0103**	**1.6700e-003**	**0.0120**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					9.6900e-003	0.0000	9.6900e-003	4.6400e-003	0.0000	4.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	0.0191	0.0364	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**1.1100e-003**	**0.0191**	**0.0364**	**6.0000e-005**	**9.6900e-003**	**1.0000e-004**	**9.7900e-003**	**4.6400e-003**	**1.0000e-004**	**4.7400e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 - 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	1.0200e-003	9.2500e-003	0.0165	2.0000e-005		4.5000e-004	4.5000e-004		4.2000e-004	4.2000e-004	0.0000	2.1818	2.1818	7.1000e-004	0.0000	2.1995
Total	**1.0200e-003**	**9.2500e-003**	**0.0165**	**2.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.1818**	**2.1818**	**7.1000e-004**	**0.0000**	**2.1995**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0000e-004	0.0109	0.0188	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1818	2.1818	7.1000e-004	0.0000	2.1995
Total	**4.0000e-004**	**0.0109**	**0.0188**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.1818**	**2.1818**	**7.1000e-004**	**0.0000**	**2.1995**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4723	228.4723	0.0432	0.0000	229.5525
Total	**0.1885**	**1.4986**	**1.5636**	**2.7500e-003**		**0.0675**	**0.0675**		**0.0647**	**0.0647**	**0.0000**	**228.4723**	**228.4723**	**0.0432**	**0.0000**	**229.5525**

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**

Date: 8/18/2022 4:02 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0505	1.2150	1.6949	2.7500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	228.4720	228.4720	0.0432	0.0000	229.5522
Total	**0.0505**	**1.2150**	**1.6949**	**2.7500e-003**		**0.0183**	**0.0183**		**0.0183**	**0.0183**	**0.0000**	**228.4720**	**228.4720**	**0.0432**	**0.0000**	**229.5522**

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**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4000e-003**	**0.0431**	**0.0584**	**9.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8179**

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**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4800e-003	0.0376	0.0649	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4800e-003**	**0.0376**	**0.0649**	**9.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8178**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0558**	**6.5000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-005	5.3000e-004	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0557**	**5.3000e-004**	**9.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

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 - 2024

Unmitigated Construction On-Site

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	**0.5021**	**5.4800e-003**	**8.1500e-003**	**1.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1490**	**1.1490**	**6.0000e-005**	**0.0000**	**1.1506**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5000e-004	4.7700e-003	8.2500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	**0.5016**	**4.7700e-003**	**8.2500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.1490**	**1.1490**	**6.0000e-005**	**0.0000**	**1.1506**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2513	0.2658	2.0804	6.5800e-003	0.5932	4.1500e-003	0.5974	0.1480	3.8700e-003	0.1519	0.0000	609.1447	609.1447	0.0260	0.0269	617.7943
Unmitigated	0.2513	0.2658	2.0804	6.5800e-003	0.5932	4.1500e-003	0.5974	0.1480	3.8700e-003	0.1519	0.0000	609.1447	609.1447	0.0260	0.0269	617.7943

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Research & Development	934.02	158.13	91.72	1,761,516	1,761,516
Total	934.02	158.13	91.72	1,761,516	1,761,516

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.443496	0.039351	0.280911	0.164293	0.033142	0.007301	0.012374	0.007158	0.004838	0.001839	0.004241	0.000414	0.000642
Research & Development	0.443496	0.039351	0.280911	0.164293	0.033142	0.007301	0.012374	0.007158	0.004838	0.001839	0.004241	0.000414	0.000642

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**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

	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					
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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	12320	0.0000	0.0000	0.0000	0.0000
Research & Development	1.54224e+006	0.0000	0.0000	0.0000	0.0000

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	12320	0.0000	0.0000	0.0000	0.0000
Research & Development	1.54224e+006	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Total	**0.4698**	**2.0000e-005**	**1.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.4600e-003**	**3.4600e-003**	**1.0000e-005**	**0.0000**	**3.6800e-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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Landscaping	1.6000e-004	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Total	**0.4698**	**2.0000e-005**	**1.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.4600e-003**	**3.4600e-003**	**1.0000e-005**	**0.0000**	**3.6800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.3391	0.0631	0.0399	31.8018
Unmitigated	18.3391	0.0631	0.0399	31.8018

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Research & Development	51.8344 / 0	18.3391	0.0631	0.0399	31.8018
Total		**18.3391**	**0.0631**	**0.0399**	**31.8018**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	51.8344 / 0	18.3391	0.0631	0.0399	31.8018
Total		**18.3391**	**0.0631**	**0.0399**	**31.8018**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated	1.6260	0.0961	0.0000	4.0282
Unmitigated	1.6260	0.0961	0.0000	4.0282

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	8.01	1.6260	0.0961	0.0000	4.0282
Total		**1.6260**	**0.0961**	**0.0000**	**4.0282**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	8.01	1.6260	0.0961	0.0000	4.0282

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total		**1.6260**	**0.0961**	**0.0000**	**4.0282**

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
Emergency Generator	1	0	50	1341	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Total	**0.0550**	**0.2460**	**0.1403**	**2.6000e-004**		**8.0900e-003**	**8.0900e-003**		**8.0900e-003**	**8.0900e-003**	**0.0000**	**25.5325**	**25.5325**	**3.5800e-003**	**0.0000**	**25.6219**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.0 Vegetation

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

22-059 888 Bransten Road Defaults

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	105.42	1000sqft	2.26	105,416.00	0
Parking Lot	88.00	Space	0.00	35,200.00	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	Peninsula Clean Energy				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume PCE

Land Use - Unit amounts, acreage, and square footages provided by applicant.

Construction Phase - Defaults

Off-road Equipment -

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Trips and VMT - All trips entered into EMFAC2021

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - 814-870 bransten road + 797 industrial road, 49,485-sf + 7,415-sf

Grading -

Vehicle Trips - Trip rates provided by traffic consultant.

Vehicle Emission Factors - Emission factors from EMFAC2021

Energy Use - Project is all electric. Natural gas intensity included in electricity intensity.

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - All equipment t4i, BMP

Fleet Mix - Fleet mix from EMFAC2021

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Exhaust emissions test provided by applicant. Emission factors used here.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
tblEnergyUse	NT24E	3.36	5.38
tblEnergyUse	NT24NG	6.90	0.00
tblEnergyUse	T24E	1.08	6.26
tblEnergyUse	T24NG	17.67	0.00
tblFleetMix	HHD	1.7910e-003	7.3147e-003
tblFleetMix	HHD	1.7910e-003	7.3147e-003
tblFleetMix	LDA	0.43	0.39
tblFleetMix	LDA	0.43	0.39
tblFleetMix	LDT1	0.08	0.04
tblFleetMix	LDT1	0.08	0.04
tblFleetMix	LDT2	0.25	0.31
tblFleetMix	LDT2	0.25	0.31
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD2	7.1360e-003	8.4117e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	LHD2	7.1360e-003	8.4117e-003
tblFleetMix	MCY	0.03	4.4928e-003
tblFleetMix	MCY	0.03	4.4928e-003
tblFleetMix	MDV	0.16	0.18
tblFleetMix	MDV	0.16	0.18
tblFleetMix	MH	2.9170e-003	7.0573e-004
tblFleetMix	MH	2.9170e-003	7.0573e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	1.3500e-003	4.7195e-003
tblFleetMix	OBUS	1.3500e-003	4.7195e-003
tblFleetMix	SBUS	4.2100e-004	4.4242e-004
tblFleetMix	SBUS	4.2100e-004	4.4242e-004
tblFleetMix	UBUS	4.9600e-004	1.8230e-003
tblFleetMix	UBUS	4.9600e-004	1.8230e-003
tblGrading	MaterialImported	0.00	4,900.00
tblLandUse	LandUseSquareFeet	105,420.00	105,416.00
tblLandUse	LotAcreage	2.42	2.26
tblLandUse	LotAcreage	0.79	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,341.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	259.00	0.00
tblTripsAndVMT	HaulingTripNumber	613.00	0.00
tblTripsAndVMT	VendorTripNumber	23.00	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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	WorkerTripNumber	49.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblVehicleEF	HHD	0.04	0.23
tblVehicleEF	HHD	0.19	0.18
tblVehicleEF	HHD	3.0000e-006	3.0573e-007
tblVehicleEF	HHD	5.46	4.57
tblVehicleEF	HHD	1.06	1.44
tblVehicleEF	HHD	0.04	0.02
tblVehicleEF	HHD	860.08	692.39
tblVehicleEF	HHD	1,405.74	1,514.61
tblVehicleEF	HHD	0.35	0.20
tblVehicleEF	HHD	0.14	0.11
tblVehicleEF	HHD	0.23	0.24
tblVehicleEF	HHD	3.0000e-006	1.7284e-007
tblVehicleEF	HHD	5.01	3.24
tblVehicleEF	HHD	2.73	1.87
tblVehicleEF	HHD	2.40	2.65
tblVehicleEF	HHD	2.7380e-003	2.0816e-003
tblVehicleEF	HHD	0.06	0.09
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	3.0000e-006	1.8239e-006
tblVehicleEF	HHD	2.6200e-003	1.9853e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.7570e-003	8.6348e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	3.0000e-006	1.6770e-006
tblVehicleEF	HHD	6.0000e-006	2.3552e-004

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	HHD	3.2200e-004	6.4920e-005
tblVehicleEF	HHD	0.36	0.27
tblVehicleEF	HHD	5.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	1.5200e-004	3.9132e-004
tblVehicleEF	HHD	1.4000e-005	1.6563e-006
tblVehicleEF	HHD	7.5950e-003	5.6170e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	3.0000e-006	1.9620e-006
tblVehicleEF	HHD	6.0000e-006	2.3552e-004
tblVehicleEF	HHD	3.2200e-004	6.4920e-005
tblVehicleEF	HHD	0.43	0.53
tblVehicleEF	HHD	5.0000e-006	0.00
tblVehicleEF	HHD	0.23	0.21
tblVehicleEF	HHD	1.5200e-004	3.9132e-004
tblVehicleEF	HHD	1.6000e-005	1.8134e-006
tblVehicleEF	LDA	8.5200e-004	1.0908e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.38	0.43
tblVehicleEF	LDA	1.70	2.12
tblVehicleEF	LDA	197.85	211.91
tblVehicleEF	LDA	41.93	55.04
tblVehicleEF	LDA	2.9620e-003	2.8885e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.12	0.18
tblVehicleEF	LDA	0.04	6.3462e-003
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	8.6000e-004	8.0045e-004

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	1.2290e-003	1.4713e-003
tblVehicleEF	LDA	0.02	2.2212e-003
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	7.9200e-004	7.3622e-004
tblVehicleEF	LDA	1.1300e-003	1.3528e-003
tblVehicleEF	LDA	0.02	0.21
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	2.9250e-003	3.8523e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.12	0.20
tblVehicleEF	LDA	1.9570e-003	2.0949e-003
tblVehicleEF	LDA	4.1500e-004	5.4416e-004
tblVehicleEF	LDA	0.02	0.21
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	4.2480e-003	5.6170e-003
tblVehicleEF	LDA	0.03	0.16
tblVehicleEF	LDA	0.13	0.22
tblVehicleEF	LDT1	1.1990e-003	2.2148e-003
tblVehicleEF	LDT1	0.03	0.06
tblVehicleEF	LDT1	0.44	0.66
tblVehicleEF	LDT1	1.81	2.84
tblVehicleEF	LDT1	236.05	277.75
tblVehicleEF	LDT1	50.08	70.97
tblVehicleEF	LDT1	3.1790e-003	4.5003e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.05
tblVehicleEF	LDT1	0.14	0.23

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	0.04	7.9630e-003
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	9.9000e-004	1.0382e-003
tblVehicleEF	LDT1	1.3910e-003	1.7654e-003
tblVehicleEF	LDT1	0.02	2.7870e-003
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	9.1100e-004	9.5461e-004
tblVehicleEF	LDT1	1.2790e-003	1.6232e-003
tblVehicleEF	LDT1	0.03	0.31
tblVehicleEF	LDT1	0.07	0.08
tblVehicleEF	LDT1	0.03	0.00
tblVehicleEF	LDT1	4.4220e-003	9.0469e-003
tblVehicleEF	LDT1	0.05	0.24
tblVehicleEF	LDT1	0.13	0.27
tblVehicleEF	LDT1	2.3360e-003	2.7459e-003
tblVehicleEF	LDT1	4.9600e-004	7.0158e-004
tblVehicleEF	LDT1	0.03	0.31
tblVehicleEF	LDT1	0.07	0.08
tblVehicleEF	LDT1	0.03	0.00
tblVehicleEF	LDT1	6.4520e-003	0.01
tblVehicleEF	LDT1	0.05	0.24
tblVehicleEF	LDT1	0.14	0.29
tblVehicleEF	LDT2	1.3110e-003	1.4507e-003
tblVehicleEF	LDT2	0.04	0.05
tblVehicleEF	LDT2	0.47	0.52
tblVehicleEF	LDT2	2.22	2.46
tblVehicleEF	LDT2	241.10	282.25
tblVehicleEF	LDT2	51.42	71.13
tblVehicleEF	LDT2	3.4280e-003	3.6667e-003

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.15	0.21
tblVehicleEF	LDT2	0.04	7.7669e-003
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	9.8200e-004	8.8292e-004
tblVehicleEF	LDT2	1.3140e-003	1.4991e-003
tblVehicleEF	LDT2	0.02	2.7184e-003
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	9.0400e-004	8.1234e-004
tblVehicleEF	LDT2	1.2080e-003	1.3783e-003
tblVehicleEF	LDT2	0.03	0.16
tblVehicleEF	LDT2	0.06	0.04
tblVehicleEF	LDT2	0.03	0.00
tblVehicleEF	LDT2	4.7820e-003	5.1450e-003
tblVehicleEF	LDT2	0.05	0.12
tblVehicleEF	LDT2	0.16	0.22
tblVehicleEF	LDT2	2.3850e-003	2.7899e-003
tblVehicleEF	LDT2	5.0900e-004	7.0323e-004
tblVehicleEF	LDT2	0.03	0.16
tblVehicleEF	LDT2	0.06	0.04
tblVehicleEF	LDT2	0.03	0.00
tblVehicleEF	LDT2	6.9400e-003	7.4942e-003
tblVehicleEF	LDT2	0.05	0.12
tblVehicleEF	LDT2	0.17	0.24
tblVehicleEF	LHD1	3.9860e-003	4.1003e-003
tblVehicleEF	LHD1	4.4850e-003	2.8899e-003
tblVehicleEF	LHD1	7.3910e-003	0.01
tblVehicleEF	LHD1	0.18	0.18

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	0.40	0.47
tblVehicleEF	LHD1	0.86	2.16
tblVehicleEF	LHD1	8.08	7.48
tblVehicleEF	LHD1	689.79	647.78
tblVehicleEF	LHD1	9.94	16.36
tblVehicleEF	LHD1	7.0800e-004	5.3190e-004
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	0.20	0.30
tblVehicleEF	LHD1	9.1600e-004	6.1676e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	9.8940e-003	9.2636e-003
tblVehicleEF	LHD1	5.8960e-003	6.6482e-003
tblVehicleEF	LHD1	2.0100e-004	1.0406e-004
tblVehicleEF	LHD1	8.7600e-004	5.9008e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4740e-003	2.3159e-003
tblVehicleEF	LHD1	5.5970e-003	6.3311e-003
tblVehicleEF	LHD1	1.8500e-004	9.5681e-005
tblVehicleEF	LHD1	8.5500e-004	0.06
tblVehicleEF	LHD1	0.04	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	5.9000e-004	0.00
tblVehicleEF	LHD1	0.07	0.04
tblVehicleEF	LHD1	0.14	0.08
tblVehicleEF	LHD1	0.03	0.07
tblVehicleEF	LHD1	7.8000e-005	7.2884e-005

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	6.7280e-003	6.3248e-003
tblVehicleEF	LHD1	9.8000e-005	1.6178e-004
tblVehicleEF	LHD1	8.5500e-004	0.06
tblVehicleEF	LHD1	0.04	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	5.9000e-004	0.00
tblVehicleEF	LHD1	0.08	0.04
tblVehicleEF	LHD1	0.14	0.08
tblVehicleEF	LHD1	0.04	0.07
tblVehicleEF	LHD2	2.4420e-003	2.3113e-003
tblVehicleEF	LHD2	4.9160e-003	3.5822e-003
tblVehicleEF	LHD2	4.1310e-003	7.5520e-003
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.44	0.32
tblVehicleEF	LHD2	0.49	1.19
tblVehicleEF	LHD2	12.62	12.88
tblVehicleEF	LHD2	670.16	684.09
tblVehicleEF	LHD2	6.49	8.64
tblVehicleEF	LHD2	1.6020e-003	1.5975e-003
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.21	0.28
tblVehicleEF	LHD2	0.12	0.16
tblVehicleEF	LHD2	1.4740e-003	1.4286e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.0700e-004	4.9747e-005

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD2	1.4100e-003	1.3668e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7060e-003	2.6174e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.9000e-005	4.5741e-005
tblVehicleEF	LHD2	4.2300e-004	0.03
tblVehicleEF	LHD2	0.02	8.3390e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0400e-004	0.00
tblVehicleEF	LHD2	0.09	0.07
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	1.2100e-004	1.2327e-004
tblVehicleEF	LHD2	6.4670e-003	6.5820e-003
tblVehicleEF	LHD2	6.4000e-005	8.5371e-005
tblVehicleEF	LHD2	4.2300e-004	0.03
tblVehicleEF	LHD2	0.02	8.3390e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.0400e-004	0.00
tblVehicleEF	LHD2	0.11	0.08
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	MCY	0.32	0.13
tblVehicleEF	MCY	0.25	0.14
tblVehicleEF	MCY	17.76	9.71
tblVehicleEF	MCY	9.39	7.58
tblVehicleEF	MCY	212.58	185.26
tblVehicleEF	MCY	58.78	39.68
tblVehicleEF	MCY	0.07	0.04

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MCY	0.02	5.5836e-003
tblVehicleEF	MCY	1.14	0.47
tblVehicleEF	MCY	0.27	0.09
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2180e-003	2.0694e-003
tblVehicleEF	MCY	3.0130e-003	3.6392e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	2.0680e-003	1.9303e-003
tblVehicleEF	MCY	2.8140e-003	3.4018e-003
tblVehicleEF	MCY	0.61	2.69
tblVehicleEF	MCY	0.49	3.54
tblVehicleEF	MCY	0.36	0.00
tblVehicleEF	MCY	2.13	0.79
tblVehicleEF	MCY	0.39	3.67
tblVehicleEF	MCY	1.89	1.03
tblVehicleEF	MCY	2.1040e-003	1.8314e-003
tblVehicleEF	MCY	5.8200e-004	3.9228e-004
tblVehicleEF	MCY	0.61	0.07
tblVehicleEF	MCY	0.49	3.54
tblVehicleEF	MCY	0.36	0.00
tblVehicleEF	MCY	2.68	0.98
tblVehicleEF	MCY	0.39	3.67
tblVehicleEF	MCY	2.06	1.12
tblVehicleEF	MDV	1.2400e-003	1.4656e-003
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.45	0.52
tblVehicleEF	MDV	2.21	2.46
tblVehicleEF	MDV	289.25	335.79

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	60.44	84.16
tblVehicleEF	MDV	4.5060e-003	4.1421e-003
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.15	0.22
tblVehicleEF	MDV	0.04	7.7869e-003
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	9.5700e-004	8.5844e-004
tblVehicleEF	MDV	1.2840e-003	1.4694e-003
tblVehicleEF	MDV	0.02	2.7254e-003
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	8.8200e-004	7.9018e-004
tblVehicleEF	MDV	1.1810e-003	1.3510e-003
tblVehicleEF	MDV	0.03	0.17
tblVehicleEF	MDV	0.07	0.05
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	4.5430e-003	5.3027e-003
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	0.16	0.24
tblVehicleEF	MDV	2.8580e-003	3.3180e-003
tblVehicleEF	MDV	5.9800e-004	8.3198e-004
tblVehicleEF	MDV	0.03	0.17
tblVehicleEF	MDV	0.07	0.05
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	6.5690e-003	7.7166e-003
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	0.18	0.26
tblVehicleEF	MH	4.0670e-003	4.8173e-003
tblVehicleEF	MH	0.02	0.02

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MH	0.22	0.26
tblVehicleEF	MH	1.59	1.85
tblVehicleEF	MH	1,315.39	1,657.15
tblVehicleEF	MH	15.06	19.91
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.84	1.00
tblVehicleEF	MH	0.22	0.25
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.1290e-003	0.01
tblVehicleEF	MH	2.2300e-004	2.4830e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2890e-003	3.3356e-003
tblVehicleEF	MH	8.6970e-003	0.01
tblVehicleEF	MH	2.0500e-004	2.2830e-004
tblVehicleEF	MH	0.16	10.82
tblVehicleEF	MH	0.01	2.82
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	2.9870e-003	0.07
tblVehicleEF	MH	0.07	0.08
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.4900e-004	1.9688e-004
tblVehicleEF	MH	0.16	10.82
tblVehicleEF	MH	0.01	2.82
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	2.9870e-003	0.07

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MHD	3.9010e-003	0.02
tblVehicleEF	MHD	9.3700e-004	9.6237e-003
tblVehicleEF	MHD	8.5280e-003	9.1353e-003
tblVehicleEF	MHD	0.38	0.63
tblVehicleEF	MHD	0.14	0.16
tblVehicleEF	MHD	0.87	0.98
tblVehicleEF	MHD	55.53	130.08
tblVehicleEF	MHD	958.82	1,103.52
tblVehicleEF	MHD	8.66	9.48
tblVehicleEF	MHD	7.8550e-003	0.02
tblVehicleEF	MHD	0.12	0.13
tblVehicleEF	MHD	8.0480e-003	6.8926e-003
tblVehicleEF	MHD	0.29	0.57
tblVehicleEF	MHD	1.31	0.56
tblVehicleEF	MHD	1.67	1.12
tblVehicleEF	MHD	1.1600e-004	6.3620e-004
tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.3200e-003	5.3910e-003
tblVehicleEF	MHD	1.1300e-004	1.1806e-004
tblVehicleEF	MHD	1.1100e-004	6.0805e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.0400e-003	5.1468e-003
tblVehicleEF	MHD	1.0400e-004	1.0855e-004
tblVehicleEF	MHD	2.1500e-004	0.02
tblVehicleEF	MHD	0.01	3.9097e-003
tblVehicleEF	MHD	0.02	0.02

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MHD	1.5500e-004	0.00
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	5.2700e-004	1.1953e-003
tblVehicleEF	MHD	9.1510e-003	0.01
tblVehicleEF	MHD	8.6000e-005	9.3707e-005
tblVehicleEF	MHD	2.1500e-004	0.02
tblVehicleEF	MHD	0.01	3.9097e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.5500e-004	0.00
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	OBUS	6.7860e-003	6.9137e-003
tblVehicleEF	OBUS	1.7360e-003	0.01
tblVehicleEF	OBUS	0.01	8.2387e-003
tblVehicleEF	OBUS	0.67	0.50
tblVehicleEF	OBUS	0.22	0.16
tblVehicleEF	OBUS	1.34	0.83
tblVehicleEF	OBUS	104.99	88.87
tblVehicleEF	OBUS	1,195.47	1,192.98
tblVehicleEF	OBUS	11.93	7.62
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.12	0.16
tblVehicleEF	OBUS	0.01	7.5267e-003
tblVehicleEF	OBUS	0.47	0.34
tblVehicleEF	OBUS	1.49	0.65
tblVehicleEF	OBUS	1.22	1.02

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	OBUS	1.5600e-004	2.0740e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0770e-003	7.6204e-003
tblVehicleEF	OBUS	1.4600e-004	8.4010e-005
tblVehicleEF	OBUS	1.4900e-004	1.9826e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	7.7140e-003	7.2847e-003
tblVehicleEF	OBUS	1.3400e-004	7.7244e-005
tblVehicleEF	OBUS	6.9700e-004	0.03
tblVehicleEF	OBUS	0.01	6.5604e-003
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	3.8500e-004	0.00
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.07	0.04
tblVehicleEF	OBUS	9.9600e-004	8.3410e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.1800e-004	7.5365e-005
tblVehicleEF	OBUS	6.9700e-004	0.03
tblVehicleEF	OBUS	0.01	6.5604e-003
tblVehicleEF	OBUS	0.06	0.04
tblVehicleEF	OBUS	3.8500e-004	0.00
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.07	0.05
tblVehicleEF	SBUS	0.16	0.11
tblVehicleEF	SBUS	5.7190e-003	0.07

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	SBUS	0.01	8.9857e-003
tblVehicleEF	SBUS	5.81	2.80
tblVehicleEF	SBUS	0.52	0.91
tblVehicleEF	SBUS	2.02	1.22
tblVehicleEF	SBUS	372.76	200.53
tblVehicleEF	SBUS	883.04	857.53
tblVehicleEF	SBUS	11.09	6.59
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.08	0.09
tblVehicleEF	SBUS	0.01	6.2855e-003
tblVehicleEF	SBUS	2.28	0.99
tblVehicleEF	SBUS	2.37	1.45
tblVehicleEF	SBUS	0.99	0.50
tblVehicleEF	SBUS	1.7990e-003	7.5758e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	9.6950e-003	9.8789e-003
tblVehicleEF	SBUS	0.01	7.0923e-003
tblVehicleEF	SBUS	1.8900e-004	9.3612e-005
tblVehicleEF	SBUS	1.7210e-003	7.2343e-004
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.4240e-003	2.4697e-003
tblVehicleEF	SBUS	0.01	6.7618e-003
tblVehicleEF	SBUS	1.7400e-004	8.6072e-005
tblVehicleEF	SBUS	1.0240e-003	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.71	0.33
tblVehicleEF	SBUS	5.6900e-004	0.00
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	SBUS	0.02	0.04

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	SBUS	0.08	0.05
tblVehicleEF	SBUS	3.5870e-003	1.8277e-003
tblVehicleEF	SBUS	8.5360e-003	8.0269e-003
tblVehicleEF	SBUS	1.1000e-004	6.5114e-005
tblVehicleEF	SBUS	1.0240e-003	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	1.03	0.51
tblVehicleEF	SBUS	5.6900e-004	0.00
tblVehicleEF	SBUS	0.07	0.13
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.09	0.06
tblVehicleEF	UBUS	1.75	0.64
tblVehicleEF	UBUS	8.0630e-003	4.5116e-003
tblVehicleEF	UBUS	13.25	7.38
tblVehicleEF	UBUS	0.82	0.83
tblVehicleEF	UBUS	1,616.16	954.90
tblVehicleEF	UBUS	7.49	5.22
tblVehicleEF	UBUS	0.27	0.14
tblVehicleEF	UBUS	5.7250e-003	6.8378e-003
tblVehicleEF	UBUS	0.67	0.21
tblVehicleEF	UBUS	0.07	0.04
tblVehicleEF	UBUS	0.08	0.16
tblVehicleEF	UBUS	0.03	0.06
tblVehicleEF	UBUS	4.9300e-003	3.9497e-003
tblVehicleEF	UBUS	9.1000e-005	2.4857e-005
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	7.8010e-003	0.02
tblVehicleEF	UBUS	4.7140e-003	3.7729e-003
tblVehicleEF	UBUS	8.3000e-005	2.2855e-005

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	UBUS	1.3500e-004	0.01
tblVehicleEF	UBUS	1.6730e-003	3.4246e-003
tblVehicleEF	UBUS	8.4000e-005	0.00
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	5.1800e-004	0.01
tblVehicleEF	UBUS	0.04	0.02
tblVehicleEF	UBUS	0.01	7.2302e-003
tblVehicleEF	UBUS	7.4000e-005	5.1633e-005
tblVehicleEF	UBUS	1.3500e-004	0.01
tblVehicleEF	UBUS	1.6730e-003	3.4246e-003
tblVehicleEF	UBUS	8.4000e-005	0.00
tblVehicleEF	UBUS	1.79	0.69
tblVehicleEF	UBUS	5.1800e-004	0.01
tblVehicleEF	UBUS	0.04	0.02
tblVehicleTrips	ST_TR	1.90	1.50
tblVehicleTrips	SU_TR	1.11	1.09
tblVehicleTrips	WD_TR	11.26	8.86
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	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					
2023	0.2704	1.7596	1.8147	3.2100e-003	0.0519	0.0796	0.1315	0.0148	0.0759	0.0907	0.0000	268.2876	268.2876	0.0545	0.0000	269.6507
2024	0.5021	5.4800e-003	8.1500e-003	1.0000e-005	0.0000	2.7000e-004	2.7000e-004	0.0000	2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	**0.5021**	**1.7596**	**1.8147**	**3.2100e-003**	**0.0519**	**0.0796**	**0.1315**	**0.0148**	**0.0759**	**0.0907**	**0.0000**	**268.2876**	**268.2876**	**0.0545**	**0.0000**	**269.6507**

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					
2023	0.1145	1.3789	1.9905	3.2100e-003	0.0234	0.0191	0.0424	6.6700e-003	0.0191	0.0257	0.0000	268.2872	268.2872	0.0545	0.0000	269.6504
2024	0.5016	4.7700e-003	8.2500e-003	1.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	**0.5016**	**1.3789**	**1.9905**	**3.2100e-003**	**0.0234**	**0.0191**	**0.0424**	**6.6700e-003**	**0.0191**	**0.0257**	**0.0000**	**268.2872**	**268.2872**	**0.0545**	**0.0000**	**269.6504**

	ROG	NOx	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	**20.26**	**21.61**	**-9.65**	**0.00**	**55.01**	**76.11**	**67.79**	**54.96**	**74.96**	**71.72**	**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)

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

1	**1-1-2023**	**3-31-2023**	0.5089	0.3354
2	**4-1-2023**	**6-30-2023**	0.4985	0.3739
3	**7-1-2023**	**9-30-2023**	0.5039	0.3780
4	**10-1-2023**	**12-31-2023**	0.5792	0.4678
5	**1-1-2024**	**3-31-2024**	0.4432	0.4420
		Highest	0.5792	0.4678

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	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1976	0.1972	1.7179	6.0400e-003	0.5966	3.1700e-003	0.5997	0.1489	2.9600e-003	0.1519	0.0000	560.2114	560.2114	0.0207	0.0239	567.8494
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	1.6260	0.0000	1.6260	0.0961	0.0000	4.0282
Water						0.0000	0.0000		0.0000	0.0000	18.3391	0.0000	18.3391	0.0631	0.0399	31.8018
Total	**0.7225**	**0.4433**	**1.8600**	**6.3000e-003**	**0.5966**	**0.0113**	**0.6078**	**0.1489**	**0.0111**	**0.1600**	**19.9650**	**585.7473**	**605.7123**	**0.1835**	**0.0638**	**629.3051**

Mitigated Operational

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1976	0.1972	1.7179	6.0400e-003	0.5966	3.1700e-003	0.5997	0.1489	2.9600e-003	0.1519	0.0000	560.2114	560.2114	0.0207	0.0239	567.8494
Stationary	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Waste						0.0000	0.0000		0.0000	0.0000	1.6260	0.0000	1.6260	0.0961	0.0000	4.0282
Water						0.0000	0.0000		0.0000	0.0000	18.3391	0.0000	18.3391	0.0631	0.0399	31.8018
Total	**0.7225**	**0.4433**	**1.8600**	**6.3000e-003**	**0.5966**	**0.0113**	**0.6078**	**0.1489**	**0.0111**	**0.1600**	**19.9650**	**585.7473**	**605.7123**	**0.1835**	**0.0638**	**629.3051**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/1/2023	5	3	
3	Grading	Grading	2/2/2023	2/9/2023	5	6	
4	Trenching	Trenching	2/2/2023	2/9/2023	5	6	

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Building Construction	Building Construction	2/10/2023	12/14/2023	5	220	
6	Paving	Paving	12/15/2023	12/28/2023	5	10	
7	Architectural Coating	Architectural Coating	12/29/2023	1/11/2024	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 6

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 158,124; Non-Residential Outdoor: 52,708; Striped Parking Area: 2,112

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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	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	8.00	231	0.29
Building Construction	Forklifts	2	7.00	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	8.00	9	0.56

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	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	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	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

3.2 Demolition - 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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					0.0280	0.0000	0.0280	4.2400e-003	0.0000	4.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**	**0.0280**	**6.7700e-003**	**0.0348**	**4.2400e-003**	**6.3300e-003**	**0.0106**	**0.0000**	**21.0866**	**21.0866**	**5.3500e-003**	**0.0000**	**21.2202**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					0.0126	0.0000	0.0126	1.9100e-003	0.0000	1.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6300e-003	0.0854	0.1542	2.4000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	**4.6300e-003**	**0.0854**	**0.1542**	**2.4000e-004**	**0.0126**	**3.7000e-004**	**0.0130**	**1.9100e-003**	**3.7000e-004**	**2.2800e-003**	**0.0000**	**21.0865**	**21.0865**	**5.3500e-003**	**0.0000**	**21.2202**

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 - 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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9500e-003	0.0214	0.0147	4.0000e-005		8.1000e-004	8.1000e-004		7.5000e-004	7.5000e-004	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	**1.9500e-003**	**0.0214**	**0.0147**	**4.0000e-005**	**2.3900e-003**	**8.1000e-004**	**3.2000e-003**	**2.6000e-004**	**7.5000e-004**	**1.0100e-003**	**0.0000**	**3.2317**	**3.2317**	**1.0500e-003**	**0.0000**	**3.2578**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	0.0104	0.0205	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2317	3.2317	1.0500e-003	0.0000	3.2578
Total	**6.3000e-004**	**0.0104**	**0.0205**	**4.0000e-005**	**1.0700e-003**	**6.0000e-005**	**1.1300e-003**	**1.2000e-004**	**6.0000e-005**	**1.8000e-004**	**0.0000**	**3.2317**	**3.2317**	**1.0500e-003**	**0.0000**	**3.2578**

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 - 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

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					0.0215	0.0000	0.0215	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-003	0.0434	0.0261	6.0000e-005		1.8100e-003	1.8100e-003		1.6700e-003	1.6700e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**4.0000e-003**	**0.0434**	**0.0261**	**6.0000e-005**	**0.0215**	**1.8100e-003**	**0.0233**	**0.0103**	**1.6700e-003**	**0.0120**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Fugitive Dust					9.6900e-003	0.0000	9.6900e-003	4.6400e-003	0.0000	4.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	0.0191	0.0364	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**1.1100e-003**	**0.0191**	**0.0364**	**6.0000e-005**	**9.6900e-003**	**1.0000e-004**	**9.7900e-003**	**4.6400e-003**	**1.0000e-004**	**4.7400e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

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 - 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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Off-Road	1.0200e-003	9.2500e-003	0.0165	2.0000e-005		4.5000e-004	4.5000e-004		4.2000e-004	4.2000e-004	0.0000	2.1818	2.1818	7.1000e-004	0.0000	2.1995
Total	**1.0200e-003**	**9.2500e-003**	**0.0165**	**2.0000e-005**		**4.5000e-004**	**4.5000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.1818**	**2.1818**	**7.1000e-004**	**0.0000**	**2.1995**

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					

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	4.0000e-004	0.0109	0.0188	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1818	2.1818	7.1000e-004	0.0000	2.1995
Total	**4.0000e-004**	**0.0109**	**0.0188**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.1818**	**2.1818**	**7.1000e-004**	**0.0000**	**2.1995**

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	0.1885	1.4986	1.5636	2.7500e-003		0.0675	0.0675		0.0647	0.0647	0.0000	228.4723	228.4723	0.0432	0.0000	229.5525

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**0.1885**	**1.4986**	**1.5636**	**2.7500e-003**		**0.0675**	**0.0675**		**0.0647**	**0.0647**	**0.0000**	**228.4723**	**228.4723**	**0.0432**	**0.0000**	**229.5525**

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	0.0505	1.2150	1.6949	2.7500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	228.4720	228.4720	0.0432	0.0000	229.5522
Total	**0.0505**	**1.2150**	**1.6949**	**2.7500e-003**		**0.0183**	**0.0183**		**0.0183**	**0.0183**	**0.0000**	**228.4720**	**228.4720**	**0.0432**	**0.0000**	**229.5522**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	4.4000e-003	0.0431	0.0584	9.0000e-005		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8179
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4000e-003**	**0.0431**	**0.0584**	**9.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8179**

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4800e-003	0.0376	0.0649	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4800e-003**	**0.0376**	**0.0649**	**9.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.7564**	**7.7564**	**2.4600e-003**	**0.0000**	**7.8178**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	6.5000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0558**	**6.5000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-005	5.3000e-004	9.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**0.0557**	**5.3000e-004**	**9.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 - 2024

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	0.5013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	**0.5021**	**5.4800e-003**	**8.1500e-003**	**1.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1490**	**1.1490**	**6.0000e-005**	**0.0000**	**1.1506**

Date: 8/22/2022 2:28 PM

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.5013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5000e-004	4.7700e-003	8.2500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	**0.5016**	**4.7700e-003**	**8.2500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.1490**	**1.1490**	**6.0000e-005**	**0.0000**	**1.1506**

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated	0.1976	0.1972	1.7179	6.0400e-003	0.5966	3.1700e-003	0.5997	0.1489	2.9600e-003	0.1519	0.0000	560.2114	560.2114	0.0207	0.0239	567.8494
Unmitigated	0.1976	0.1972	1.7179	6.0400e-003	0.5966	3.1700e-003	0.5997	0.1489	2.9600e-003	0.1519	0.0000	560.2114	560.2114	0.0207	0.0239	567.8494

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Research & Development	934.02	158.13	114.91	1,769,820	1,769,820
Total	934.02	158.13	114.91	1,769,820	1,769,820

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.392953	0.038140	0.309697	0.182164	0.036329	0.008412	0.012807	0.007315	0.004719	0.001823	0.004493	0.000442	0.000706
Research & Development	0.392953	0.038140	0.309697	0.182164	0.036329	0.008412	0.012807	0.007315	0.004719	0.001823	0.004493	0.000442	0.000706

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

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					
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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					
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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	12320	0.0000	0.0000	0.0000	0.0000
Research & Development	1.54224e+006	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	12320	0.0000	0.0000	0.0000	0.0000
Research & Development	1.54224e+006	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Unmitigated	0.4698	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003

6.2 Area by SubCategory

Unmitigated

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Total	**0.4698**	**2.0000e-005**	**1.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.4600e-003**	**3.4600e-003**	**1.0000e-005**	**0.0000**	**3.6800e-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	0.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.4600e-003	3.4600e-003	1.0000e-005	0.0000	3.6800e-003
Total	**0.4698**	**2.0000e-005**	**1.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.4600e-003**	**3.4600e-003**	**1.0000e-005**	**0.0000**	**3.6800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.3391	0.0631	0.0399	31.8018
Unmitigated	18.3391	0.0631	0.0399	31.8018

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	51.8344 / 0	18.3391	0.0631	0.0399	31.8018
Total		**18.3391**	**0.0631**	**0.0399**	**31.8018**

Mitigated

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	51.8344 / 0	18.3391	0.0631	0.0399	31.8018
Total		**18.3391**	**0.0631**	**0.0399**	**31.8018**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.6260	0.0961	0.0000	4.0282
Unmitigated	1.6260	0.0961	0.0000	4.0282

8.2 Waste by Land Use

Unmitigated

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	8.01	1.6260	0.0961	0.0000	4.0282
Total		**1.6260**	**0.0961**	**0.0000**	**4.0282**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	8.01	1.6260	0.0961	0.0000	4.0282
Total		**1.6260**	**0.0961**	**0.0000**	**4.0282**

9.0 Operational Offroad

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

22-059 888 Bransten Road Defaults - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	1341	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0550	0.2460	0.1403	2.6000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	25.5325	25.5325	3.5800e-003	0.0000	25.6219
Total	**0.0550**	**0.2460**	**0.1403**	**2.6000e-004**		**8.0900e-003**	**8.0900e-003**		**8.0900e-003**	**8.0900e-003**	**0.0000**	**25.5325**	**25.5325**	**3.5800e-003**	**0.0000**	**25.6219**

11.0 Vegetation

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

22-059 888 Bransten Existing Use

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	49.50	1000sqft	1.14	49,500.00	0
Automobile Care Center	7.40	1000sqft	0.17	7,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2022
Utility Company	Peninsula Clean Energy				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Existing use operational only.

Off-road Equipment - Existing use operational only.

Vehicle Trips - Trip rates provided by traffic consultant.

Vehicle Emission Factors - Emission factors from EMFAC2021

Vehicle Emission Factors -

Fleet Mix - Fleet mix from EMFAC2021

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	HHD	2.2470e-003	7.1770e-003
tblFleetMix	HHD	2.2470e-003	7.1770e-003
tblFleetMix	LDA	0.49	0.49
tblFleetMix	LDA	0.49	0.49
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT2	0.22	0.25
tblFleetMix	LDT2	0.22	0.25
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD2	5.8150e-003	6.2250e-003
tblFleetMix	LHD2	5.8150e-003	6.2250e-003
tblFleetMix	MCY	0.03	3.8920e-003
tblFleetMix	MCY	0.03	3.8920e-003
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MH	2.4690e-003	5.7200e-004
tblFleetMix	MH	2.4690e-003	5.7200e-004
tblFleetMix	MHD	9.9900e-003	0.01
tblFleetMix	MHD	9.9900e-003	0.01
tblFleetMix	OBUS	1.5780e-003	5.0440e-003
tblFleetMix	OBUS	1.5780e-003	5.0440e-003
tblFleetMix	SBUS	4.4000e-004	3.9300e-004
tblFleetMix	SBUS	4.4000e-004	3.9300e-004
tblFleetMix	UBUS	6.3600e-004	1.8800e-003
tblFleetMix	UBUS	6.3600e-004	1.8800e-003
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblVehicleEF	HHD	0.03	0.26
tblVehicleEF	HHD	0.17	0.28
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	4.86	4.44
tblVehicleEF	HHD	1.00	1.69
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	986.47	817.56
tblVehicleEF	HHD	1,722.89	1,847.10
tblVehicleEF	HHD	0.24	0.31
tblVehicleEF	HHD	0.16	0.13
tblVehicleEF	HHD	0.28	0.30
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	5.83	4.43
tblVehicleEF	HHD	4.02	3.26
tblVehicleEF	HHD	2.10	2.39
tblVehicleEF	HHD	5.0230e-003	3.8270e-003
tblVehicleEF	HHD	0.06	0.10
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	2.0000e-006	6.0000e-006
tblVehicleEF	HHD	4.8060e-003	3.6570e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.6930e-003	8.6220e-003
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	1.0000e-006	5.0000e-006
tblVehicleEF	HHD	3.0000e-006	9.9100e-004

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	HHD	1.6300e-004	2.7700e-004
tblVehicleEF	HHD	0.36	0.29
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	0.09	0.05
tblVehicleEF	HHD	7.5000e-005	2.2870e-003
tblVehicleEF	HHD	1.5000e-005	4.0000e-006
tblVehicleEF	HHD	8.8510e-003	6.9760e-003
tblVehicleEF	HHD	0.01	0.02
tblVehicleEF	HHD	2.0000e-006	3.0000e-006
tblVehicleEF	HHD	3.0000e-006	9.9100e-004
tblVehicleEF	HHD	1.6300e-004	2.7700e-004
tblVehicleEF	HHD	0.42	0.58
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	0.27	0.33
tblVehicleEF	HHD	7.5000e-005	2.2870e-003
tblVehicleEF	HHD	1.7000e-005	4.0000e-006
tblVehicleEF	LDA	2.0280e-003	2.3190e-003
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.56	0.66
tblVehicleEF	LDA	2.27	3.35
tblVehicleEF	LDA	246.96	259.69
tblVehicleEF	LDA	52.49	67.48
tblVehicleEF	LDA	4.3020e-003	4.5170e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.19	0.25
tblVehicleEF	LDA	0.04	6.4730e-003
tblVehicleEF	LDA	1.3690e-003	1.2840e-003
tblVehicleEF	LDA	1.8120e-003	2.1480e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	0.02	2.2660e-003
tblVehicleEF	LDA	1.2610e-003	1.1820e-003
tblVehicleEF	LDA	1.6660e-003	1.9750e-003
tblVehicleEF	LDA	0.03	0.27
tblVehicleEF	LDA	0.09	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.9910e-003	9.2860e-003
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.23	0.34
tblVehicleEF	LDA	2.4430e-003	2.5670e-003
tblVehicleEF	LDA	5.1900e-004	6.6700e-004
tblVehicleEF	LDA	0.03	0.27
tblVehicleEF	LDA	0.09	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.25	0.37
tblVehicleEF	LDT1	3.2790e-003	6.2870e-003
tblVehicleEF	LDT1	0.06	0.11
tblVehicleEF	LDT1	0.78	1.36
tblVehicleEF	LDT1	2.36	5.61
tblVehicleEF	LDT1	287.63	330.05
tblVehicleEF	LDT1	61.36	87.64
tblVehicleEF	LDT1	5.4800e-003	9.5160e-003
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.13
tblVehicleEF	LDT1	0.21	0.39
tblVehicleEF	LDT1	0.04	8.0920e-003
tblVehicleEF	LDT1	1.7500e-003	1.9810e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	2.2560e-003	3.0330e-003
tblVehicleEF	LDT1	0.02	2.8320e-003
tblVehicleEF	LDT1	1.6100e-003	1.8230e-003
tblVehicleEF	LDT1	2.0740e-003	2.7890e-003
tblVehicleEF	LDT1	0.05	0.54
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.07	0.45
tblVehicleEF	LDT1	0.27	0.57
tblVehicleEF	LDT1	2.8460e-003	3.2630e-003
tblVehicleEF	LDT1	6.0700e-004	8.6600e-004
tblVehicleEF	LDT1	0.05	0.54
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.07	0.45
tblVehicleEF	LDT1	0.30	0.62
tblVehicleEF	LDT2	2.6450e-003	2.6020e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.66	0.74
tblVehicleEF	LDT2	2.77	3.68
tblVehicleEF	LDT2	306.08	340.61
tblVehicleEF	LDT2	65.86	87.10
tblVehicleEF	LDT2	5.3110e-003	5.5370e-003
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.25	0.32
tblVehicleEF	LDT2	0.04	7.7140e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	1.4770e-003	1.3870e-003
tblVehicleEF	LDT2	1.8690e-003	2.1920e-003
tblVehicleEF	LDT2	0.02	2.7000e-003
tblVehicleEF	LDT2	1.3590e-003	1.2760e-003
tblVehicleEF	LDT2	1.7190e-003	2.0160e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.09	0.07
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	0.28	0.37
tblVehicleEF	LDT2	3.0280e-003	3.3670e-003
tblVehicleEF	LDT2	6.5200e-004	8.6100e-004
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.09	0.07
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	0.31	0.41
tblVehicleEF	LHD1	5.3000e-003	5.8430e-003
tblVehicleEF	LHD1	7.2240e-003	7.3840e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.19	0.21
tblVehicleEF	LHD1	0.62	0.87
tblVehicleEF	LHD1	1.08	2.43
tblVehicleEF	LHD1	8.84	8.65
tblVehicleEF	LHD1	796.65	802.84
tblVehicleEF	LHD1	12.03	20.18
tblVehicleEF	LHD1	7.1700e-004	5.7900e-004

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.52	0.56
tblVehicleEF	LHD1	0.31	0.47
tblVehicleEF	LHD1	7.9700e-004	5.8300e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.6980e-003	9.2050e-003
tblVehicleEF	LHD1	8.2510e-003	0.01
tblVehicleEF	LHD1	2.4800e-004	2.2600e-004
tblVehicleEF	LHD1	7.6300e-004	5.5800e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4250e-003	2.3010e-003
tblVehicleEF	LHD1	7.8460e-003	0.01
tblVehicleEF	LHD1	2.2800e-004	2.0800e-004
tblVehicleEF	LHD1	1.2870e-003	0.11
tblVehicleEF	LHD1	0.06	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.9700e-004	0.00
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	0.07	0.12
tblVehicleEF	LHD1	8.6000e-005	8.4000e-005
tblVehicleEF	LHD1	7.7840e-003	7.8580e-003
tblVehicleEF	LHD1	1.1900e-004	2.0000e-004
tblVehicleEF	LHD1	1.2870e-003	0.11
tblVehicleEF	LHD1	0.06	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.9700e-004	0.00

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD1	0.10	0.09
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	0.07	0.13
tblVehicleEF	LHD2	3.3550e-003	3.6130e-003
tblVehicleEF	LHD2	6.3020e-003	6.7180e-003
tblVehicleEF	LHD2	8.1370e-003	0.01
tblVehicleEF	LHD2	0.14	0.15
tblVehicleEF	LHD2	0.52	0.58
tblVehicleEF	LHD2	0.67	1.46
tblVehicleEF	LHD2	13.62	13.35
tblVehicleEF	LHD2	772.49	845.43
tblVehicleEF	LHD2	8.39	11.54
tblVehicleEF	LHD2	1.6520e-003	1.5390e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.57	0.73
tblVehicleEF	LHD2	0.19	0.28
tblVehicleEF	LHD2	1.3540e-003	1.2420e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3800e-004	1.2400e-004
tblVehicleEF	LHD2	1.2960e-003	1.1880e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6700e-003	2.6260e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.2700e-004	1.1400e-004
tblVehicleEF	LHD2	7.5600e-004	0.07

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.6600e-004	0.00
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.04	0.07
tblVehicleEF	LHD2	1.3000e-004	1.2800e-004
tblVehicleEF	LHD2	7.4680e-003	8.1630e-003
tblVehicleEF	LHD2	8.3000e-005	1.1400e-004
tblVehicleEF	LHD2	7.5600e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.6600e-004	0.00
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.04	0.08
tblVehicleEF	MCY	0.33	0.16
tblVehicleEF	MCY	0.26	0.19
tblVehicleEF	MCY	19.02	12.33
tblVehicleEF	MCY	9.17	7.96
tblVehicleEF	MCY	213.08	188.69
tblVehicleEF	MCY	60.80	50.07
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.6710e-003
tblVehicleEF	MCY	1.15	0.56
tblVehicleEF	MCY	0.27	0.15
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.0940e-003	2.0070e-003
tblVehicleEF	MCY	3.3370e-003	4.0700e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9560e-003	1.8800e-003
tblVehicleEF	MCY	3.1380e-003	3.8360e-003
tblVehicleEF	MCY	0.62	3.59
tblVehicleEF	MCY	0.57	3.56
tblVehicleEF	MCY	0.38	0.00
tblVehicleEF	MCY	2.21	1.05
tblVehicleEF	MCY	0.44	3.72
tblVehicleEF	MCY	1.97	1.43
tblVehicleEF	MCY	2.1090e-003	1.8650e-003
tblVehicleEF	MCY	6.0200e-004	4.9500e-004
tblVehicleEF	MCY	0.62	0.08
tblVehicleEF	MCY	0.57	3.56
tblVehicleEF	MCY	0.38	0.00
tblVehicleEF	MCY	2.75	1.26
tblVehicleEF	MCY	0.44	3.72
tblVehicleEF	MCY	2.14	1.56
tblVehicleEF	MDV	2.8920e-003	3.2010e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.69	0.80
tblVehicleEF	MDV	3.04	3.95
tblVehicleEF	MDV	368.66	409.20
tblVehicleEF	MDV	78.55	104.08
tblVehicleEF	MDV	6.9690e-003	7.1680e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.29	0.40
tblVehicleEF	MDV	0.04	7.7630e-003
tblVehicleEF	MDV	1.5500e-003	1.4520e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	1.9760e-003	2.3430e-003
tblVehicleEF	MDV	0.02	2.7170e-003
tblVehicleEF	MDV	1.4290e-003	1.3380e-003
tblVehicleEF	MDV	1.8170e-003	2.1540e-003
tblVehicleEF	MDV	0.04	0.26
tblVehicleEF	MDV	0.10	0.08
tblVehicleEF	MDV	0.05	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.05	0.20
tblVehicleEF	MDV	0.34	0.48
tblVehicleEF	MDV	3.6430e-003	4.0430e-003
tblVehicleEF	MDV	7.7700e-004	1.0290e-003
tblVehicleEF	MDV	0.04	0.26
tblVehicleEF	MDV	0.10	0.08
tblVehicleEF	MDV	0.05	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.05	0.20
tblVehicleEF	MDV	0.37	0.52
tblVehicleEF	MH	7.8210e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.73	1.52
tblVehicleEF	MH	2.03	2.75
tblVehicleEF	MH	1,502.52	1,675.54
tblVehicleEF	MH	18.02	23.04
tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.03	1.39
tblVehicleEF	MH	0.24	0.29
tblVehicleEF	MH	0.13	0.04

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.7100e-004	3.6600e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2730e-003	3.3160e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	2.4900e-004	3.3600e-004
tblVehicleEF	MH	0.38	30.99
tblVehicleEF	MH	0.04	9.08
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.05	0.09
tblVehicleEF	MH	8.9160e-003	0.21
tblVehicleEF	MH	0.09	0.12
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.7800e-004	2.2800e-004
tblVehicleEF	MH	0.38	30.99
tblVehicleEF	MH	0.04	9.08
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.07	0.12
tblVehicleEF	MH	8.9160e-003	0.21
tblVehicleEF	MH	0.10	0.13
tblVehicleEF	MHD	3.9210e-003	0.01
tblVehicleEF	MHD	4.7020e-003	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.38	0.65
tblVehicleEF	MHD	0.43	0.60
tblVehicleEF	MHD	1.26	1.48
tblVehicleEF	MHD	68.23	157.17
tblVehicleEF	MHD	1,119.63	1,289.87

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MHD	10.33	11.01
tblVehicleEF	MHD	9.7120e-003	0.02
tblVehicleEF	MHD	0.14	0.15
tblVehicleEF	MHD	8.1860e-003	7.8620e-003
tblVehicleEF	MHD	0.49	1.01
tblVehicleEF	MHD	1.73	1.59
tblVehicleEF	MHD	1.39	1.20
tblVehicleEF	MHD	9.9300e-004	3.1930e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.2700e-004	1.4400e-004
tblVehicleEF	MHD	9.5000e-004	3.0550e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.1700e-004	1.3300e-004
tblVehicleEF	MHD	3.4300e-004	0.03
tblVehicleEF	MHD	0.02	8.8150e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	2.1300e-004	0.00
tblVehicleEF	MHD	0.07	0.07
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	6.4800e-004	1.4600e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.0200e-004	1.0900e-004
tblVehicleEF	MHD	3.4300e-004	0.03
tblVehicleEF	MHD	0.02	8.8150e-003
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	2.1300e-004	0.00

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	OBUS	6.7140e-003	8.1590e-003
tblVehicleEF	OBUS	5.0760e-003	8.2520e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.58	0.46
tblVehicleEF	OBUS	0.49	0.31
tblVehicleEF	OBUS	1.56	1.18
tblVehicleEF	OBUS	107.54	92.23
tblVehicleEF	OBUS	1,354.47	1,344.38
tblVehicleEF	OBUS	13.26	10.27
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.14	0.17
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.54	0.43
tblVehicleEF	OBUS	1.87	0.94
tblVehicleEF	OBUS	1.06	1.06
tblVehicleEF	OBUS	7.9200e-004	2.5800e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.02	9.2440e-003
tblVehicleEF	OBUS	1.3600e-004	1.0300e-004
tblVehicleEF	OBUS	7.5800e-004	2.4700e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	0.02	8.8370e-003
tblVehicleEF	OBUS	1.2500e-004	9.4000e-005
tblVehicleEF	OBUS	7.7900e-004	0.03
tblVehicleEF	OBUS	0.01	8.9140e-003
tblVehicleEF	OBUS	0.05	0.03

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	OBUS	3.9500e-004	0.00
tblVehicleEF	OBUS	0.06	0.03
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.07	0.06
tblVehicleEF	OBUS	1.0200e-003	8.6700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.3100e-004	1.0100e-004
tblVehicleEF	OBUS	7.7900e-004	0.03
tblVehicleEF	OBUS	0.01	8.9140e-003
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	3.9500e-004	0.00
tblVehicleEF	OBUS	0.07	0.05
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.08	0.06
tblVehicleEF	SBUS	0.08	0.09
tblVehicleEF	SBUS	0.01	0.09
tblVehicleEF	SBUS	8.1020e-003	7.9980e-003
tblVehicleEF	SBUS	2.98	2.07
tblVehicleEF	SBUS	1.00	1.81
tblVehicleEF	SBUS	1.26	1.18
tblVehicleEF	SBUS	360.00	206.71
tblVehicleEF	SBUS	1,028.45	1,021.11
tblVehicleEF	SBUS	6.23	5.49
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.12	0.12
tblVehicleEF	SBUS	5.9500e-003	4.8570e-003
tblVehicleEF	SBUS	3.52	1.58
tblVehicleEF	SBUS	5.24	3.32
tblVehicleEF	SBUS	0.62	0.44

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	SBUS	4.5830e-003	1.8680e-003
tblVehicleEF	SBUS	0.74	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	9.6000e-005	7.3000e-005
tblVehicleEF	SBUS	4.3850e-003	1.7860e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.5990e-003	2.6000e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	8.9000e-005	6.7000e-005
tblVehicleEF	SBUS	5.6200e-004	0.05
tblVehicleEF	SBUS	7.2750e-003	0.01
tblVehicleEF	SBUS	0.36	0.24
tblVehicleEF	SBUS	2.5600e-004	0.00
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	3.4360e-003	1.8970e-003
tblVehicleEF	SBUS	9.8650e-003	9.5730e-003
tblVehicleEF	SBUS	6.2000e-005	5.4000e-005
tblVehicleEF	SBUS	5.6200e-004	0.05
tblVehicleEF	SBUS	7.2750e-003	0.01
tblVehicleEF	SBUS	0.51	0.38
tblVehicleEF	SBUS	2.5600e-004	0.00
tblVehicleEF	SBUS	0.14	0.20
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	UBUS	0.84	0.16
tblVehicleEF	UBUS	0.01	7.7750e-003

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	UBUS	5.26	2.06
tblVehicleEF	UBUS	0.82	0.83
tblVehicleEF	UBUS	1,802.99	1,395.58
tblVehicleEF	UBUS	9.26	5.76
tblVehicleEF	UBUS	0.28	0.20
tblVehicleEF	UBUS	7.0140e-003	0.01
tblVehicleEF	UBUS	3.45	2.45
tblVehicleEF	UBUS	0.09	0.08
tblVehicleEF	UBUS	0.08	0.11
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	7.7550e-003	6.8420e-003
tblVehicleEF	UBUS	5.0000e-005	1.5000e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	7.8010e-003	7.3410e-003
tblVehicleEF	UBUS	7.4180e-003	6.5410e-003
tblVehicleEF	UBUS	4.6000e-005	1.4000e-005
tblVehicleEF	UBUS	3.7600e-004	0.02
tblVehicleEF	UBUS	6.3660e-003	8.2350e-003
tblVehicleEF	UBUS	2.8300e-004	0.00
tblVehicleEF	UBUS	0.01	0.14
tblVehicleEF	UBUS	2.2390e-003	0.01
tblVehicleEF	UBUS	0.06	0.03
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.2000e-005	5.7000e-005
tblVehicleEF	UBUS	3.7600e-004	0.02
tblVehicleEF	UBUS	6.3660e-003	8.2350e-003
tblVehicleEF	UBUS	2.8300e-004	0.00
tblVehicleEF	UBUS	0.86	0.31
tblVehicleEF	UBUS	2.2390e-003	0.01

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	UBUS	0.06	0.03
tblVehicleTrips	ST_TR	23.72	20.00
tblVehicleTrips	ST_TR	1.99	1.95
tblVehicleTrips	SU_TR	11.88	10.02
tblVehicleTrips	SU_TR	5.00	4.91
tblVehicleTrips	WD_TR	23.72	20.00
tblVehicleTrips	WD_TR	4.96	4.87

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	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					

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.2519	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-003
Energy	7.5400e-003	0.0685	0.0576	4.1000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	74.6044	74.6044	1.4300e-003	1.3700e-003	75.0477
Mobile	0.1552	0.1689	1.1941	3.1300e-003	0.2628	2.2300e-003	0.2650	0.0656	2.0900e-003	0.0676	0.0000	289.9109	289.9109	0.0148	0.0139	294.4372
Waste						0.0000	0.0000		0.0000	0.0000	18.1981	0.0000	18.1981	1.0755	0.0000	45.0851
Water						0.0000	0.0000		0.0000	0.0000	3.8524	0.0000	3.8524	0.3957	9.3400e-003	16.5287
Total	**0.4147**	**0.2375**	**1.2522**	**3.5400e-003**	**0.2628**	**7.4400e-003**	**0.2702**	**0.0656**	**7.3000e-003**	**0.0729**	**22.0506**	**364.5163**	**386.5669**	**1.4874**	**0.0247**	**431.0998**

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2519	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-003
Energy	7.5400e-003	0.0685	0.0576	4.1000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	74.6044	74.6044	1.4300e-003	1.3700e-003	75.0477
Mobile	0.1552	0.1689	1.1941	3.1300e-003	0.2628	2.2300e-003	0.2650	0.0656	2.0900e-003	0.0676	0.0000	289.9109	289.9109	0.0148	0.0139	294.4372
Waste						0.0000	0.0000		0.0000	0.0000	18.1981	0.0000	18.1981	1.0755	0.0000	45.0851
Water						0.0000	0.0000		0.0000	0.0000	3.8524	0.0000	3.8524	0.3957	9.3400e-003	16.5287
Total	**0.4147**	**0.2375**	**1.2522**	**3.5400e-003**	**0.2628**	**7.4400e-003**	**0.2702**	**0.0656**	**7.3000e-003**	**0.0729**	**22.0506**	**364.5163**	**386.5669**	**1.4874**	**0.0247**	**431.0998**

	ROG	NOx	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	8/19/2022	8/19/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Date: 8/24/2022 11:03 AM

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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					
Off-Road	0.0000	0.0000	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**

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	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**

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1552	0.1689	1.1941	3.1300e-003	0.2628	2.2300e-003	0.2650	0.0656	2.0900e-003	0.0676	0.0000	289.9109	289.9109	0.0148	0.0139	294.4372
Unmitigated	0.1552	0.1689	1.1941	3.1300e-003	0.2628	2.2300e-003	0.2650	0.0656	2.0900e-003	0.0676	0.0000	289.9109	289.9109	0.0148	0.0139	294.4372

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	148.00	148.00	74.15	136,925	136,925
General Light Industry	241.07	96.53	243.05	644,334	644,334
Total	389.07	244.53	317.19	781,260	781,260

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
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.491086	0.041086	0.253609	0.146583	0.030190	0.006225	0.012264	0.007177	0.005044	0.001880	0.003892	0.000393	0.000572
General Light Industry	0.491086	0.041086	0.253609	0.146583	0.030190	0.006225	0.012264	0.007177	0.005044	0.001880	0.003892	0.000393	0.000572

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

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	7.5400e-003	0.0685	0.0576	4.1000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	74.6044	74.6044	1.4300e-003	1.3700e-003	75.0477
NaturalGas Unmitigated	7.5400e-003	0.0685	0.0576	4.1000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	74.6044	74.6044	1.4300e-003	1.3700e-003	75.0477

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					
Automobile Care Center	181818	9.8000e-004	8.9100e-003	7.4900e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.7025	9.7025	1.9000e-004	1.8000e-004	9.7602
General Light Industry	1.21622e+006	6.5600e-003	0.0596	0.0501	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	64.9019	64.9019	1.2400e-003	1.1900e-003	65.2875
Total		**7.5400e-003**	**0.0685**	**0.0576**	**4.1000e-004**		**5.2100e-003**	**5.2100e-003**		**5.2100e-003**	**5.2100e-003**	**0.0000**	**74.6044**	**74.6044**	**1.4300e-003**	**1.3700e-003**	**75.0477**

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

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	181818	9.8000e-004	8.9100e-003	7.4900e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.7025	9.7025	1.9000e-004	1.8000e-004	9.7602
General Light Industry	1.21622e+006	6.5600e-003	0.0596	0.0501	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	64.9019	64.9019	1.2400e-003	1.1900e-003	65.2875
Total		**7.5400e-003**	**0.0685**	**0.0576**	**4.1000e-004**		**5.2100e-003**	**5.2100e-003**		**5.2100e-003**	**5.2100e-003**	**0.0000**	**74.6044**	**74.6044**	**1.4300e-003**	**1.3700e-003**	**75.0477**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	54982	0.0000	0.0000	0.0000	0.0000
General Light Industry	367785	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Automobile Care Center	54982	0.0000	0.0000	0.0000	0.0000
General Light Industry	367785	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2519	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-003
Unmitigated	0.2519	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-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					

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Architectural Coating	0.0297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2222					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-003
Total	**0.2519**	**0.0000**	**5.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**0.0000**	**1.0800e-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	0.0297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2222					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0200e-003	1.0200e-003	0.0000	0.0000	1.0800e-003
Total	**0.2519**	**0.0000**	**5.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0200e-003**	**1.0200e-003**	**0.0000**	**0.0000**	**1.0800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.8524	0.3957	9.3400e-003	16.5287
Unmitigated	3.8524	0.3957	9.3400e-003	16.5287

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.6962 / 0.426703	0.2209	0.0227	5.4000e-004	0.9476
General Light Industry	11.4469 / 0	3.6316	0.3730	8.8100e-003	15.5810
Total		**3.8524**	**0.3957**	**9.3500e-003**	**16.5287**

Mitigated

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.6962 / 0.426703	0.2209	0.0227	5.4000e-004	0.9476
General Light Industry	11.4469 / 0	3.6316	0.3730	8.8100e-003	15.5810
Total		**3.8524**	**0.3957**	**9.3500e-003**	**16.5287**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.1981	1.0755	0.0000	45.0851
Unmitigated	18.1981	1.0755	0.0000	45.0851

8.2 Waste by Land Use

Unmitigated

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	28.27	5.7386	0.3391	0.0000	14.2170
General Light Industry	61.38	12.4596	0.7363	0.0000	30.8681
Total		**18.1981**	**1.0755**	**0.0000**	**45.0851**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	28.27	5.7386	0.3391	0.0000	14.2170
General Light Industry	61.38	12.4596	0.7363	0.0000	30.8681
Total		**18.1981**	**1.0755**	**0.0000**	**45.0851**

9.0 Operational Offroad

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

22-059 888 Bransten Existing Use - San Mateo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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: EMFAC2021 Emissions Adjustment Factors

Summary of Construction Traffic Emissions (EMFAC2021)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
					Tons							*Metric Tons*		
Criteria Pollutants														
2023 + 2024	0.0189	0.2071	0.2690	0.0015	0.0612	0.0113	0.0725	0.0092	0.0047	0.0139	143.7691	0.0146	0.0172	149.2689
Toxic Air Contaminants (1.0 Mile Trip Length)														
2023 + 2024	0.0150	0.0541	0.0900	0.0002	0.0058	0.0011	0.0070	0.0009	0.0005	0.0014	17.7708	0.0031	0.0025	18.5925

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	359	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2808	0	7180
Site Preparation	8	0	24	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	259.2	0	0
Grading	10	0	300	0	612	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3240	0	12240
Trenching/Foundation	5	0	30	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	324	0	0
Paving	15	0	150	0	78	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	1560
Building Construction	49	23	10780	5060	332	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	116424	36938	6640
Architectural Coating	10	0	100	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1080	0	0

Number of Days Per Year					
2023 + 2024	1/1/23	2/13/24	409	293	
			409	**293**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/1/2023	1/27/2023	5	20
Site Preparation	1/28/2023	2/1/2023	5	3
Grading	2/2/2023	3/15/2023	5	30
Trenching/Foundation	3/8/2023	3/15/2023	5	6
Paving	1/18/2024	1/31/2024	5	10
Building Construction	3/16/2023	1/17/2024	5	220
Architectural Coating	1/31/2024	2/13/2024	5	10

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DIF	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_DIF	PM10_PM	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2023	HHDT	Aggregate	Aggregate	Gasoline	4.303891	593.3265	593.3265	0	86.11225	4.056089	0	0.0028	0.00142	0	0.000834	0.005	0.031149	0.001544	0	0.000907	0.02	0.088996	2258.184	0	54.48492	0.114491	0	0.000118	0.150249	0	0.000135	0.581376	0	0.000638	0.041838	0.335524	2.939257	0.848342	0	0.000699	0.041838	0.335524	2.939257	0.045	33.28789	0	6.069294	0.022324	0	0.000539
San Mateo	2023	HHDT	Aggregate	Aggregate	Diesel	1295.72	119079.6	119079.6	0	14027.66	2.889862	47.02809	2.876808	0.025432	0.037858	0	0.008609	0.030943	0.026582	0.03957	0	0.034434	0.08841	1843.774	8291.615	0	0.001322	0.156217	0	0.290487	1.306347	0	0.028463	3.363316	0	0	0	0	0.032403	3.828879	0	0	0	0	0.197741	0.123869	46.58006	0	0.017459	0.078517	0
San Mateo	2023	HHDT	Aggregate	Aggregate	Electricity	0.738781	40.81187	0	40.81187	9.636589	0	0	0	0	0	0	0	0	0	0	0	0	0.034663	0.039372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	HHDT	Aggregate	Aggregate	Natural Ga	157.5655	10602.72	10602.72	0	1067.368	1.650268	10.1232	0	0.001897	0.012167	0	0.009	0.058575	0.002063	0.013232	0	0.036	0.167357	1522.593	8490.533	0	3.343054	25.56751	0	0.310391	1.730851	0	0.076973	0.418135	0	0	0	0	1.445109	26.1537	0	0	0	0	0.73711	17.41229	66.41256	0	0	0	0
San Mateo	2023	LDA	Aggregate	Aggregate	Gasoline	2403178.8	7727537	7727537	0	1126355	0.042338	0	0.260506	0.001198	0	0.002031	0.002	0.002348	0.001303	0	0.002208	0.008	0.006708	276.584	0	70.47869	0.002267	0	0.072534	0.004517	0	0.032351	0.008874	0	0.341649	0.087062	0.222247	1.324707	0.012948	0	0.374061	0.087062	0.222247	1.324707	0.035408	0.677749	0	3.395649	0.002734	0	0.000697
San Mateo	2023	LDA	Aggregate	Aggregate	Diesel	833.7612	19906.52	19906.52	0	3528.191	0.213764	0	0	0.014362	0	0	0.002	0.002398	0.015012	0	0	0.008	0.006851	234.4981	0	0	0.001164	0	0	0.036945	0	0	0.02507	0	0	0	0	0	0.02854	0	0	0	0	0	0.0031	0.317118	0	0	0.002222	0	0
San Mateo	2023	LDA	Aggregate	Aggregate	Electricity	16299	630419.6	0	630419.6	81240.99	0	0	0	0	0	0	0.002	0.001529	0	0	0	0.008	0.00437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	6930.414	264587.6	131767.9	132819.8	28657.26	0.003199	0	0.117199	0.000615	0	0.002065	0.002	0.001318	0.000669	0	0.002246	0.008	0.003766	134.4061	0	65.24503	0.000415	0	0.042451	0.000556	0	0.020334	0.001345	0	0.176635	0.03705	0.032896	0.392427	0.001962	0	0.193393	0.03705	0.032896	0.392427	0.019696	0.200772	0	1.37819	0.001329	0	0.000645
San Mateo	2023	LDT1	Aggregate	Aggregate	Gasoline	24557.61	732297.8	732297.8	0	111855.3	0.11638	0	0.364578	0.001649	0	0.002601	0.002	0.002829	0.001794	0	0.002828	0.008	0.008082	324.4279	0	85.42907	0.005448	0	0.099842	0.008499	0	0.037022	0.024289	0	0.513929	0.14557	0.416379	2.294434	0.035435	0	0.562687	0.14557	0.416379	2.294434	0.037022	1.217988	0	5.093009	0.003207	0	0.000845
San Mateo	2023	LDT1	Aggregate	Aggregate	Diesel	7.655601	101.9185	101.9185	0	22.20173	1.676086	0	0	0.239368	0	0	0.002	0.003332	0.250191	0	0	0.008	0.00952	418.152	0	0	0.014739	0	0	0.06588	0	0	0.317327	0	0	0	0	0	0.361255	0	0	0	0	0	0.0031	1.688168	0	0	0.003962	0	0
San Mateo	2023	LDT1	Aggregate	Aggregate	Electricity	74.62331	2574.77	0	2574.77	357.9526	0	0	0	0	0	0	0.002	0.001535	0	0	0	0.008	0.004386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	34.67073	1451.31	668.3078	783.0024	143.3635	0.002958	0	0.117199	0.000383	0	0.001401	0.002	0.001331	0.000416	0	0.001524	0.008	0.003802	124.2993	0	70.89548	0.000385	0	0.042531	0.000515	0	0.020414	0.001243	0	0.176635	0.024383	0.02158	0.274849	0.001814	0	0.193393	0.024383	0.02158	0.274849	0.01934	0.185749	0	1.37819	0.001229	0	0.000701
San Mateo	2023	LDT2	Aggregate	Aggregate	Gasoline	139222.3	4716888	4716888	0	668266.1	0.05408	0	0.29713	0.001207	0	0.001949	0.002	0.002716	0.001313	0	0.002119	0.008	0.007759	334.8986	0	85.30301	0.00237	0	0.075845	0.004959	0	0.034716	0.009113	0	0.347984	0.063629	0.160781	1.007437	0.013297	0	0.380999	0.063629	0.160781	1.007437	0.037748	0.693563	0	3.480515	0.003311	0	0.000843
San Mateo	2023	LDT2	Aggregate	Aggregate	Diesel	541.6894	18280.98	18280.98	0	2609.031	0.042759	0	0	0.004694	0	0	0.002	0.002739	0.004906	0	0	0.008	0.007825	310.458	0	0	0.000594	0	0	0.048913	0	0	0.012791	0	0	0	0	0	0.014562	0	0	0	0	0	0.0031	0.121058	0	0	0.002942	0	0
San Mateo	2023	LDT2	Aggregate	Aggregate	Electricity	855.0521	26877.43	0	26877.43	4389.934	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004355	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	1293.229	52235.96	24959.1	27276.86	5347.502	0.00307	0	0.117199	0.000478	0	0.001688	0.002	0.001325	0.00052	0	0.001836	0.008	0.003785	128.97	0	76.74084	0.000399	0	0.042537	0.000535	0	0.02042	0.00129	0	0.176635	0.025663	0.02377	0.299211	0.001883	0	0.193393	0.025663	0.02377	0.299211	0.020047	0.192704	0	1.37819	0.001275	0	0.000759
San Mateo	2023	LHDT1	Aggregate	Aggregate	Gasoline	10572.08	392533.1	392533.1	0	157508.2	0.12528	0.035112	0.59784	0.00142	0	0.000253	0.002	0.0273	0.001545	0	0.000275	0.008	0.078	853.4932	117.883	26.97693	0.006321	0.111177	0.030421	0.00715	0.002997	0.050012	0.03091	0.4025	0.148384	0.036924	0.198922	2.014404	0.045104	0.587327	0.162462	0.036924	0.198922	2.014404	0.044937	0.986439	3.761565	3.318076	0.008438	0.001165	0.000267
San Mateo	2023	LHDT1	Aggregate	Aggregate	Diesel	4577.109	179686.5	179686.5	0	57574.27	1.224717	1.76206	0	0.0273	0.026942	0	0.003	0.0273	0.028534	0.02816	0	0.012	0.078	630.6192	129.0392	0	0.006697	0.005098	0	0.099354	0.02033	0	0.144187	0.10976	0	0	0	0	0.164147	0.124954	0	0	0	0	0.184546	0.371953	0.909745	0	0.005975	0.001223	0
San Mateo	2023	LHDT2	Aggregate	Aggregate	Gasoline	1231.236	43549.94	43549.94	0	18343.59	0.144	0.03443	0.605262	0.001368	0	0.000226	0.002	0.03185	0.001487	0	0.000246	0.008	0.091	963.6905	136.6851	25.60031	0.005686	0.108022	0.030291	0.008533	0.002829	0.048554	0.026382	0.394722	0.148891	0.038757	0.204501	2.085419	0.038496	0.575977	0.163017	0.038757	0.204501	2.085419	0.044989	0.878989	3.762499	3.300689	0.009527	0.001351	0.000253
San Mateo	2023	LHDT2	Aggregate	Aggregate	Diesel	1952.709	77798.97	77798.97	0	24562.62	0.883685	1.679482	0	0.023677	0.026872	0	0.003	0.03185	0.024747	0.028087	0	0.012	0.091	747.9998	204.9987	0	0.006098	0.005098	0	0.117848	0.032298	0	0.131288	0.10976	0	0	0	0	0.149463	0.124954	0	0	0	0	0.196309	0.303972	0.909745	0	0.007088	0.001942	0
San Mateo	2023	MCY	Aggregate	Aggregate	Gasoline	12536.77	73820.04	73820.04	0	2507.354	0.537143	0	0.136291	0.001883	0	0.003663	0.001	0.0042	0.002012	0	0.003894	0.004	0.012	187.6396	0	47.90752	0.151085	0	0.181429	0.037735	0	0.008068	0.98245	0	1.347169	3.555217	3.717102	3.435381	1.181139	0	1.464498	3.555217	3.717102	3.435381	0.008844	11.57445	0	7.838613	0.001855	0	0.000474
San Mateo	2023	MDV	Aggregate	Aggregate	Gasoline	78398.02	2704273	2704273	0	374408	0.068743	0	0.362909	0.001222	0	0.002069	0.002	0.002734	0.001329	0	0.002251	0.008	0.00781	403.6262	0	103.3496	0.002844	0	0.089064	0.005703	0	0.037349	0.01161	0	0.437746	0.072395	0.194625	1.190411	0.016926	0	0.479274	0.072395	0.194625	1.190411	0.038092	0.747341	0	3.739188	0.00399	0	0.001022
San Mateo	2023	MDV	Aggregate	Aggregate	Diesel	1107.903	37908.13	37908.13	0	5305.818	0.04176	0	0	0.004328	0	0	0.002	0.002738	0.004524	0	0	0.008	0.007965	406.2615	0	0	0.000449	0	0	0.064007	0	0	0.009665	0	0	0	0	0	0.011002	0	0	0	0	0	0.0031	0.175602	0	0	0.00385	0	0
San Mateo	2023	MDV	Aggregate	Aggregate	Electricity	906.5115	28548.82	0	28548.82	4657.021	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	678.1174	27547.88	13448.47	14099.41	2804.015	0.003136	0	0.117199	0.000578	0	0.002002	0.002	0.001322	0.000628	0	0.002177	0.008	0.003776	131.7621	0	95.52682	0.000409	0	0.04268	0.00055	0	0.020553	0.001318	0	0.176635	0.027976	0.026258	0.325091	0.001923	0	0.193393	0.027976	0.026258	0.325091	0.020504	0.196851	0	1.37819	0.001303	0	0.000944
San Mateo	2023	MH	Aggregate	Aggregate	Gasoline	774.8115	7442.976	7442.976	0	77.51215	0.375927	0	0.404893	0.001719	0	0.000436	0.003	0.015756	0.001869	0	0.000474	0.012	0.045017	1947.17	0	31.89355	0.01417	0	0.038105	0.023764	0	0.042528	0.661382	0	0.16244	11.11371	0.261936	3.902966	0.089569	0	0.177852	11.11371	0.261936	3.902966	0.044861	1.492455	0	3.64337	0.01925	0	0.000315
San Mateo	2023	MH	Aggregate	Aggregate	Diesel	328.5822	3487.262	3487.262	0	32.85822	3.229197	0	0	0.055455	0	0	0.004	0.015675	0.057962	0	0	0.016	0.044785	1085.349	0	0	0.004377	0	0	0.170997	0	0	0.094242	0	0	0	0	0	0.107288	0	0	0	0	0	0.185977	0.297993	0	0	0.010284	0	0
San Mateo	2023	MHDT	Aggregate	Aggregate	Gasoline	780.1924	45998.29	45998.29	0	15610.09	0.48063	0.088485	0.45368	0.001377	0	0.000542	0.003	0.015756	0.001498	0	0.00059	0.012	0.045017	1763.945	530.3326	46.39494	0.015519	0.261469	0.049092	0.023565	0.00737	0.034436	0.076573	1.012695	0.270574	0.033571	0.274671	2.598982	0.111736	1.477722	0.296245	0.033571	0.274671	2.598982	0.044979	1.599932	15.11623	5.97113	0.017438	0.005243	0.000459
San Mateo	2023	MHDT	Aggregate	Aggregate	Diesel	4189.443	175901.2	175901.2	0	50462.49	1.42648	14.09475	1.586053	0.018782	0.040011	0	0.003	0.015983	0.019631	0.041821	0	0.012	0.045665	1155.919	2264.351	0	0.002009	0.012779	0	0.182115	0.356749	0	0.043248	0.275121	0	0	0	0	0.049234	0.313205	0	0	0	0	0.206918	0.148734	7.579195	0	0.010946	0.021442	0
San Mateo	2023	MHDT	Aggregate	Aggregate	Electricity	2.059294	44.11104	0	44.11104	25.56596	0	0	0	0	0	0	0.003	0.007991	0	0	0	0.012	0.022833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	MHDT	Aggregate	Aggregate	Natural Ga	38.13508	1832.77	1832.77	0	342.2075	0.132951	6.609544	0	0.001228	0.018659	0	0.003	0.016094	0.001336	0.020293	0	0.012	0.045982	1008.408	5458.884	0	0.769477	17.52611	0	0.20557	1.112829	0	0.010994	0.250414	0	0	0	0	0.785307	17.88668	0	0	0	0	1.06	3.064735	35.81803	0	0	0	0
San Mateo	2023	OBUS	Aggregate	Aggregate	Gasoline	256.5607	15177.04	15177.04	0	5133.267	0.308106	0.065063	0.369453	0.001	0	0.000287	0.003	0.01568	0.001088	0	0.000312	0.012	0.044799	1742.276	373.6354	30.27704	0.009595	0.205564	0.033157	0.017281	0.005903	0.031894	0.045405	0.746279	0.163878	0.026481	0.113352	1.902307	0.066255	1.088969	0.179425	0.026481	0.113352	1.902307	0.044919	0.985887	5.774707	3.460301	0.017224	0.003694	0.000299
San Mateo	2023	OBUS	Aggregate	Aggregate	Diesel	1051.799	74746.95	74746.95	0	10288.18	0.843686	5.779548	1.508936	0.009565	0.003378	0	0.003	0.017376	0.009998	0.003531	0	0.012	0.049647	1250.895	1225.784	0	0.000947	0.013995	0	0.197079	0.119123	0	0.020398	0.301313	0	0	0	0	0.023222	0.343022	0	0	0	0	0.217631	0.094166	5.629794	0	0.011845	0.011607	0
San Mateo	2023	OBUS	Aggregate	Aggregate	Natural Ga	6.660994	415.1452	415.1452	0	59.28285	0.232948	1.556882	0	0.000856	0.003435	0	0.003	0.016148	0.000931	0.003736	0	0.012	0.046137	1029.36	1194.248	0	0.766347	4.477255	0	0.209842	0.243455	0	0.01095	0.063971	0	0	0	0	0.782113	4.569367	0	0	0	0	1.06	3.19115	6.306096	0	0	0	0
San Mateo	2023	SBUS	Aggregate	Aggregate	Gasoline	62.11288	3411.923	3411.923	0	248.4515	0.897656	0.923288	0.643317	0.001164	0	0.000721	0.002	0.015721	0.001266	0	0.000784	0.008	0.044917	797.3184	2541.99	62.30631	0.021738	2.445799	0.089765	0.041731	0.084017	0.05658	0.106456	10.59413	0.521132	0.139121	0.406864	2.094566	0.15534	15.45893	0.570574	0.139121	0.406864	2.094566	0.045	2.707181	81.95312	13.2835	0.007882	0.02513	0.000616
San Mateo	2023	SBUS	Aggregate	Aggregate	Diesel	168.8118	3793.041	3793.041	0	2444.395	5.00314	23.87172	0.437587	0.023953	0.025817	0	0.003	0.015721	0.025036	0.026985	0	0.012	0.044917	1149.738	2246.853	0	0.003233	0.008312	0	0.181142	0.353993	0	0.069615	0.178964	0	0	0	0	0.079252	0.203737	0	0	0	0	0.134019	0.208594	4.289616	0	0.010887	0.021276	0
San Mateo	2023	SBUS	Aggregate	Aggregate	Electricity	0.041475	0.481131	0	0.481131	0.600564	0	0	0	0	0	0	0.003	0.00786	0	0	0	0.012	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	SBUS	Aggregate	Aggregate	Natural Ga	6.023036	153.4041	153.4041	0	87.21356	0.556332	5.264261	0	0.003378	0.011516	0	0.003	0.015721	0.003674	0.012524	0	0.012	0.044917	1258.036	4080.42	0	3.408583	15.17474	0	0.256459	0.83182	0	0.048702	0.216817	0	0	0	0	1.478709	15.48694	0	0	0	0	1.06	11.51682	21.10371	0	0	0	0
San Mateo	2023	UBUS	Aggregate	Aggregate	Gasoline	61.26278	4165.676	4165.676	0	245.0511	0.037017	0	0.578233	0.000989	0	0.000127	0.002	0.002073	0.032333	0.001076	0	0.000139	0.00829	0.092379	1025.682	0	41.23868	0.002259	0	0.053565	0.004956	0	0.077039	0.006631	0	0.206281	0.070589	0.114555	0.693653	0.009677	0	0.225852	0.070589	0.114555	0.693653	0.045	0.556154	0	5.887541	0.01014	0	0.000408
San Mateo	2023	UBUS	Aggregate	Aggregate	Diesel	341.8463	28540.62	28540.62	0	1367.385	2.897593	0	0	0.007619	0	0	0.002	0.007913	0.0385	0.007964	0	0	0.031652	0.11	1451.453	0	0	0.007311	0	0	0.228677	0	0	0.157395	0	0	0	0	0.179182	0	0	0	0	0	0.122644	0.192989	0	0	0.013753	0	0
San Mateo	2023	UBUS	Aggregate	Aggregate	Electricity	2.018703	15.3193	0	15.3193	8.074811	0	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2023	UBUS	Aggregate	Aggregate	Natural Ga	34.94319	1199.611	1199.611	0	139.7728	0.063405	0	0	0.000296	0	0	0.008789	0.0385	0.000309	0	0	0	0.035157	0.11	1349.38	0	0	4.445831	0	0	0.27508	0	0	0.063522	0	0	0	0	4.537297	0	0	0	0	0	0.97	52.53671	0	0	0	0	0

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DIU	PM2.5_TIR	PM2.5_BW	PM10_RUN	PM10_IDL	PM10_STR	PM10_DIU	PM10_TIR	PM10_BW	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2025	HHDT	Aggregate	Aggregate	Gasoline	4.335984	539.4434	539.4434	0	86.75436	3.993891	0	0.003022	0.001378	0	0.00069	0.005	0.031006	0.001498	0	0.000751	0.02	0.0885B9	2223.743	0	51.99251	0.111171	0	9.85E-05	0.151221	0	0.000104	0.548787	0	0.000535	0.032327	0.240688	2.160104	0.800789	0	0.000585	0.032327	0.240688	2.160104	0.845	33.0787	0	5.031545	0.021984	0	0.000514
San Mateo	2025	HHDT	Aggregate	Aggregate	Diesel	1328.41	119560.7	1195960.7	0	14621.91	2.632025	45.4127	3.000431	0.02461	0.033159	0	0.008607	0.030397	0.025723	0.034658	0	0.034427	0.086848	1783.935	8133.144	0	0.001211	0.15815	0	0.28106	1.28138	0	0.02607	3.404928	0	0	0	0	0.029679	3.876252	0	0	0	0.201044	0.113335	47.75386	0	0.016893	0.077016	0
San Mateo	2025	HHDT	Aggregate	Aggregate	Electricity	10.02384	901.0022	0	901.0022	96.27797	0	0	0	0	0	0	0	0.008517	0.017099	0	0	0	0.034067	0.048854	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	HHDT	Aggregate	Aggregate	Natural Ga	180.5549	11842.66	11842.66	0	1200.105	1.331412	8.859598	0	0.001692	0.012232	0	0.009	0.060148	0.00184	0.013304	0	0.036	0.171851	1473.274	8308.135	0	2.792898	22.57518	0	0.300337	1.693668	0	0.061153	0.360007	0	0	0	0	0.720658	15.82056	63.0407	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	LDA	Aggregate	Aggregate	Gasoline	238618	7185689	7185689	0	1119872	0.034615	0	0.235851	0.001128	0	0.001911	0.002	0.002349	0.001227	0	0.002078	0.008	0.00671	265.0863	0	67.26068	0.001838	0	0.063866	0.004	0	0.030182	0.006975	0	0.296397	0.080623	0.207795	1.246636	0.016177	0	0.324517	0.080623	0.207795	1.246636	0.036819	0.602664	0	3.018989	0.002621	0	0.000665
San Mateo	2025	LDA	Aggregate	Aggregate	Diesel	710.5834	15407.46	15407.46	0	2988.022	0.166025	0	0	0.01142	0	0	0.002	0.00241	0.011937	0	0	0.008	0.006884	229.7322	0	0	0.00097	0	0	0.036194	0	0	0.020877	0	0	0	0	0	0.023767	0	0	0	0	0	0	0.0031	0.292415	0	0	0.002177	0	0
San Mateo	2025	LDA	Aggregate	Aggregate	Electricity	19564.98	745853.8	0	745853.8	96825.51	0	0	0	0	0	0	0.002	0.001531	0	0	0	0.008	0.004373	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	LDA	Aggregate	Aggregate	Plug-in Hyb	8044.117	283509.4	134548.1	148961.4	33262.42	0.003049	0	0.117199	0.000543	0	0.001919	0.002	0.00133	0.000591	0	0.002087	0.008	0.0038	128.0771	0	63.14069	0.00039	0	0.041777	0.000513	0	0.019713	0.001281	0	0.176635	0.037974	0.033851	0.389847	0.00187	0	0.193393	0.037974	0.033851	0.389847	0.019071	0.1913	0	1.37819	0.001266	0	0.000624
San Mateo	2025	LDT1	Aggregate	Aggregate	Gasoline	25473.09	722986.2	722986.2	0	116608.1	0.088465	0	0.313819	0.001428	0	0.002288	0.002	0.002819	0.001554	0	0.002489	0.008	0.008056	310.5241	0	80.75369	0.004138	0	0.083876	0.006908	0	0.033921	0.018105	0	0.421017	0.123314	0.343281	1.948219	0.036418	0	0.460961	0.123314	0.343281	1.948219	0.037997	0.996198	0	4.245316	0.00307	0	0.000798
San Mateo	2025	LDT1	Aggregate	Aggregate	Diesel	6.297196	75.91061	75.91061	0	17.6629	1.633241	0	0	0.233227	0	0	0.002	0.003314	0.243773	0	0	0.008	0.009467	416.405	0	0	0.014366	0	0	0.065605	0	0	0.309282	0	0	0	0	0	0.352097	0	0	0	0	0	0	0.0031	1.645498	0	0	0.003946	0	0
San Mateo	2025	LDT1	Aggregate	Aggregate	Electricity	114.3013	4207.979	0	4207.979	557.9394	0	0	0	0	0	0	0.002	0.001532	0	0	0	0.008	0.004376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	LDT1	Aggregate	Aggregate	Plug-in Hyb	78.69736	3019.599	1309.635	1709.964	325.4136	0.002786	0	0.117199	0.00035	0	0.001361	0.002	0.001345	0.000381	0	0.00148	0.008	0.003842	117.0671	0	67.81017	0.000356	0	0.041758	0.000468	0	0.019694	0.001171	0	0.176635	0.023751	0.020249	0.266848	0.001709	0	0.193393	0.023751	0.020249	0.266848	0.018216	0.174923	0	1.37819	0.001157	0	0.00067
San Mateo	2025	LDT2	Aggregate	Aggregate	Gasoline	159673.6	5072144	5072144	0	766397.2	0.043155	0	0.259038	0.001111	0	0.001824	0.002	0.002725	0.001208	0	0.001983	0.008	0.007785	318.166	0	80.62425	0.001976	0	0.066383	0.004349	0	0.031999	0.007386	0	0.299178	0.056614	0.145016	0.911896	0.010777	0	0.327563	0.056614	0.145016	0.911896	0.039093	0.616696	0	3.075211	0.003145	0	0.000797
San Mateo	2025	LDT2	Aggregate	Aggregate	Diesel	618.9276	19447.24	19447.24	0	2972.356	0.035316	0	0	0.004147	0	0	0.002	0.002746	0.004334	0	0	0.008	0.007845	295.9024	0	0	0.00056	0	0	0.04662	0	0	0.012057	0	0	0	0	0	0.013726	0	0	0	0	0	0	0.0031	0.116837	0	0	0.002804	0	0
San Mateo	2025	LDT2	Aggregate	Aggregate	Electricity	1700.502	48819.4	0	48819.4	8654.222	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	LDT2	Aggregate	Aggregate	Plug-in Hyb	1989.466	72787.26	33032.95	39754.31	8226.444	0.002916	0	0.117199	0.00042	0	0.00156	0.002	0.001337	0.000457	0	0.001696	0.008	0.003821	122.4885	0	73.88529	0.000372	0	0.041746	0.00049	0	0.019683	0.001225	0	0.176635	0.025353	0.02271	0.287953	0.001788	0	0.193393	0.025353	0.02271	0.287953	0.019048	0.182994	0	1.37819	0.001211	0	0.00073
San Mateo	2025	LHDT1	Aggregate	Aggregate	Gasoline	11613.82	405927.2	405927.2	0	173028.5	0.093969	0.032618	0.546788	0.00135	0	0.000213	0.002	0.0273	0.001468	0	0.000231	0.008	0.078	823.2657	115.3954	26.50069	0.004903	0.104178	0.027302	0.005418	0.002847	0.046638	0.023679	0.374027	0.131854	0.03142	0.171421	1.736909	0.034552	0.545779	0.144364	0.03142	0.171421	1.736909	0.044961	0.885236	3.766067	3.36368	0.008139	0.001141	0.000262
San Mateo	2025	LHDT1	Aggregate	Aggregate	Diesel	5396.711	200335.3	200335.3	0	67883.84	0.878137	1.51814	0	0.022391	0.026666	0	0.003	0.0273	0.023404	0.027871	0	0.012	0.078	621.1678	124.9932	0	0.005716	0.005098	0	0.097865	0.019693	0	0.123053	0.10976	0	0	0	0	0.140088	0.124954	0	0	0	0	0.196014	0.301645	0.909745	0	0.005886	0.001184	0	0
San Mateo	2025	LHDT1	Aggregate	Aggregate	Electricity	157.5841	8786.546	0	8786.546	2203.775	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	LHDT2	Aggregate	Aggregate	Gasoline	1342.429	45031.5	45031.5	0	20000.19	0.105135	0.031386	0.546043	0.001282	0	0.000185	0.002	0.03185	0.001395	0	0.000201	0.008	0.091	929.119	133.658	25.05861	0.00412	0.099506	0.026702	0.006445	0.00265	0.044736	0.018664	0.360001	0.12953	0.032846	0.178071	1.845904	0.027234	0.525313	0.141819	0.032846	0.178071	1.845904	0.044991	0.769359	3.768677	3.317456	0.009185	0.001321	0.000248	0
San Mateo	2025	LHDT2	Aggregate	Aggregate	Diesel	2386.592	88314.97	88314.97	0	30020.32	0.665843	1.451157	0	0.020707	0.02679	0	0.003	0.03185	0.021644	0.028001	0	0.012	0.091	732.0694	199.191	0	0.00549	0.005098	0	0.115338	0.031383	0	0.118205	0.10976	0	0	0	0	0.134569	0.124954	0	0	0	0	0.203813	0.264963	0.909745	0	0.006937	0.001887	0	0
San Mateo	2025	LHDT2	Aggregate	Aggregate	Electricity	40.48817	2145.224	0	2145.224	536.9131	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	MCY	Aggregate	Aggregate	Gasoline	13994.78	78703.42	78703.42	0	27989.55	0.505421	0	0.117673	0.001897	0	0.003489	0.001	0.0042	0.002031	0	0.003719	0.004	0.012	186.4281	0	44.64197	0.140818	0	0.16646	0.036419	0	0.007111	0.891986	0	1.219242	3.548067	3.701315	3.154868	1.084139	0	1.325883	3.548067	3.701315	3.154868	0.008947	10.66577	0	7.691483	0.001843	0	0.000441
San Mateo	2025	MDV	Aggregate	Aggregate	Gasoline	89810.74	2915872	2915872	0	429459.7	0.050748	0	0.301319	0.001104	0	0.001871	0.002	0.002743	0.0012	0	0.002035	0.008	0.007838	383.757	0	97.70306	0.002219	0	0.074825	0.004749	0	0.03376	0.008671	0	0.356712	0.062664	0.169351	1.048331	0.012652	0	0.390555	0.062664	0.169351	1.048331	0.039288	0.640699	0	3.225835	0.003794	0	0.000966
San Mateo	2025	MDV	Aggregate	Aggregate	Diesel	1216.213	38222.55	38222.55	0	5783.756	0.033166	0	0	0.003666	0	0	0.002	0.002807	0.003832	0	0	0.008	0.008021	389.8225	0	0	0.000395	0	0	0.061417	0	0	0.008497	0	0	0	0	0	0.009674	0	0	0	0	0	0	0.0031	0.166794	0	0	0.003694	0	0
San Mateo	2025	MDV	Aggregate	Aggregate	Electricity	1824.97	52408.32	0	52408.32	9288.746	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	MDV	Aggregate	Aggregate	Plug-in Hyb	1131.124	42471.44	19328.41	23143.04	4677.198	0.002924	0	0.117199	0.000462	0	0.001715	0.002	0.001337	0.000502	0	0.001865	0.008	0.003821	122.8274	0	90.54251	0.000374	0	0.041896	0.000495	0	0.019823	0.001229	0	0.176635	0.027524	0.023796	0.299651	0.001793	0	0.193393	0.027524	0.023796	0.299651	0.019114	0.183493	0	1.37819	0.001214	0	0.000895
San Mateo	2025	MH	Aggregate	Aggregate	Gasoline	830.5401	8053.177	8053.177	0	83.08723	0.268304	0	0.400493	0.001562	0	0.000397	0.003	0.015756	0.001698	0	0.000432	0.012	0.045017	1946.149	0	31.33114	0.010026	0	0.036115	0.019184	0	0.043891	0.040666	0	0.147699	8.452557	0.201566	3.076801	0.05934	0	0.161711	8.452557	0.201566	3.076801	0.044943	0.905305	0	3.320123	0.01924	0	0.00031
San Mateo	2025	MH	Aggregate	Aggregate	Diesel	384.5125	3863.222	3863.222	0	38.45125	2.990063	0	0	0.044795	0	0	0.004	0.015675	0.04682	0	0	0.016	0.044785	1086.155	0	0	0.004106	0	0	0.171124	0	0	0.088396	0	0	0	0	0	0.100633	0	0	0	0	0	0	0.194759	0.273956	0	0	0.010292	0	0
San Mateo	2025	MHDT	Aggregate	Aggregate	Gasoline	825.6427	47612.58	47612.58	0	16519.46	0.323037	0.085434	0.420472	0.001351	0	0.000505	0.003	0.015756	0.00147	0	0.00055	0.012	0.045017	1716.102	518.1406	44.32653	0.010425	0.267434	0.04506	0.017424	0.007433	0.033886	0.050062	1.017725	0.241229	0.026732	0.218345	2.098508	0.073051	1.485063	0.264116	0.026732	0.218345	2.098508	0.044995	1.017203	15.17464	5.286069	0.016965	0.005122	0.000438	0
San Mateo	2025	MHDT	Aggregate	Aggregate	Diesel	4294.917	177557.8	177557.8	0	51845.95	1.188939	12.87917	1.614768	0.013944	0.027675	0	0.003	0.015982	0.014575	0.028927	0	0.012	0.045664	1145.121	2228.697	0	0.001506	0.011276	0	0.180414	0.351132	0	0.032415	0.242771	0	0	0	0	0.036902	0.276376	0	0	0	0	0.210368	0.120818	7.522952	0	0.010844	0.021104	0	0
San Mateo	2025	MHDT	Aggregate	Aggregate	Electricity	41.49574	2407.793	0	2407.793	583.4118	0	0	0	0	0	0	0.003	0.007951	0	0	0	0.012	0.022716	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	MHDT	Aggregate	Aggregate	Natural Ga	44.4449	2054.281	2054.281	0	404.8873	0.119383	6.528501	0	0.001296	0.019376	0	0.003	0.016094	0.001409	0.021073	0	0.012	0.045982	997.1964	5429.729	0	0.776466	16.96742	0	0.203285	1.106886	0	0.011094	0.242431	0	0	0	0	0.79244	17.3165	0	0	0	0	1.06	3.065754	37.47811	0	0	0	0	0
San Mateo	2025	OBUS	Aggregate	Aggregate	Gasoline	252.722	13715.02	13715.02	0	5056.462	0.254289	0.063619	0.364813	0.00105	0	0.000289	0.003	0.01568	0.001142	0	0.000314	0.012	0.044799	1704.936	368.0466	29.69841	0.007842	0.204874	0.032288	0.014975	0.005762	0.031384	0.036425	0.747093	0.159999	0.025822	0.116247	1.973857	0.053152	1.090157	0.175179	0.025822	0.116247	1.973857	0.044948	0.777227	5.779588	3.340614	0.016855	0.003639	0.000294	0
San Mateo	2025	OBUS	Aggregate	Aggregate	Diesel	1111.576	75305.13	75305.13	0	10889.45	0.812155	5.594758	1.4975	0.009252	0.003188	0	0.003	0.01738	0.009671	0.003332	0	0.012	0.049657	1227.827	1209.887	0	0.000915	0.014161	0	0.193445	0.190618	0	0.019696	0.304888	0	0	0	0	0.022422	0.347092	0	0	0	0	0.217867	0.092546	5.69186	0	0.011627	0.011457	0	0
San Mateo	2025	OBUS	Aggregate	Aggregate	Electricity	2.143949	185.5536	0	185.5536	42.89613	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	OBUS	Aggregate	Aggregate	Natural Ga	9.18414	584.7868	584.7868	0	81.73885	0.165457	1.529579	0	0.001178	0.004086	0	0.003	0.016148	0.001282	0.004444	0	0.012	0.046137	991.5916	1195.033	0	0.803368	4.140164	0	0.202142	0.243615	0	0.011479	0.059155	0	0	0	0	0.819896	4.225341	0	0	0	0	1.06	3.290889	7.77441	0	0	0	0	0
San Mateo	2025	SBUS	Aggregate	Aggregate	Gasoline	71.37135	3679.781	3679.781	0	285.4854	0.767242	0.883319	0.626471	0.001129	0	0.000724	0.002	0.015721	0.001228	0	0.000787	0.008	0.044917	782.2289	2499.775	59.80097	0.017691	2.446506	0.085381	0.036296	0.082358	0.056445	0.086658	10.61248	0.494948	0.122618	0.362839	1.907752	0.126452	15.4857	0.541906	0.122618	0.362839	1.907752	0.045	2.216556	82.06454	12.20654	0.007733	0.024713	0.000591	0
San Mateo	2025	SBUS	Aggregate	Aggregate	Diesel	168.9397	3758.24	3758.24	0	2446.247	4.387797	22.39071	0.476886	0.020913	0.021713	0	0.003	0.015721	0.021858	0.022694	0	0.012	0.044917	1138.881	2225.679	0	0.002986	0.00812	0	0.179431	0.350657	0	0.064283	0.174818	0	0	0	0	0.073182	0.199017	0	0	0	0	0.144353	0.19584	4.548944	0	0.010785	0.021076	0	0
San Mateo	2025	SBUS	Aggregate	Aggregate	Electricity	1.984894	78.89105	0	78.89105	17.7986	0	0	0	0	0	0	0.003	0.002318	0.00786	0	0	0	0.00927	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	SBUS	Aggregate	Aggregate	Natural Ga	6.552799	163.6295	163.6295	0	94.88454	0.515656	5.239615	0	0.003378	0.012103	0	0.003	0.015721	0.003674	0.013164	0	0.012	0.044917	1237.46	4096.22	0	3.296356	14.87044	0	0.252264	0.835041	0	0.047098	0.212469	0	0	0	0	3.364173	15.17638	0	0	0	0	1.06	10.9887	22.4292	0	0	0	0	0
San Mateo	2025	UBUS	Aggregate	Aggregate	Gasoline	61.62557	4190.344	4190.344	0	246.5023	0.03738	0	0.492117	0.001105	0	0.000151	0.002	0.002073	0.032333	0.001202	0	0.000164	0.00829	0.092379	995.3027	0	40.11712	0.002043	0	0.046071	0.00491	0	0.06861	0.005911	0	0.17302	0.05773	0.119898	0.618422	0.008625	0	0.189435	0.05773	0.119898	0.618422	0.045	0.562303	0	6.218459	0.00984	0	0.000397
San Mateo	2025	UBUS	Aggregate	Aggregate	Diesel	278.2185	21526.83	21526.83	0	1112.874	0.375553	0	0	0.006827	0	0	0.002	0.008097	0.0385	0.007136	0	0	0.032387	0.11	1223.606	0	0	0.003145	0	0	0.19278	0	0	0.067717	0	0	0	0	0.077091	0	0	0	0	0	0.22	0.077193	0	0	0.011594	0	0
San Mateo	2025	UBUS	Aggregate	Aggregate	Electricity	37.31748	3870.538	0	3870.538	149.2699	0	0	0	0	0	0	0.002	0.007369	0.01925	0	0	0	0.029474	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2025	UBUS	Aggregate	Aggregate	Natural Ga	65.5154	4534.391	4534.391	0	262.0616	0.055433	0	0	0.000272	0	0	0.002	0.007742	0.0385	0.000285	0	0	0.030968	0.11	1262.747	0	0	4.100892	0	0	0.257419	0	0	0.058594	0	0	0	0	4.185261	0	0	0	0	0	0	0.97	46.51263	0	0	0	0	0

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.443496	0.039351	0.280911	0.164293	0.033142	0.007301	0.012374	0.007158	0.004838	0.001839	0.004241	0.000414	0.000642

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.00509	0.002914	0.014756	0.267799843	0.006567	0	0	0.096127	0
A	CH4_RUNEX	0.00162	0.0041	0.00193	0.002132	0.005098	0.004948	0.010272	0.250520376	0.007197	0.54719132	0.140818	0.080164	0.008107
A	CH4_STREX	0.058192	0.083348	0.065143	0.071971	0.019431	0.010676	0.010733	5.34126E-07	0.010159	0.006413618	0.16646	0.008569	0.024689
A	CO_IDLEX	0	0	0	0	0.200102	0.144548	0.670548	4.674714728	0.489029	0	0	2.380991	0
A	CO_RUNEX	0.533299	0.987129	0.603	0.617376	0.682501	0.428407	0.331755	1.646685682	0.217767	6.298686532	10.66577	1.391898	0.700626
A	CO_STREX	2.734945	4.216581	3.011981	3.098359	2.39397	1.326451	1.259096	0.027273177	1.051096	0.865678808	7.691483	1.225133	2.269732
A	CO2_NBIO_IDLEX	0	0	0	0	8.287123	13.09091	147.6661	768.7716723	90.15686	0	0	204.3512	0
A	CO2_NBIO_RUNEX	236.2782	307.946	312.3714	373.602	745.6768	785.9693	1250.179	1745.927029	1296.627	1061.974886	186.4281	958.4095	1667.344
A	CO2_NBIO_STREX	61.7935	80.32228	79.36152	94.35023	18.86084	10.01943	10.5582	0.281822196	9.34435	5.584749803	44.64197	6.002043	21.41888
A	NOX_IDLEX	0	0	0	0	0.035258	0.07008	0.802778	3.869175744	0.388856	0	0	1.364096	0
A	NOX_RUNEX	0.030637	0.087761	0.04216	0.048989	0.348047	0.468946	0.987366	2.50375798	0.721054	0.248884	0.505421	2.52561	1.150681
A	NOX_STREX	0.213914	0.311737	0.253723	0.289292	0.389155	0.21833	1.307286	2.741148405	1.129496	0.068508137	0.117673	0.473007	0.273789
A	PM10_IDLEX	0	0	0	0	0.000619	0.001336	0.001805	0.003026664	0.000233	0	0	0.001378	0
A	PM10_PMBW	0.006399	0.008017	0.007697	0.007724	0.077443	0.09028	0.045292	0.094175481	0.048836	0.142306362	0.012	0.044686	0.044942
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009303	0.010607	0.012	0.034505767	0.012	0.050724608	0.004	0.010056	0.013297
A	PM10_RUNEX	0.001114	0.001565	0.001198	0.001203	0.008592	0.014571	0.011587	0.023321334	0.008293	0.004687081	0.002031	0.011362	0.016327
A	PM10_STREX	0.001913	0.002474	0.001951	0.001965	0.000165	8.04E-05	0.000131	4.07065E-06	9.88E-05	2.28997E-05	0.003719	7.9E-05	0.000296
A	PM25_IDLEX	0	0	0	0	0.000592	0.001278	0.001726	0.002890137	0.000223	0	0	0.001317	0
A	PM25_PMBW	0.00224	0.002806	0.002694	0.002704	0.027105	0.031598	0.015852	0.032961418	0.017092	0.049807227	0.0042	0.01564	0.01573
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002326	0.002652	0.003	0.008626442	0.003	0.012681152	0.001	0.002514	0.003324
A	PM25_RUNEX	0.001025	0.00144	0.001102	0.001108	0.008184	0.013924	0.011074	0.022306121	0.007928	0.004478818	0.001897	0.010846	0.015578
A	PM25_STREX	0.001759	0.002275	0.001794	0.001807	0.000151	7.39E-05	0.00012	3.74281E-06	9.08E-05	2.10555E-05	0.003489	7.27E-05	0.000272
A	ROG_DIURN	0.23992	0.422505	0.185919	0.210348	0.082973	0.04954	0.024982	0.000585202	0.03104	0.021522802	3.154868	0.047869	21.0255
A	ROG_HTSK	0.073069	0.122434	0.05545	0.060196	0.022362	0.013133	0.006367	0.000175225	0.008125	0.008036694	3.548067	0.012307	5.778413
A	ROG_IDLEX	0	0	0	0	0.020304	0.014898	0.027305	0.286668504	0.032871	0	0	0.277158	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.006173	0.01796	0.007248	0.008416	0.055709	0.083251	0.035544	0.031143571	0.022157	0.051233319	0.891986	0.073977	0.05614
A	ROG_RUNLS	0.186625	0.340705	0.141591	0.162153	0.122003	0.0712	0.052008	0.001304636	0.036576	0.016691129	3.701315	0.036417	0.137796
A	ROG_STREX	0.269607	0.418278	0.293472	0.342868	0.093842	0.051791	0.057459	2.89774E-06	0.050342	0.024086249	1.219242	0.049676	0.100971
A	SO2_IDLEX	0	0	0	0	8.08E-05	0.000126	0.001368	0.006392287	0.00085	0	0	0.001872	0
A	SO2_RUNEX	0.002336	0.003044	0.003088	0.003691	0.007289	0.007574	0.011902	0.015292952	0.012326	0.008522909	0.001843	0.008982	0.016339
A	SO2_STREX	0.000611	0.000794	0.000785	0.000933	0.000186	9.91E-05	0.000104	2.7861E-06	9.24E-05	5.52109E-05	0.000441	5.93E-05	0.000212
A	TOG_DIURN	0.23992	0.422505	0.185919	0.210348	0.082973	0.04954	0.024982	0.000585202	0.03104	0.021522802	0.07414	0.047869	21.0255
A	TOG_HTSK	0.073069	0.122434	0.05545	0.060196	0.022362	0.013133	0.006367	0.000175225	0.008125	0.008036694	3.548067	0.012307	5.778413
A	TOG_IDLEX	0	0	0	0	0.028846	0.02006	0.045892	0.58212113	0.043566	0	0	0.435346	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.008994	0.026198	0.010562	0.012246	0.068434	0.096765	0.050769	0.286222734	0.032263	0.60586165	1.084139	0.168065	0.072727
A	TOG_RUNLS	0.186625	0.340705	0.141591	0.162153	0.122003	0.0712	0.052008	0.001304636	0.036576	0.016691129	3.701315	0.036417	0.137796
A	TOG_STREX	0.295186	0.457962	0.321315	0.375397	0.102745	0.056705	0.06291	3.17266E-06	0.055119	0.026371411	1.325883	0.054389	0.110551
A	N2O_IDLEX	0	0	0	0	0.000573	0.001568	0.022543	0.125460338	0.013415	0	0	0.024817	0
A	N2O_RUNEX	0.003577	0.006848	0.004412	0.005319	0.035453	0.077321	0.144932	0.280344669	0.165841	0.156430799	0.036419	0.110563	0.068442
A	N2O_STREX	0.0275	0.033715	0.031397	0.032482	0.033192	0.017887	0.008071	5.62128E-07	0.009875	0.009551223	0.007111	0.005665	0.030005

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DIA	PM2.5_TIR	PM2.5_BRA	PM10_RUN	PM10_IDL	PM10_STR	PM10_DIA	PM10_TIR	PM10_BRA	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
San Mateo	2030	HHDT	Aggregate	Aggregate	Gasoline	3.582613	348.8502	348.8502	0	71.68092	3.309536	0	0.000636	0.001281	0	0.000408	0.005	0.031258	0.001393	0	0.000444	0.02	0.08931	2124.112	0	48.3003	0.102341	0	7.44E-05	0.139473	0	4.21E-05	0.479172	0	0.000403	0.0158	0.095238	1.146877	0.699207	0	0.000441	0.0158	0.095238	1.146877	0.045	32.18037	0	4.037713	0.020999	0	0.000477
San Mateo	2030	HHDT	Aggregate	Aggregate	Diesel	1338.439	117080	117080	0	15181.71	2.116368	41.2038	3.044846	0.023283	0.023862	0	0.008615	0.030087	0.024335	0.024941	0	0.03446	0.085963	1627.718	7731.446	0	0.000972	0.162527	0	0.256448	1.218092	0	0.020928	3.499162	0	0	0	0	0.023825	3.98353	0	0	0	0	0.207747	0.090912	50.23689	0	0.015414	0.073212	0
San Mateo	2030	HHDT	Aggregate	Aggregate	Electricity	84.88807	7748.726	0	7748.726	800.5398	0	0	0	0	0	0	0.00845	0.017769	0	0	0	0	0.033801	0.050769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	HHDT	Aggregate	Aggregate	Natural Ga	216.9868	13750.35	13750.35	0	1391.47	0.831786	6.734329	0	0.001446	0.012428	0	0.009	0.062879	0.001573	0.013516	0	0.036	0.179654	1389.59	7977.287	0	1.838591	17.41083	0	0.283277	1.626222	0	0.037223	0.267421	0	0	0	0	1.888896	17.79029	0	0	0	0	0.693529	12.98287	57.90215	0	0	0	0
San Mateo	2030	LDA	Aggregate	Aggregate	Gasoline	237797.8	6358120	6358120	0	1114767	0.025015	0	0.198441	0.00084	0	0.0015	0.002	0.002348	0.000914	0	0.001631	0.008	0.006709	243.0735	0	61.00565	0.001264	0	0.048749	0.003327	0	0.026593	0.004452	0	0.219797	0.064961	0.182842	1.100035	0.406497	0	0.24065	0.064961	0.182842	1.100035	0.038859	0.49519	0	2.387223	0.002403	0	0.000603
San Mateo	2030	LDA	Aggregate	Aggregate	Diesel	401.2092	8094.892	8094.892	0	1723.63	0.081629	0	0	0.005614	0	0	0.002	0.002417	0.005867	0	0	0.008	0.006907	215.1131	0	0	0.000572	0	0	0.033891	0	0	0.012309	0	0	0	0	0	0.014013	0	0	0	0	0	0.0031	0.228322	0	0	0.002038	0	0
San Mateo	2030	LDA	Aggregate	Aggregate	Electricity	25244.08	809588.1	0	809588.1	122638.4	0	0	0	0	0	0	0.002	0.001533	0	0	0	0.008	0.004381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	LDA	Aggregate	Aggregate	Plug-in Hyb	9770.495	287561.1	127243.4	160317.7	40401	0.002843	0	0.117199	0.000375	0	0.001465	0.002	0.001348	0.000407	0	0.001593	0.008	0.00385	119.4113	0	59.96064	0.000352	0	0.040464	0.000449	0	0.018494	0.001195	0	0.176635	0.03873	0.045962	0.467089	0.001743	0	0.193393	0.03873	0.045962	0.467089	0.018225	0.178336	0	1.37819	0.001181	0	0.000593
San Mateo	2030	LDT1	Aggregate	Aggregate	Gasoline	27717.91	705667.7	705667.7	0	127669.4	0.047693	0	0.23518	0.000977	0	0.001648	0.002	0.002822	0.001063	0	0.001793	0.008	0.008064	283.8612	0	71.88524	0.00227	0	0.057547	0.004614	0	0.028888	0.009274	0	0.271146	0.085215	0.246386	1.458315	0.013533	0	0.29687	0.085215	0.246386	1.458315	0.039865	0.675828	0	2.884818	0.002806	0	0.000711
San Mateo	2030	LDT1	Aggregate	Aggregate	Diesel	0.204115	6.131891	6.131891	0	1.004394	0.025448	0	0	0.003365	0	0	0.002	0.002682	0.003517	0	0	0.008	0.007662	346.1746	0	0	0.000511	0	0	0.05454	0	0	0.011001	0	0	0	0	0	0.012524	0	0	0	0	0	0.0031	0.101404	0	0	0.00328	0	0
San Mateo	2030	LDT1	Aggregate	Aggregate	Electricity	315.4332	10759.94	0	10759.94	1561.79	0	0	0	0	0	0	0.002	0.00153	0	0	0	0.008	0.004372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	LDT1	Aggregate	Aggregate	Plug-in Hyb	248.8694	7950.15	3286.476	4663.674	1029.075	0.002656	0	0.117199	0.000235	0	0.000982	0.002	0.001357	0.000256	0	0.001068	0.008	0.003878	111.5698	0	64.81892	0.000329	0	0.040538	0.000421	0	0.018562	0.001116	0	0.176635	0.022993	0.019942	0.267154	0.001629	0	0.193393	0.022993	0.019942	0.267154	0.017362	0.166671	0	1.37819	0.001103	0	0.000641
San Mateo	2030	LDT2	Aggregate	Aggregate	Gasoline	206077.5	5643289	5643289	0	980667.9	0.031039	0	0.220236	0.000827	0	0.001417	0.002	0.002768	0.000899	0	0.001541	0.008	0.007907	290.8488	0	72.9835	0.001503	0	0.052526	0.003653	0	0.029181	0.005296	0	0.229711	0.045237	0.123667	0.765395	0.007728	0	0.251505	0.045237	0.123667	0.765395	0.040897	0.539909	0	2.545867	0.002875	0	0.000722
San Mateo	2030	LDT2	Aggregate	Aggregate	Diesel	779.569	21227.36	21227.36	0	3709.708	0.028723	0	0	0.003778	0	0	0.002	0.002772	0.003949	0	0	0.008	0.00792	269.8326	0	0	0.000535	0	0	0.042512	0	0	0.011525	0	0	0	0	0	0.013121	0	0	0	0	0	0.0031	0.115181	0	0	0.002557	0	0
San Mateo	2030	LDT2	Aggregate	Aggregate	Electricity	4330.718	103349.1	0	103349.1	21553.59	0	0	0	0	0	0	0.002	0.001531	0	0	0	0.008	0.004374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	LDT2	Aggregate	Aggregate	Plug-in Hyb	3821.263	114216.7	48686.66	65530.03	15800.92	0.002739	0	0.117199	0.000291	0	0.001179	0.002	0.001354	0.000317	0	0.001283	0.008	0.003869	115.0366	0	70.08597	0.000338	0	0.040354	0.00043	0	0.018393	0.001151	0	0.176635	0.026073	0.02498	0.30357	0.00168	0	0.193393	0.026073	0.02498	0.30357	0.017899	0.171817	0	1.37819	0.001137	0	0.000693
San Mateo	2030	LHDT1	Aggregate	Aggregate	Gasoline	13418.94	401266.7	401266.7	0	199922.2	0.04859	0.028514	0.462341	0.001251	0	0.000149	0.002	0.0273	0.001361	0	0.000162	0.008	0.078	782.2571	111.312	25.41512	0.002474	0.092233	0.022399	0.003012	0.002564	0.040565	0.010703	0.327199	0.105404	0.022577	0.12944	1.313798	0.015618	0.477448	0.115404	0.022577	0.12944	1.313798	0.045	0.67997	3.773798	3.355298	0.007733	0.0011	0.000251
San Mateo	2030	LHDT1	Aggregate	Aggregate	Diesel	6950.283	217964.5	217964.5	0	87425.82	0.484943	1.179571	0	0.017739	0.02636	0	0.003	0.0273	0.018541	0.027552	0	0.012	0.078	610.5039	119.3947	0	0.004593	0.005098	0	0.096185	0.018811	0	0.098884	0.10976	0	0	0	0	0.112573	0.124954	0	0	0	0	0.209503	0.232836	0.909745	0	0.005785	0.001131	0
San Mateo	2030	LHDT1	Aggregate	Aggregate	Electricity	1651.837	70758.49	0	70758.49	23140.54	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	LHDT2	Aggregate	Aggregate	Gasoline	1516.427	44034.41	44034.41	0	22592.5	0.0535	0.026469	0.446387	0.001188	0	0.000128	0.002	0.03185	0.001292	0	0.000139	0.008	0.091	883.1295	128.7905	24.14624	0.002097	0.08544	0.021117	0.003676	0.002338	0.038045	0.00861	0.303836	0.099505	0.023317	0.135292	1.428649	0.012564	0.443356	0.108945	0.023317	0.135292	1.428649	0.045	0.63201	3.776933	3.316614	0.008731	0.001273	0.000239
San Mateo	2030	LHDT2	Aggregate	Aggregate	Diesel	3226.044	98642.37	98642.37	0	40579.57	0.436422	1.156649	0	0.01874	0.026765	0	0.003	0.03185	0.019587	0.027975	0	0.012	0.091	713.7283	191.5832	0	0.004866	0.005098	0	0.112448	0.030184	0	0.104751	0.10976	0	0	0	0	0.119253	0.124954	0	0	0	0	0.212304	0.238694	0.909745	0	0.006763	0.001815	0
San Mateo	2030	LHDT2	Aggregate	Aggregate	Electricity	416.7471	17085.75	0	17085.75	5526.66	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	MCY	Aggregate	Aggregate	Gasoline	17265.42	85331.57	85331.57	0	34530.84	0.471636	0	0.087961	0.00193	0	0.003402	0.001	0.0042	0.002069	0	0.003639	0.004	0.012	185.2558	0	39.68002	0.129549	0	0.143907	0.035104	0	0.005584	0.790266	0	1.025021	3.535952	3.670486	2.694632	0.977152	0	1.115488	3.535952	3.670486	2.694632	0.00908	9.714966	0	7.581403	0.001831	0	0.000392
San Mateo	2030	MDV	Aggregate	Aggregate	Gasoline	115764.2	3248131	3248131	0	549832.1	0.032414	0	0.238074	0.000811	0	0.001423	0.002	0.002792	0.000882	0	0.001547	0.008	0.007976	350.9924	0	88.45286	0.00155	0	0.05581	0.003744	0	0.030164	0.005553	0	0.251972	0.048156	0.134906	0.832269	0.008103	0	0.275878	0.048156	0.134906	0.832269	0.040906	0.545181	0	2.607134	0.00347	0	0.000874
San Mateo	2030	MDV	Aggregate	Aggregate	Diesel	1415.877	38111.74	38111.74	0	6658.508	0.017624	0	0	0.002054	0	0	0.002	0.002838	0.002147	0	0	0.008	0.008109	356.2982	0	0	0.000277	0	0	0.056135	0	0	0.005968	0	0	0	0	0	0.006794	0	0	0	0	0	0.0031	0.147116	0	0	0.003376	0	0
San Mateo	2030	MDV	Aggregate	Aggregate	Electricity	4329.635	102706.8	0	102706.8	21508.26	0	0	0	0	0	0	0.002	0.001532	0	0	0	0.008	0.004377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	MDV	Aggregate	Aggregate	Plug-in Hyb	2286.849	70894.89	30074.66	40820.23	9456.121	0.002725	0	0.117199	0.000297	0	0.001215	0.002	0.001355	0.000323	0	0.001322	0.008	0.003872	114.4849	0	85.0686	0.000338	0	0.040515	0.000432	0	0.018541	0.001145	0	0.176635	0.026805	0.026275	0.314563	0.001671	0	0.193393	0.026805	0.026275	0.314563	0.017817	0.170999	0	1.37819	0.001132	0	0.000841
San Mateo	2030	MH	Aggregate	Aggregate	Gasoline	975.2695	8905.399	8905.399	0	97.56596	0.146497	0	0.389106	0.001397	0	0.00035	0.003	0.015756	0.001519	0	0.00038	0.012	0.045017	1945.035	0	30.49184	0.005338	0	0.03291	0.013993	0	0.045078	0.017368	0	0.125455	4.324204	0.104731	1.656784	0.025343	0	0.137357	4.324204	0.104731	1.656784	0.045	0.266588	0	2.838247	0.019229	0	0.000301
San Mateo	2030	MH	Aggregate	Aggregate	Diesel	518.1906	4498.521	4498.521	0	53.81906	2.677361	0	0	0.030184	0	0	0.004	0.015675	0.031549	0	0	0.016	0.044785	1087.256	0	0	0.003786	0	0	0.171298	0	0	0.083505	0	0	0	0	0	0.092788	0	0	0	0	0	0.206555	0.243761	0	0	0.010302	0	0
San Mateo	2030	MHDT	Aggregate	Aggregate	Gasoline	896.2067	46600.57	46600.57	0	17931.3	0.14535	0.071332	0.336727	0.001349	0	0.000468	0.003	0.015756	0.001468	0	0.000509	0.012	0.045017	1641.475	495.3697	40.83701	0.005139	0.272865	0.039358	0.010032	0.006541	0.029695	0.022413	1.024632	0.19997	0.016844	0.142325	1.402001	0.032705	1.49514	0.218942	0.016844	0.142325	1.402001	0.045	0.405969	15.25491	4.210824	0.016228	0.004897	0.000404
San Mateo	2030	MHDT	Aggregate	Aggregate	Diesel	4347.362	170380.4	170380.4	0	52605.86	0.755775	10.07155	1.523653	0.006958	0.010527	0	0.003	0.015983	0.007273	0.011003	0	0.012	0.045667	1112.069	2136.504	0	0.000749	0.00921	0	0.175207	0.336607	0	0.016126	0.198289	0	0	0	0	0.018358	0.225736	0	0	0	0	0.215702	0.077124	7.484208	0	0.010531	0.020231	0
San Mateo	2030	MHDT	Aggregate	Aggregate	Electricity	446.3324	23740.44	0	23740.44	6143.241	0	0	0	0	0	0	0.003	0.007953	0	0	0	0.012	0.022724	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	MHDT	Aggregate	Aggregate	Natural Ga	59.81429	2526.343	2526.343	0	572.8236	0.0963	6.310343	0	0.001402	0.020216	0	0.003	0.016078	0.001525	0.021987	0	0.012	0.049338	974.2403	5301.669	0	0.781312	15.85967	0	0.198605	1.08078	0	0.011163	0.226603	0	0	0	0	0.797386	16.18596	0	0	0	0	1.06	3.055339	39.52768	0	0	0	0
San Mateo	2030	OBUS	Aggregate	Aggregate	Gasoline	235.2431	10564.99	10564.99	0	4706.745	0.160976	0.055683	0.334188	0.001132	0	0.000289	0.003	0.01568	0.001231	0	0.000315	0.012	0.044799	1631.402	356.5246	28.55452	0.004957	0.201951	0.030859	0.010543	0.00494	0.028192	0.021402	0.748646	0.154359	0.024573	0.126962	2.196095	0.03123	1.092423	0.169003	0.024573	0.126962	2.196095	0.045	0.436972	5.788883	3.119712	0.016128	0.003525	0.000282
San Mateo	2030	OBUS	Aggregate	Aggregate	Diesel	1265.064	76747.17	76747.17	0	12416.27	0.731147	4.662626	1.324481	0.008334	0.002706	0	0.003	0.017521	0.008711	0.002828	0	0.012	0.050059	1157.144	1158.301	0	0.000821	0.014331	0	0.182309	0.182491	0	0.017683	0.308549	0	0	0	0	0.020131	0.351259	0	0	0	0	0.218276	0.087625	5.772448	0	0.010957	0.010968	0
San Mateo	2030	OBUS	Aggregate	Aggregate	Electricity	18.67716	1366.971	0	1366.971	373.6926	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	OBUS	Aggregate	Aggregate	Natural Ga	14.94448	957.8955	957.8955	0	133.0059	0.101418	1.499098	0	0.001484	0.004813	0	0.003	0.016148	0.001614	0.005235	0	0.012	0.046137	931.1349	1169.497	0	0.838494	3.763815	0	0.189818	0.23841	0	0.01198	0.053777	0	0	0	0	0.855745	3.84125	0	0	0	0	1.06	3.385525	9.413723	0	0	0	0
San Mateo	2030	SBUS	Aggregate	Aggregate	Gasoline	87.98822	4038.39	4038.39	0	351.9529	0.489617	0.750616	0.559502	0.001063	0	0.000722	0.002	0.015721	0.001156	0	0.000786	0.008	0.044917	757.0149	2429.667	55.27111	0.010391	2.44431	0.075405	0.024791	0.073975	0.052746	0.050694	10.64152	0.434086	0.098112	0.31801	1.752705	0.073972	15.52808	0.47527	0.098112	0.31801	1.752705	0.045	1.308566	82.24088	10.22191	0.007484	0.02402	0.000546
San Mateo	2030	SBUS	Aggregate	Aggregate	Diesel	160.7253	3531.519	3531.519	0	2327.302	2.868955	17.48998	0.553036	0.014701	0.012669	0	0.003	0.015721	0.015365	0.013242	0	0.012	0.044917	1113.173	2158.09	0	0.002281	0.007956	0	0.175381	0.340008	0	0.049109	0.1713	0	0	0	0	0.055907	0.195012	0	0	0	0	0.169646	0.15856	5.305748	0	0.010541	0.020436	0
San Mateo	2030	SBUS	Aggregate	Aggregate	Electricity	17.84997	651.998	0	651.998	163.1263	0	0	0	0	0	0	0.002	0.00786	0	0	0	0.008	0.022459	0	0	0	0	0	0	0	0	0	0.067807	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	SBUS	Aggregate	Aggregate	Natural Ga	7.671522	180.9535	180.9535	0	111.0836	0.443878	5.198476	0	0.003378	0.013085	0	0.003	0.015721	0.003674	0.014231	0	0.012	0.044917	1201.138	4122.528	0	3.098317	14.36251	0	0.24486	0.840404	0	0.044269	0.205212	0	0	0	0	3.16206	14.658	0	0	0	0	1.06	10.05674	24.64166	0	0	0	0
San Mateo	2030	UBUS	Aggregate	Aggregate	Gasoline	62.5174	4249.774	4249.774	0	250.0696	0.035638	0	0.310547	0.001201	0	0.000164	0.002	0.002072	0.032329	0.001307	0	0.000179	0.008288	0.09237	932.2834	0	37.52663	0.001497	0	0.032416	0.004454	0	0.04913	0.004138	0	0.115554	0.024606	0.097267	0.356985	0.006038	0	0.126517	0.024606	0.097267	0.356985	0.045	0.559001	0	5.953718	0.009217	0	0.000371
San Mateo	2030	UBUS	Aggregate	Aggregate	Diesel	238.4518	18140.33	18140.33	0	953.8071	0.376197	0	0	0.006839	0	0	0.002	0.008109	0.0385	0.007148	0	0	0.032436	0.11	1228.547	0	0	0.003149	0	0	0.193558	0	0	0.067807	0	0	0	0	0.077193	0	0	0	0	0	0.22	0.077324	0	0	0.011641	0	0
San Mateo	2030	UBUS	Aggregate	Aggregate	Electricity	72.67394	6853.165	0	6853.165	290.6957	0	0	0	0	0	0	0.002	0.007651	0.01925	0	0	0	0.030604	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2030	UBUS	Aggregate	Aggregate	Natural Ga	75.54888	5381.015	5381.015	0	302.1955	0.055771	0	0	0.000273	0	0	0.007786	0.0385	0.000286	0	0	0	0.031145	0.11	1266.418	0	0	4.115508	0	0	0.258168	0	0	0.058802	0	0	0	0	4.200177	0	0	0	0	0	0.97	46.76788	0	0	0	0	0

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.392953	0.03814	0.309697	0.182164	0.036329	0.008412	0.012807	0.007315	0.004719	0.001823	0.004493	0.000442	0.000706

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.0041	0.002311	0.015963	0.229026242	0.006914	0	0	0.110559	0
A	CH4_RUNEX	0.001091	0.002215	0.001451	0.001466	0.00289	0.003582	0.009624	0.18305022	0.010248	0.641431362	0.129549	0.072674	0.004817
A	CH4_STREX	0.043749	0.056722	0.051039	0.052888	0.014423	0.007552	0.009135	3.05733E-07	0.008239	0.004511552	0.143907	0.008986	0.021494
A	CO_IDLEX	0	0	0	0	0.183464	0.137123	0.628743	4.574443284	0.49944	0	0	2.802822	0
A	CO_RUNEX	0.428976	0.660197	0.521742	0.516945	0.468992	0.321574	0.163527	1.442396346	0.162707	7.377393404	9.714966	0.912101	0.258927
A	CO_STREX	2.12334	2.838305	2.46486	2.462348	2.160461	1.186135	0.977377	0.016590448	0.832894	0.828623357	7.581403	1.218105	1.853708
A	CO2_NBIO_IDLEX	0	0	0	0	7.483418	12.87527	130.0816	692.3906648	88.86546	0	0	200.5332	0
A	CO2_NBIO_RUNEX	211.9111	277.7544	282.2488	335.7853	647.7805	684.09	1103.524	1514.609777	1192.98	954.9035774	185.2558	857.525	1657.153
A	CO2_NBIO_STREX	55.0433	70.96698	71.1341	84.15733	16.36469	8.635527	9.478708	0.198459779	7.623425	5.222861474	39.68002	6.586443	19.91475
A	NOX_IDLEX	0	0	0	0	0.027637	0.059703	0.572482	3.244982146	0.336592	0	0	0.987656	0
A	NOX_RUNEX	0.021508	0.04649	0.029936	0.03068	0.181449	0.284207	0.558221	1.874181967	0.646065	0.210138516	0.471636	1.45062	0.995886
A	NOX_STREX	0.176589	0.231426	0.213197	0.224713	0.2977	0.159643	1.115695	2.649753409	1.022028	0.043221096	0.087961	0.50246	0.254132
A	PM10_IDLEX	0	0	0	0	0.000617	0.001429	0.000636	0.00208163	0.000207	0	0	0.000758	0
A	PM10_PMBW	0.006346	0.007963	0.007767	0.007787	0.074001	0.086134	0.043306	0.093281284	0.048975	0.156110891	0.012	0.043175	0.04494
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009264	0.01047	0.012	0.034539384	0.012	0.061827696	0.004	0.009879	0.013342
A	PM10_RUNEX	0.0008	0.001038	0.000883	0.000858	0.006648	0.01245	0.005391	0.020667549	0.00762	0.003949707	0.002069	0.007092	0.011597
A	PM10_STREX	0.001471	0.001765	0.001499	0.001469	0.000104	4.97E-05	0.000118	1.82388E-06	8.4E-05	2.48573E-05	0.003639	9.36E-05	0.000248
A	PM25_IDLEX	0	0	0	0	0.00059	0.001367	0.000608	0.001985313	0.000198	0	0	0.000723	0
A	PM25_PMBW	0.002221	0.002787	0.002718	0.002725	0.0259	0.030147	0.015157	0.032648449	0.017141	0.054638812	0.0042	0.015111	0.015729
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002316	0.002617	0.003	0.008634846	0.003	0.015456924	0.001	0.00247	0.003336
A	PM25_RUNEX	0.000736	0.000955	0.000812	0.00079	0.006331	0.011898	0.005147	0.019767546	0.007285	0.003772866	0.00193	0.006762	0.011058
A	PM25_STREX	0.001353	0.001623	0.001378	0.001351	9.57E-05	4.57E-05	0.000109	1.67699E-06	7.72E-05	2.28554E-05	0.003402	8.61E-05	0.000228
A	ROG_DIURN	0.208006	0.310821	0.155511	0.165232	0.056781	0.034294	0.016264	0.000235524	0.029304	0.012421079	2.694632	0.052216	10.81642
A	ROG_HTSK	0.057819	0.083701	0.043823	0.045503	0.014537	0.008339	0.00391	6.49199E-05	0.00656	0.003424597	3.535952	0.011692	2.824213
A	ROG_IDLEX	0	0	0	0	0.016598	0.012899	0.023221	0.271787437	0.032176	0	0	0.326882	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.003852	0.009047	0.005145	0.005303	0.037462	0.06705	0.015705	0.022524009	0.017791	0.045171786	0.790266	0.045956	0.038893
A	ROG_RUNLS	0.160749	0.241641	0.119083	0.126689	0.083346	0.048385	0.033035	0.000391321	0.033896	0.013537374	3.670486	0.037896	0.068402
A	ROG_STREX	0.197071	0.267146	0.223211	0.238678	0.067869	0.035586	0.046415	1.65627E-06	0.04121	0.01608249	1.025021	0.051728	0.081937
A	SO2_IDLEX	0	0	0	0	7.29E-05	0.000123	0.001195	0.005616953	0.000834	0	0	0.001828	0
A	SO2_RUNEX	0.002095	0.002746	0.00279	0.003318	0.006325	0.006582	0.010485	0.013042303	0.011283	0.007230239	0.001831	0.008027	0.016233
A	SO2_STREX	0.000544	0.000702	0.000703	0.000832	0.000162	8.54E-05	9.37E-05	1.96198E-06	7.54E-05	5.16333E-05	0.000392	6.51E-05	0.000197
A	TOG_DIURN	0.208006	0.310821	0.155511	0.165232	0.056781	0.034294	0.016264	0.000235524	0.029304	0.012421079	0.066855	0.052216	10.81642
A	TOG_HTSK	0.057819	0.083701	0.043823	0.045503	0.014537	0.008339	0.00391	6.49199E-05	0.00656	0.003424597	3.535952	0.011692	2.824213
A	TOG_IDLEX	0	0	0	0	0.023432	0.017024	0.04258	0.526899253	0.043038	0	0	0.511291	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.005617	0.013201	0.007494	0.007717	0.044644	0.077093	0.027406	0.208786723	0.030062	0.693940204	0.977152	0.127141	0.047979
A	TOG_RUNLS	0.160749	0.241641	0.119083	0.126689	0.083346	0.048385	0.033035	0.000391321	0.033896	0.013537374	3.670486	0.037896	0.068402
A	TOG_STREX	0.215768	0.292491	0.244388	0.261323	0.074308	0.038963	0.050819	1.8134E-06	0.04512	0.017608302	1.115488	0.056636	0.08971
A	N2O_IDLEX	0	0	0	0	0.000532	0.001598	0.019855	0.113681015	0.013363	0	0	0.02289	0
A	N2O_RUNEX	0.002889	0.0045	0.003667	0.004142	0.032136	0.070442	0.126706	0.244505965	0.159364	0.142077729	0.035104	0.090896	0.066786
A	N2O_STREX	0.023753	0.02846	0.028293	0.028531	0.02612	0.013606	0.006893	1.7284E-07	0.007527	0.006837798	0.005584	0.006286	0.029442

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Mateo
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DIU	PM2.5_TIR	PM10_RUI	PM10_IDL	PM10_STR	PM10_DIU	PM10_TIR	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
San Mateo	2022	HHDT	Aggregate	Aggregate	Gasoline	4.26179	607.5295	607.5295	0	85.26989	4.217209	0	0.00281	0.00146	0	0.000935	0.005	0.031258	0.001588	0	0.001017	0.02	0.089308	2276.876	0	54.98009	0.116906	0	0.000119	0.151563	0	0.000135	0.60109	0	0.000644	0.048478	0.400153	3.469663	0.877108	0	0.000705	0.048478	0.400153	3.469663	0.045	33.53367	0	6.080621	0.022509	0	0.000544
San Mateo	2022	HHDT	Aggregate	Aggregate	Diesel	1289.917	118758.5	118758.5	0	13886.59	3.367467	50.13908	2.567805	0.026697	0.041054	0	0.008861	0.031515	0.027904	0.04291	0	0.034444	0.090042	1868.7	8522.619	0	0.001942	0.155104	0	0.294414	1.342742	0	0.041821	3.339355	0	0	0	0	0.04761	3.801601	0	0	0	0	0	0.186789	0.159005	43.82276	0	0.017695	0.080704	0
San Mateo	2022	HHDT	Aggregate	Natural Ga	Natural Ga	144.1612	9768.638	9768.638	0	950.7524	1.845139	10.30429	0	0.002051	0.011217	0	0.009	0.058943	0.00223	0.012199	0	0.036	0.168408	1557.751	8370.006	0	3.666383	25.60841	0	0.317558	1.706281	0	0.087249	0.429393	0	0	0	0	3.781534	26.2076	0	0	0	0	0	0.734123	18.35301	67.58246	0	0	0	0
San Mateo	2022	LDA	Aggregate	Aggregate	Gasoline	240666.4	7995565	7995565	0	1130997	0.047702	0	0.275282	0.001241	0	0.002105	0.002	0.002347	0.00135	0	0.002289	0.008	0.006707	282.0072	0	72.08796	0.002546	0	0.077367	0.004869	0	0.033486	0.010142	0	0.368004	0.090257	0.23026	1.365279	0.014797	0	0.402916	0.090257	0.23026	1.365279	0.034582	0.726065	0	3.617602	0.002788	0	0.000713
San Mateo	2022	LDA	Aggregate	Aggregate	Diesel	888.5395	22501.88	22501.88	0	3790.786	0.240012	0	0	0.015881	0	0	0.002	0.002391	0.016599	0	0	0.008	0.006831	236.5354	0	0	0.001267	0	0	0.037266	0	0	0.02727	0	0	0	0	0	0.031045	0	0	0	0	0	0.0031	0.330004	0	0	0.002241	0	0
San Mateo	2022	LDA	Aggregate	Aggregate	Electricity	14591.4	568258.7	0	568258.7	72996.66	0	0	0	0	0	0	0.002	0.001529	0	0	0	0.008	0.004368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2022	LDA	Aggregate	Aggregate	Plug-in Hyb	6271.758	249381.9	127562.4	121819.5	25933.72	0.003286	0	0.117199	0.000663	0	0.002168	0.002	0.001311	0.000722	0	0.002358	0.008	0.003747	138.0528	0	66.27115	0.00043	0	0.042806	0.00058	0	0.020671	0.001381	0	0.176635	0.036142	0.032302	0.39726	0.002015	0	0.193393	0.036142	0.032302	0.39726	0.020013	0.206229	0	1.37819	0.001365	0	0.000655
San Mateo	2022	LDT1	Aggregate	Aggregate	Gasoline	24136.47	736196.1	736196.1	0	109571	0.134919	0	0.395074	0.001791	0	0.002798	0.002	0.002838	0.001948	0	0.003043	0.008	0.008107	331.1881	0	87.90421	0.00631	0	0.109218	0.009543	0	0.038745	0.028415	0	0.569782	0.157522	0.456069	2.467901	0.034149	0	0.623836	0.157522	0.456069	2.467901	0.036499	1.368916	0	5.624448	0.003274	0	0.000869
San Mateo	2022	LDT1	Aggregate	Aggregate	Diesel	8.510916	119.4982	119.4982	0	25.11455	1.690269	0	0	0.241464	0	0	0.002	0.00334	0.252382	0	0	0.008	0.009543	418.4363	0	0	0.014886	0	0	0.065925	0	0	0.320488	0	0	0	0	0	0.364855	0	0	0	0	0	0.0031	1.709562	0	0	0.003965	0	0
San Mateo	2022	LDT1	Aggregate	Aggregate	Electricity	61.93893	2054.9	0	2054.9	294.187	0	0	0	0	0	0	0.002	0.001538	0	0	0	0.008	0.004394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2022	LDT1	Aggregate	Aggregate	Plug-in Hyb	19.46092	849.1339	406.2744	442.8594	80.24761	0.003074	0	0.117199	0.000413	0	0.001456	0.002	0.001322	0.000449	0	0.001583	0.008	0.003777	129.1531	0	72.4859	0.000404	0	0.042967	0.000546	0	0.02082	0.001292	0	0.176635	0.024905	0.022892	0.287748	0.001885	0	0.193393	0.024905	0.022892	0.287748	0.020095	0.193011	0	1.37819	0.001277	0	0.000717
San Mateo	2022	LDT2	Aggregate	Aggregate	Gasoline	128775.8	4489208	4489208	0	617258.5	0.062575	0	0.324659	0.001272	0	0.002033	0.002	0.002716	0.001384	0	0.002212	0.008	0.007761	343.7915	0	87.85962	0.002639	0	0.081429	0.005428	0	0.036476	0.010335	0	0.378106	0.068121	0.172205	1.07279	0.015078	0	0.413978	0.068121	0.172205	1.07279	0.03686	0.748119	0	3.725451	0.003399	0	0.000869
San Mateo	2022	LDT2	Aggregate	Aggregate	Diesel	498.9179	17455.1	17455.1	0	2406.111	0.047726	0	0	0.005147	0	0	0.002	0.002738	0.00538	0	0	0.008	0.007822	317.6065	0	0	0.000624	0	0	0.050039	0	0	0.013436	0	0	0	0	0	0.015295	0	0	0	0	0	0.0031	0.124515	0	0	0.003009	0	0
San Mateo	2022	LDT2	Aggregate	Aggregate	Electricity	502.691	16536.35	0	16536.35	2591.33	0	0	0	0	0	0	0.002	0.001523	0	0	0	0.008	0.004353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2022	LDT2	Aggregate	Aggregate	Plug-in Hyb	938.5352	39780.13	19647.25	20132.88	3880.843	0.003173	0	0.117199	0.000533	0	0.001824	0.002	0.001316	0.00058	0	0.001984	0.008	0.003761	133.3142	0	78.34077	0.000417	0	0.042967	0.000564	0	0.02082	0.001334	0	0.176635	0.026237	0.024762	0.312901	0.001946	0	0.193393	0.026237	0.024762	0.312901	0.020712	0.199208	0	1.37819	0.001318	0	0.000774
San Mateo	2022	LHDT1	Aggregate	Aggregate	Gasoline	10003.64	379521.5	379521.5	0	149039.3	0.147855	0.036625	0.627998	0.001475	0	0.00028	0.002	0.0273	0.001604	0	0.000304	0.008	0.078	873.9961	119.3318	27.2104	0.00734	0.115266	0.0324	0.008388	0.003078	0.051835	0.036131	0.419759	0.159081	0.039876	0.21247	2.143205	0.052722	0.612512	0.174174	0.039876	0.21247	2.143205	0.044922	1.060707	3.758503	3.2802	0.00864	0.00118	0.000269
San Mateo	2022	LHDT1	Aggregate	Aggregate	Diesel	4125.911	163656.9	163656.9	0	51898.77	1.504213	1.931831	0	0.031512	0.027157	0	0.003	0.0273	0.032937	0.028385	0	0.012	0.078	637.8215	131.7515	0	0.007485	0.005098	0	0.100489	0.020757	0	0.161141	0.10976	0	0	0	0	0.183448	0.124954	0	0	0	0	0	0.175401	0.431298	0.909745	0	0.006044	0.001248	0
San Mateo	2022	LHDT2	Aggregate	Aggregate	Gasoline	1166.848	41928.69	41928.69	0	17384.3	0.172444	0.036335	0.63879	0.001438	0	0.000256	0.002	0.03185	0.001563	0	0.000279	0.008	0.091	987.4952	138.4793	25.88997	0.006917	0.113246	0.032524	0.010039	0.002938	0.050567	0.032554	0.416435	0.161154	0.042451	0.223651	2.256912	0.047503	0.60766	0.176444	0.042451	0.223651	2.256912	0.044984	0.96909	3.758162	3.27211	0.009762	0.001369	0.000256
San Mateo	2022	LHDT2	Aggregate	Aggregate	Diesel	1718.365	70077.77	70077.77	0	21614.87	1.063364	1.845339	0	0.026451	0.026962	0	0.003	0.03185	0.027647	0.028181	0	0.012	0.091	760.4369	209.0317	0	0.0066	0.005098	0	0.119807	0.032933	0	0.142091	0.10976	0	0	0	0	0.161761	0.124954	0	0	0	0	0	0.190222	0.33983	0.909745	0	0.007206	0.001981	0
San Mateo	2022	MCY	Aggregate	Aggregate	Gasoline	11775.11	70029.62	70029.62	0	23550.22	0.563376	0	0.148145	0.00188	0	0.003836	0.001	0.0042	0.002007	0	0.00407	0.004	0.012	188.692	0	50.07102	0.159449	0	0.191389	0.038859	0	0.008671	1.054922	0	1.43267	3.559039	3.722371	3.591267	1.259821	0	1.557156	3.559039	3.722371	3.591267	0.008767	12.33015	0	7.963377	0.001865	0	0.000495
San Mateo	2022	MDV	Aggregate	Aggregate	Gasoline	72399.54	2561532	2561532	0	344969.9	0.082284	0	0.405736	0.001302	0	0.002201	0.002	0.002736	0.001416	0	0.002394	0.008	0.007817	414.086	0	106.4165	0.003285	0	0.097944	0.006421	0	0.03969	0.013708	0	0.489899	0.078175	0.208676	1.264413	0.019977	0	0.536373	0.078175	0.208676	1.264413	0.037279	0.822259	0	4.057961	0.004094	0	0.001052
San Mateo	2022	MDV	Aggregate	Aggregate	Diesel	1048.144	37479.46	37479.46	0	5036.896	0.047538	0	0	0.004777	0	0	0.002	0.002777	0.004993	0	0	0.008	0.007934	413.8543	0	0	0.000486	0	0	0.065203	0	0	0.010456	0	0	0	0	0	0.011904	0	0	0	0	0	0.0031	0.180998	0	0	0.003921	0	0
San Mateo	2022	MDV	Aggregate	Aggregate	Electricity	497.8274	16375.41	0	16375.41	2565.598	0	0	0	0	0	0	0.002	0.001523	0	0	0	0.008	0.004351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2022	MDV	Aggregate	Aggregate	Plug-in Hyb	517.8537	21966.08	11106.12	10859.96	2141.325	0.003248	0	0.117199	0.000662	0	0.002216	0.002	0.001313	0.00072	0	0.00241	0.008	0.003752	136.4653	0	97.81049	0.000428	0	0.043094	0.000581	0	0.020938	0.001365	0	0.176635	0.028658	0.027868	0.344841	0.001992	0	0.193393	0.028658	0.027868	0.344841	0.021235	0.203885	0	1.37819	0.001349	0	0.000967
San Mateo	2022	MH	Aggregate	Aggregate	Gasoline	751.6488	7043.926	7043.926	0	75.19494	0.465552	0	0.403779	0.001863	0	0.00047	0.003	0.015756	0.002026	0	0.000512	0.012	0.045017	1948.174	0	32.24518	0.017921	0	0.039048	0.027477	0	0.041219	0.080748	0	0.17064	12.70927	0.296989	4.339134	0.117828	0	0.186829	12.70927	0.296989	4.339134	0.044744	2.072946	0	3.847624	0.01926	0	0.000319
San Mateo	2022	MH	Aggregate	Aggregate	Diesel	300.3894	3250.689	3250.689	0	30.03894	3.401996	0	0	0.063019	0	0	0.004	0.015675	0.063868	0	0	0.016	0.044785	1084.767	0	0	0.00458	0	0	0.170906	0	0	0.09861	0	0	0	0	0	0.112261	0	0	0	0	0	0.179676	0.315592	0	0	0.010279	0	0
San Mateo	2022	MHDT	Aggregate	Aggregate	Gasoline	756.5401	44483.7	44483.7	0	15136.85	0.604094	0.088245	0.46581	0.00141	0	0.000575	0.003	0.015756	0.001534	0	0.000625	0.012	0.045017	1795.462	537.4412	47.64422	0.019663	0.256996	0.051354	0.028235	0.007106	0.034029	0.098372	1.009116	0.288081	0.038151	0.314095	2.937981	0.143545	1.4725	0.315413	0.038151	0.314095	2.937981	0.044954	2.080066	15.07471	6.396341	0.01775	0.005313	0.000471
San Mateo	2022	MHDT	Aggregate	Aggregate	Diesel	4156.051	174304	174304	0	49995.69	1.853334	15.89701	1.436117	0.023182	0.047988	0	0.003	0.015983	0.02423	0.050158	0	0.012	0.045666	1163.775	2327.752	0	0.002813	0.013999	0	0.183353	0.366738	0	0.060556	0.301404	0	0	0	0	0.068939	0.343126	0	0	0	0	0	0.193605	0.190383	7.265304	0	0.01102	0.022042	0
San Mateo	2022	MHDT	Aggregate	Natural Ga	Natural Ga	40.6324	1873.257	1873.257	0	381.7521	0.153851	6.514328	0	0.001104	0.016957	0	0.003	0.016076	0.001201	0.018442	0	0.012	0.045932	1016.708	5323.016	0	0.747144	17.79445	0	0.207263	1.085132	0	0.010675	0.254248	0	0	0	0	0.762515	18.16055	0	0	0	0	0	1.06	3.046292	32.12184	0	0	0	0
San Mateo	2022	OBUS	Aggregate	Aggregate	Gasoline	256.1924	15869.04	15869.04	0	5125.898	0.334451	0.065049	0.372974	0.000967	0	0.000281	0.003	0.01568	0.001052	0	0.000306	0.012	0.044799	1762.688	376.5742	30.5752	0.010394	0.20597	0.033776	0.01844	0.005899	0.032179	0.045248	0.746076	0.166832	0.02655	0.111811	1.875172	0.071862	1.088672	0.18266	0.02655	0.111811	1.875172	0.044917	1.079968	5.773479	3.517583	0.017426	0.003723	0.000302
San Mateo	2022	OBUS	Aggregate	Aggregate	Diesel	1024.18	74221.67	74221.67	0	10035.19	1.072703	6.342591	1.429669	0.010592	0.00365	0	0.003	0.01742	0.011071	0.003815	0	0.012	0.04977	1257.365	1266.668	0	0.001405	0.014292	0	0.198098	0.199564	0	0.030244	0.307698	0	0	0	0	0.03443	0.350291	0	0	0	0	0	0.210134	0.116655	5.413261	0	0.011906	0.011995	0
San Mateo	2022	OBUS	Aggregate	Aggregate	Natural Ga	11.96887	654.3713	654.3713	0	106.5229	0.293719	1.58105	0	0.000566	0.002858	0	0.003	0.016148	0.000615	0.003109	0	0.012	0.046137	1069.812	1202.184	0	0.733013	4.775652	0	0.218088	0.245073	0	0.010473	0.068235	0	0	0	0	0.748094	4.873903	0	0	0	0	0	1.06	3.101343	5.006328	0	0	0	0
San Mateo	2022	SBUS	Aggregate	Aggregate	Gasoline	57.57285	3267.931	3267.931	0	230.2914	0.981493	0.921357	0.655387	0.001299	0	0.000777	0.002	0.015721	0.001412	0	0.000845	0.008	0.044917	807.8108	2570.697	63.52492	0.024786	2.43655	0.092559	0.045477	0.081943	0.056213	0.121107	10.56494	0.538292	0.15493	0.449507	2.231691	0.17672	15.41634	0.589362	0.15493	0.449507	2.231691	0.045	3.134679	81.77802	13.70908	0.007986	0.025414	0.000628
San Mateo	2022	SBUS	Aggregate	Aggregate	Diesel	168.1521	3799.171	3799.171	0	2434.843	5.308039	24.50088	0.415745	0.025509	0.027927	0	0.003	0.015721	0.026662	0.02919	0	0.012	0.044917	1155.182	2256.975	0	0.003351	0.008427	0	0.181999	0.355587	0	0.072141	0.18143	0	0	0	0	0.082127	0.206545	0	0	0	0	0	0.128799	0.214547	4.164591	0	0.010939	0.021372	0
San Mateo	2022	SBUS	Aggregate	Natural Ga	Natural Ga	5.747464	147.755	147.755	0	83.22328	0.580038	5.278861	0	0.003378	0.011167	0	0.003	0.015721	0.003674	0.012145	0	0.012	0.044917	1270.028	4071.06	0	3.473989	15.35501	0	0.258904	0.829912	0	0.049636	0.219393	0	0	0	0	3.545461	15.67091	0	0	0	0	0	1.06	11.82462	20.31851	0	0	0	0
San Mateo	2022	UBUS	Aggregate	Aggregate	Gasoline	61.08139	4153.342	4153.342	0	244.3256	0.052732	0	0.593554	0.000924	0	0.000101	0.002073	0.032333	0.001005	0	0.000011	0.00829	0.092379	1026.004	0	41.36564	0.002283	0	0.05585	0.006009	0	0.07764	0.006738	0	0.216361	0.059157	0.09606	0.592841	0.009832	0	0.236888	0.059157	0.09606	0.592841	0.045	0.562776	0	5.939286	0.010143	0	0.000409
San Mateo	2022	UBUS	Aggregate	Aggregate	Diesel	341.0475	28477.87	28477.87	0	1364.19	2.903167	0	0	0.007622	0	0	0.007913	0.0385	0.007966	0	0	0.031652	0.11	1452.079	0	0	0.00732	0	0	0.228776	0	0	0.157595	0	0	0	0	0	0.179409	0	0	0	0	0	0.12243	0.193248	0	0	0.013759	0	0
San Mateo	2022	UBUS	Aggregate	Aggregate	Electricity	2.018703	15.3193	0	15.3193	8.074811	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Mateo	2022	UBUS	Aggregate	Natural Ga	Natural Ga	34.62042	1174.257	1174.257	0	138.4817	0.063543	0	0	0.000296	0	0	0.008807	0.0385	0.00031	0	0	0.035229	0.11	1350.881	0	0	4.451808	0	0	0.275386	0	0	0.063608	0	0	0	0	0	4.543397	0	0	0	0	0	0.97	52.64109	0	0	0	0	0

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.491086	0.041086	0.253609	0.146583	0.03019	0.006225	0.012264	0.007177	0.005044	0.00188	0.003892	0.000393	0.000572

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005843	0.003613	0.014892	0.260799534	0.008159	0	0	0.08628	0
A	CH4_RUNEX	0.002319	0.006287	0.002602	0.003201	0.007384	0.006718	0.012528	0.279686949	0.008252	0.161010459	0.159449	0.085895	0.013708
A	CH4_STREX	0.071825	0.108853	0.080541	0.095514	0.024032	0.014498	0.011865	6.77534E-07	0.01134	0.007774918	0.191389	0.007998	0.027902
A	CO_IDLEX	0	0	0	0	0.205796	0.152528	0.654892	4.440944093	0.463936	0	0	2.073163	0
A	CO_RUNEX	0.663688	1.363815	0.738237	0.80289	0.87107	0.575388	0.595575	1.692340791	0.306637	2.059527265	12.33015	1.812081	1.518033
A	CO_STREX	3.345366	5.605019	3.681168	3.95481	2.432982	1.458578	1.477853	0.034745524	1.180982	0.826814725	7.963377	1.184587	2.749322
A	CO2_NBIO_IDLEX	0	0	0	0	8.646179	13.35354	157.1739	817.5579223	92.23189	0	0	206.7122	0
A	CO2_NBIO_RUNEX	259.6914	330.0495	340.6104	409.1994	802.8379	845.4343	1289.87	1847.097548	1344.381	1395.583774	188.692	1021.106	1675.54
A	CO2_NBIO_STREX	67.47888	87.63773	87.09938	104.0838	20.18243	11.54073	11.00803	0.314163972	10.26522	5.758558013	50.07102	5.489121	23.04082
A	NOX_IDLEX	0	0	0	0	0.04149	0.082396	1.013523	4.433588742	0.427804	0	0	1.577129	0
A	NOX_RUNEX	0.04387	0.134644	0.061774	0.080621	0.556519	0.729856	1.587068	3.256305124	0.937984	2.453214755	0.563376	3.319508	1.392781
A	NOX_STREX	0.254825	0.393724	0.320782	0.395298	0.465797	0.284748	1.203563	2.389547531	1.064922	0.082629307	0.148145	0.436452	0.288521
A	PM10_IDLEX	0	0	0	0	0.000583	0.001242	0.003193	0.00382705	0.000258	0	0	0.001868	0
A	PM10_PMBW	0.006473	0.008092	0.007714	0.007763	0.078	0.091	0.045537	0.095966343	0.048875	0.108503795	0.012	0.045856	0.044944
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009205	0.010503	0.012	0.034489957	0.012	0.029362212	0.004	0.010401	0.013263
A	PM10_RUNEX	0.001284	0.001981	0.001387	0.001452	0.011044	0.017883	0.019459	0.025838358	0.009244	0.006841902	0.002007	0.015063	0.022185
A	PM10_STREX	0.002148	0.003033	0.002192	0.002343	0.000226	0.000124	0.000144	5.80933E-06	0.000103	1.53331E-05	0.00407	7.3E-05	0.000366
A	PM25_IDLEX	0	0	0	0	0.000558	0.001188	0.003055	0.0036571	0.000247	0	0	0.001786	0
A	PM25_PMBW	0.002266	0.002832	0.0027	0.002717	0.0273	0.03185	0.015938	0.03358822	0.017106	0.037976328	0.0042	0.01605	0.01573
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002301	0.002626	0.003	0.008622489	0.003	0.007340553	0.001	0.0026	0.003316
A	PM25_RUNEX	0.001182	0.001823	0.001276	0.001338	0.010525	0.017087	0.018606	0.024714035	0.008837	0.006541322	0.00188	0.014384	0.021174
A	PM25_STREX	0.001975	0.002789	0.002016	0.002154	0.000208	0.000114	0.000133	5.34147E-06	9.43E-05	1.40982E-05	0.003836	6.72E-05	0.000336
A	ROG_DIURN	0.26835	0.541709	0.221107	0.258579	0.106699	0.067526	0.033927	0.000990911	0.031466	0.020632524	3.591267	0.04821	30.99292
A	ROG_HTSK	0.083501	0.156968	0.067318	0.076201	0.029577	0.018923	0.008815	0.000277007	0.008914	0.008235262	3.559039	0.013387	9.081418
A	ROG_IDLEX	0	0	0	0	0.023151	0.017296	0.030931	0.292803386	0.033214	0	0	0.240147	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.009286	0.028352	0.010231	0.013474	0.073796	0.101087	0.067756	0.047888834	0.033424	0.1357341	1.054922	0.095821	0.086389
A	ROG_RUNLS	0.211767	0.454429	0.169917	0.203112	0.157593	0.099695	0.072571	0.00228653	0.037539	0.013372663	3.722371	0.038841	0.212214
A	ROG_STREX	0.341077	0.56784	0.37384	0.477508	0.117993	0.071836	0.06656	3.67766E-06	0.056012	0.030119815	1.43267	0.046513	0.121931
A	SO2_IDLEX	0	0	0	0	8.44E-05	0.000128	0.00146	0.006976097	0.000867	0	0	0.001897	0
A	SO2_RUNEX	0.002567	0.003263	0.003367	0.004043	0.007858	0.008163	0.012283	0.016379507	0.012786	0.012831163	0.001865	0.009573	0.016424
A	SO2_STREX	0.000667	0.000866	0.000861	0.001029	0.0002	0.000114	0.000109	3.10583E-06	0.000101	5.69292E-05	0.000495	5.43E-05	0.000228
A	TOG_DIURN	0.26835	0.541709	0.221107	0.258579	0.106699	0.067526	0.033927	0.000990911	0.031466	0.020632524	0.079785	0.04821	30.99292
A	TOG_HTSK	0.083501	0.156968	0.067318	0.076201	0.029577	0.018923	0.008815	0.000277007	0.008914	0.008235262	3.559039	0.013387	9.081418
A	TOG_IDLEX	0	0	0	0	0.033059	0.023687	0.050034	0.581792813	0.045587	0	0	0.379854	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.013526	0.041328	0.014909	0.019588	0.092109	0.11899	0.089867	0.333972521	0.046122	0.310020775	1.259821	0.199994	0.11607
A	TOG_RUNLS	0.211767	0.454429	0.169917	0.203112	0.157593	0.099695	0.072571	0.00228653	0.037539	0.013372663	3.722371	0.038841	0.212214
A	TOG_STREX	0.373434	0.621711	0.409307	0.522807	0.129188	0.078652	0.072875	4.02657E-06	0.061326	0.032977406	1.557156	0.050926	0.133499
A	N2O_IDLEX	0	0	0	0	0.000579	0.001539	0.02402	0.13255086	0.013678	0	0	0.025995	0
A	N2O_RUNEX	0.004517	0.009516	0.005537	0.007168	0.036138	0.078716	0.152285	0.295493031	0.166825	0.202933551	0.038859	0.124283	0.072767
A	N2O_STREX	0.031132	0.03862	0.036088	0.038726	0.038447	0.022541	0.007862	7.71952E-07	0.010804	0.010808291	0.008671	0.004857	0.029453

Attachment 4: Project Construction and Operation Dispersion Modeling Inputs and Risk Calculations

888 Branston Road, San Carlos, 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 ($g/s/m^2$)
2023 + 2024	Construction	0.0810	CON_DPM	162.0	0.04930	6.21E-03	9,952	6.24E-07
Total		***0.0810***		***162.0***	***0.0493***	***0.0062***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

888 Branston Road, San Carlos, 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 $g/s/m^2$
2023 + 2024	Construction	CON_FUG	0.0157	31.4	0.00955	1.20E-03	9,952	1.21E-07
Total			***0.0157***	***31.4***	***0.0095***	***0.0012***		

Construction Hours

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

888 Bransten Road, San Carlos, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2023 + 2024	0.0137	0.0027	2.43	0.04	0.00	0.02
Total	-	-	**2.43**	**0.04**		-
Maximum	0.0137	0.0027	**-**	**-**	**0.00**	**0.02**

888 Bransten Road, San Carlos, 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		
				DPM Conc (ug/m3)	Age			Modeled DPM Conc (ug/m3)	Age				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2023 + 2024	0.0137	10	0.19	2023 + 2024	0.0137	-	-			
1	1	0 - 1	2023 + 2024	0.0137	10	2.25	2023 + 2024	0.0137	1	0.04	0.00	0.003	0.02
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**2.43**				**0.04**			

* Third trimester of pregnancy

Attachment 5: Cumulative Community Risk from Existing TAC Sources

888 Bransten Road, San Carlos, CA

Standby Emergency Generator Impacts
Off-site Sensitive Receptors
MEI Locations = 1.5 meter receptor height

DPM Emission Rates			
	DPM Emissions per Generator		
	Max Daily	Annual	
Source Type	(lb/day)	(lb/year)	
1,000kW Diesel-fired Generator	0.044	16.18	
CalEEMod DPM Emissions	8.09E-03	tons/year	

Modeling Information	
Model	AERMOD
Source	Diesel Generator Engine
Source Type	Point
Meteorological Data	2011 - 2015 San Carlos Airport Meteorological Data
Point Source Stack Parameters	
Generator Engine Size (hp)	1341
Stack Height (ft)	10.00
Stack Diameter (ft)**	0.60
Exhaust Gas Flowrate (CFM)*	2527.73
Stack Exit Velocity (ft/sec)**	149.00
Exhaust Temperature (˚F)**	872.00
Emissions Rate (lb/hr)	0.001847

* AERMOD default

**BAAQMD default generator parameters

888 Bransten Road, San Carlos, CA - Cancer Risks from Project Operation
Project Emergency Generators
Impacts at Off-Site Receptors- 1.5m MEI Receptor Heights
Impact at Project MEI (27-year Exposure)

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

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

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

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

	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

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0000	10	0.000				
1	1	0 - 1	2023	0.0000	10	0.000				
2	1	1 - 2	2024	0.0000	10	0.000				
3	1	2 - 3	2025	0.0004	3	0.009				
4	1	3 - 4	2026	0.0004	3	0.009		0.00007	0.0000	0.0004
5	1	4 - 5	2027	0.0004	3	0.009		0.00007	0.0000	0.0004
6	1	5 - 6	2028	0.0004	3	0.009		0.00007	0.0000	0.0004
7	1	6 - 7	2029	0.0004	3	0.009		0.00007	0.0000	0.0004
8	1	7 - 8	2030	0.0004	3	0.009		0.00007	0.0000	0.0004
9	1	8 - 9	2031	0.0004	3	0.009		0.00007	0.0000	0.0004
10	1	9 - 10	2032	0.0004	3	0.009		0.00007	0.0000	0.0004
11	1	10 - 11	2033	0.0004	3	0.009		0.00007	0.0000	0.0004
12	1	11 - 12	2034	0.0004	3	0.009		0.00007	0.0000	0.0004
13	1	12 - 13	2035	0.0004	3	0.009		0.00007	0.0000	0.0004
14	1	13 - 14	2036	0.0004	3	0.009		0.00007	0.0000	0.0004
15	1	14 - 15	2037	0.0004	3	0.009		0.00007	0.0000	0.0004
16	1	15 - 16	2038	0.0004	3	0.009		0.00007	0.0000	0.0004
17	1	16-17	2039	0.0004	1	0.001		0.00007	0.0000	0.0004
18	1	17-18	2040	0.0004	1	0.001		0.00007	0.0000	0.0004
19	1	18-19	2041	0.0004	1	0.001		0.00007	0.0000	0.0004
20	1	19-20	2042	0.0004	1	0.001		0.00007	0.0000	0.0004
21	1	20-21	2043	0.0004	1	0.001		0.00007	0.0000	0.0004
22	1	21-22	2044	0.0004	1	0.001		0.00007	0.0000	0.0004
23	1	22-23	2045	0.0004	1	0.001		0.00007	0.0000	0.0004
24	1	23-24	2046	0.0004	1	0.001		0.00007	0.0000	0.0004
25	1	24-25	2047	0.0004	1	0.001		0.00007	0.0000	0.0004
26	1	25-26	2048	0.0004	1	0.001		0.00007	0.0000	0.0004
27	1	26-27	2049	0.0004	1	0.001		0.00007	0.0000	0.0004
28	1	27-28	2050	0.0004	1	0.001		0.00007	0.0000	0.0004
29	1	28-29	2051	0.0004	1	0.001		0.00007	0.0000	0.0004
30	1	29-30	2052	0.0004	1	0.001		0.00007	0.0000	0.0004
Total Increased Cancer Risk						**0.14**	**Max**	**0.00007**	**0.0000**	**0.0004**

* Third trimester of pregnancy

File Name:	Local Roadways 2023.EF
CT-EMFAC2017 Version:	1.0.2.27401
Run Date:	8/17/2022 2:49:14 PM
Area:	San Mateo (SF)
Analysis Year:	2023
Season:	Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.017	0.482	0.518
Truck 2	0.014	0.870	0.113
Non-Truck	0.969	0.017	0.960

Road Type:	Major/Collector		
Silt Loading Factor:	CARB	0.032 g/m2	
Precipitation Correction:	CARB	P = 60 days	N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	35 mph
PM2.5	0.001407
TOG	0.036109
Diesel PM	0.000253

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.192095

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002046

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016805

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014874

END

File Name:	US101 2023.EF
CT-EMFAC2017 Version:	1.0.2.27401
Run Date:	8/17/2022 2:47:07 PM
Area:	San Mateo (SF)
Analysis Year:	2023
Season:	Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.030	0.482	0.518
Truck 2	0.019	0.870	0.113
Non-Truck	0.951	0.017	0.960

Road Type:	Freeway		
Silt Loading Factor:	CARB	0.015 g/m2	
Precipitation Correction:	CARB	P = 60 days	N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph
PM2.5	0.001265	0.001265	0.001327	0.001455	0.001659	0.001762
TOG	0.029414	0.028551	0.029127	0.031275	0.035326	0.038256
Diesel PM	0.000365	0.000398	0.000446	0.000507	0.000577	0.000577

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.212233

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002063

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.017204

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.007780

==========END==========

888 Bransten Road, San Carlos, CA - Off-Site Residential
Cumulative Operation - Industrial Road
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = **2023**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NB_IND	Industrial Road Northbound	NB	2	679.5	0.42	13.3	43.7	3.4	35	14,880
DPM_SB_IND	Industrial Road Southbound	SB	2	675.0	0.42	13.3	43.7	3.4	35	14,880
									Total	29,760

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00025			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and DPM Emissions - DPM_NB_IND

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.87%	576	1.71E-05	9	6.64%	988	2.93E-05	17	6.48%	964	2.86E-05
2	3.23%	480	1.42E-05	10	8.06%	1200	3.56E-05	18	3.90%	580	1.72E-05
3	2.58%	384	1.14E-05	11	6.32%	940	2.79E-05	19	2.28%	340	1.01E-05
4	0.97%	144	4.27E-06	12	7.61%	1132	3.36E-05	20	1.16%	172	5.10E-06
5	0.97%	144	4.27E-06	13	7.12%	1060	3.15E-05	21	2.74%	408	1.21E-05
6	2.26%	336	9.97E-06	14	6.64%	988	2.93E-05	22	4.84%	720	2.14E-05
7	4.52%	672	1.99E-05	15	6.16%	916	2.72E-05	23	3.39%	504	1.50E-05
8	3.25%	484	1.44E-05	16	4.22%	628	1.86E-05	24	0.81%	120	3.56E-06
								Total		14,880	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_IND

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.87%	576	1.70E-05	9	6.64%	988	2.91E-05	17	6.48%	964	2.84E-05
2	3.23%	480	1.41E-05	10	8.06%	1200	3.54E-05	18	3.90%	580	1.71E-05
3	2.58%	384	1.13E-05	11	6.32%	940	2.77E-05	19	2.28%	340	1.00E-05
4	0.97%	144	4.24E-06	12	7.61%	1132	3.34E-05	20	1.16%	172	5.07E-06
5	0.97%	144	4.24E-06	13	7.12%	1060	3.12E-05	21	2.74%	408	1.20E-05
6	2.26%	336	9.90E-06	14	6.64%	988	2.91E-05	22	4.84%	720	2.12E-05
7	4.52%	672	1.98E-05	15	6.16%	916	2.70E-05	23	3.39%	504	1.49E-05
8	3.25%	484	1.43E-05	16	4.22%	628	1.85E-05	24	0.81%	120	3.54E-06
								Total		14,880	

888 Bransten Road, San Carlos, CA - Off-Site Residential
Cumulative Operation - Industrial Road
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = **2023**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_NB_IND	Industrial Road Northbound	NB	2	679.5	0.42	13.3	44	1.3	35	14,880
PM2.5_SB_IND	Industrial Road Southbound	SB	2	675.0	0.42	13.3	44	1.3	35	14,880
									Total	29,760

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001407			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_IND

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	167	2.76E-05	9	7.12%	1059	1.75E-04	17	7.44%	1107	1.83E-04
2	0.41%	62	1.02E-05	10	4.38%	651	1.07E-04	18	8.23%	1225	2.02E-04
3	0.38%	56	9.25E-06	11	4.65%	692	1.14E-04	19	5.73%	852	1.41E-04
4	0.18%	26	4.32E-06	12	5.89%	876	1.45E-04	20	4.30%	640	1.06E-04
5	0.45%	68	1.12E-05	13	6.17%	918	1.51E-04	21	3.25%	484	7.98E-05
6	0.85%	126	2.08E-05	14	6.05%	900	1.49E-04	22	3.31%	493	8.14E-05
7	3.73%	556	9.17E-05	15	7.06%	1051	1.73E-04	23	2.49%	370	6.10E-05
8	7.76%	1155	1.91E-04	16	7.18%	1069	1.76E-04	24	1.87%	278	4.60E-05
								Total		14,880	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_IND

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	167	2.74E-05	9	7.12%	1059	1.74E-04	17	7.44%	1107	1.81E-04
2	0.41%	62	1.01E-05	10	4.38%	651	1.07E-04	18	8.23%	1225	2.01E-04
3	0.38%	56	9.19E-06	11	4.65%	692	1.13E-04	19	5.73%	852	1.40E-04
4	0.18%	26	4.30E-06	12	5.89%	876	1.44E-04	20	4.30%	640	1.05E-04
5	0.45%	68	1.11E-05	13	6.17%	918	1.50E-04	21	3.25%	484	7.93E-05
6	0.85%	126	2.07E-05	14	6.05%	900	1.48E-04	22	3.31%	493	8.08E-05
7	3.73%	556	9.11E-05	15	7.06%	1051	1.72E-04	23	2.49%	370	6.06E-05
8	7.76%	1155	1.89E-04	16	7.18%	1069	1.75E-04	24	1.87%	278	4.57E-05
								Total		14,880	

888 Bransten Road, San Carlos, CA - Off-Site Residential
Cumulative Operation - Industrial Road
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_NB_IND	Industrial Road Northbound	NB	2	679.5	0.42	13.3	44	1.3	35	14,880
TEXH_SB_IND	Industrial Road Southbound	SB	2	675.0	0.42	13.3	44	1.3	35	14,880
									Total	29,760

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.03611			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_IND

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	167	7.07E-04	9	7.12%	1059	4.49E-03	17	7.44%	1107	4.69E-03
2	0.41%	62	2.61E-04	10	4.38%	651	2.76E-03	18	8.23%	1225	5.19E-03
3	0.38%	56	2.37E-04	11	4.65%	692	2.93E-03	19	5.73%	852	3.61E-03
4	0.18%	26	1.11E-04	12	5.89%	876	3.71E-03	20	4.30%	640	2.71E-03
5	0.45%	68	2.86E-04	13	6.17%	918	3.89E-03	21	3.25%	484	2.05E-03
6	0.85%	126	5.34E-04	14	6.05%	900	3.81E-03	22	3.31%	493	2.09E-03
7	3.73%	556	2.35E-03	15	7.06%	1051	4.45E-03	23	2.49%	370	1.57E-03
8	7.76%	1155	4.89E-03	16	7.18%	1069	4.53E-03	24	1.87%	278	1.18E-03
								Total		14,880	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_IND

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	167	7.02E-04	9	7.12%	1059	4.46E-03	17	7.44%	1107	4.66E-03
2	0.41%	62	2.59E-04	10	4.38%	651	2.74E-03	18	8.23%	1225	5.15E-03
3	0.38%	56	2.36E-04	11	4.65%	692	2.91E-03	19	5.73%	852	3.58E-03
4	0.18%	26	1.10E-04	12	5.89%	876	3.69E-03	20	4.30%	640	2.69E-03
5	0.45%	68	2.85E-04	13	6.17%	918	3.86E-03	21	3.25%	484	2.04E-03
6	0.85%	126	5.31E-04	14	6.05%	900	3.79E-03	22	3.31%	493	2.07E-03
7	3.73%	556	2.34E-03	15	7.06%	1051	4.42E-03	23	2.49%	370	1.56E-03
8	7.76%	1155	4.86E-03	16	7.18%	1069	4.50E-03	24	1.87%	278	1.17E-03
								Total		14,880	

888 Bransten Road, San Carlos, CA - Off-Site Residential
Cumulative Operation - Industrial Road
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_NB_IND	Industrial Road Northbound	NB	2	679.5	0.42	13.3	44	1.3	35	14,880
TEVAP_SB_IND	Industrial Road Southbound	SB	2	675.0	0.42	13.3	44	1.3	35	14,880
									Total	29,760

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.19210			
Emissions per Vehicle per Mile (g/VMT)	0.03406			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_IND

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	167	6.67E-04	9	7.12%	1059	4.23E-03	17	7.44%	1107	4.42E-03
2	0.41%	62	2.46E-04	10	4.38%	651	2.60E-03	18	8.23%	1225	4.89E-03
3	0.38%	56	2.24E-04	11	4.65%	692	2.76E-03	19	5.73%	852	3.40E-03
4	0.18%	26	1.05E-04	12	5.89%	876	3.50E-03	20	4.30%	640	2.56E-03
5	0.45%	68	2.70E-04	13	6.17%	918	3.67E-03	21	3.25%	484	1.93E-03
6	0.85%	126	5.04E-04	14	6.05%	900	3.60E-03	22	3.31%	493	1.97E-03
7	3.73%	556	2.22E-03	15	7.06%	1051	4.20E-03	23	2.49%	370	1.48E-03
8	7.76%	1155	4.61E-03	16	7.18%	1069	4.27E-03	24	1.87%	278	1.11E-03
								Total		14,880	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_IND

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	167	6.63E-04	9	7.12%	1059	4.20E-03	17	7.44%	1107	4.39E-03
2	0.41%	62	2.44E-04	10	4.38%	651	2.59E-03	18	8.23%	1225	4.86E-03
3	0.38%	56	2.22E-04	11	4.65%	692	2.74E-03	19	5.73%	852	3.38E-03
4	0.18%	26	1.04E-04	12	5.89%	876	3.48E-03	20	4.30%	640	2.54E-03
5	0.45%	68	2.68E-04	13	6.17%	918	3.64E-03	21	3.25%	484	1.92E-03
6	0.85%	126	5.01E-04	14	6.05%	900	3.57E-03	22	3.31%	493	1.96E-03
7	3.73%	556	2.21E-03	15	7.06%	1051	4.17E-03	23	2.49%	370	1.47E-03
8	7.76%	1155	4.58E-03	16	7.18%	1069	4.24E-03	24	1.87%	278	1.11E-03
								Total		14,880	

888 Bransten Road, San Carlos, CA - Off-Site Residential
Cumulative Operation - Industrial Road
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = **2023**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_NB_IND	Industrial Road Northbound	NB	2	679.5	0.42	13.3	44	1.3	35	14,880
FUG_SB_IND	Industrial Road Southbound	SB	2	675.0	0.42	13.3	44	1.3	35	14,880
									Total	29,760

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00205			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03373			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_IND

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	167	6.60E-04	9	7.12%	1059	4.19E-03	17	7.44%	1107	4.38E-03
2	0.41%	62	2.43E-04	10	4.38%	651	2.58E-03	18	8.23%	1225	4.84E-03
3	0.38%	56	2.22E-04	11	4.65%	692	2.74E-03	19	5.73%	852	3.37E-03
4	0.18%	26	1.04E-04	12	5.89%	876	3.47E-03	20	4.30%	640	2.53E-03
5	0.45%	68	2.68E-04	13	6.17%	918	3.63E-03	21	3.25%	484	1.91E-03
6	0.85%	126	4.99E-04	14	6.05%	900	3.56E-03	22	3.31%	493	1.95E-03
7	3.73%	556	2.20E-03	15	7.06%	1051	4.16E-03	23	2.49%	370	1.46E-03
8	7.76%	1155	4.57E-03	16	7.18%	1069	4.23E-03	24	1.87%	278	1.10E-03
								Total		14,880	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_IND

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	167	6.56E-04	9	7.12%	1059	4.16E-03	17	7.44%	1107	4.35E-03
2	0.41%	62	2.42E-04	10	4.38%	651	2.56E-03	18	8.23%	1225	4.81E-03
3	0.38%	56	2.20E-04	11	4.65%	692	2.72E-03	19	5.73%	852	3.35E-03
4	0.18%	26	1.03E-04	12	5.89%	876	3.44E-03	20	4.30%	640	2.52E-03
5	0.45%	68	2.66E-04	13	6.17%	918	3.61E-03	21	3.25%	484	1.90E-03
6	0.85%	126	4.96E-04	14	6.05%	900	3.54E-03	22	3.31%	493	1.94E-03
7	3.73%	556	2.18E-03	15	7.06%	1051	4.13E-03	23	2.49%	370	1.45E-03
8	7.76%	1155	4.54E-03	16	7.18%	1069	4.20E-03	24	1.87%	278	1.09E-03
								Total		14,880	

888 Bransten Rd, San Carlos, CA - Off-Site Residential
Cumulative Operation - Highway 101
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NB_101	Highway 101 Northbound	NB	4	679.9	0.42	20.6	67.7	3.4	63	89,760
DPM_SB_101	Highway 101 Southbound	SB	4	686.2	0.43	20.6	67.7	3.4	68	89,760
									Total	179,520

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	70	65	60	45
Emissions per Vehicle (g/VMT)	0.00058	0.000577	0.000507	0.000365

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and DPM Emissions - DPM_NB_101

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.55%	1395	9.44E-05	9	5.01%	4493	3.04E-04	17	6.79%	6092	2.61E-04
2	1.23%	1108	7.50E-05	10	5.01%	4494	3.04E-04	18	6.40%	5741	2.46E-04
3	1.12%	1005	6.81E-05	11	5.31%	4765	2.84E-04	19	5.50%	4940	3.35E-04
4	1.14%	1024	6.93E-05	12	5.78%	5187	3.09E-04	20	4.80%	4307	2.92E-04
5	1.49%	1341	9.08E-05	13	6.11%	5482	3.26E-04	21	4.06%	3643	2.47E-04
6	2.49%	2235	1.51E-04	14	6.29%	5648	3.36E-04	22	3.38%	3037	2.06E-04
7	3.59%	3223	2.18E-04	15	6.69%	6002	2.57E-04	23	2.68%	2408	1.63E-04
8	4.68%	4205	2.85E-04	16	6.87%	6166	2.64E-04	24	2.03%	1820	1.23E-04
								Total		89,760	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.49%	1338	9.14E-05	9	5.37%	4820	3.29E-04	17	6.15%	5525	3.78E-04
2	1.13%	1010	6.91E-05	10	5.38%	4825	3.30E-04	18	5.92%	5310	3.63E-04
3	1.01%	907	6.20E-05	11	5.65%	5075	3.47E-04	19	5.25%	4709	3.22E-04
4	1.05%	939	6.41E-05	12	5.71%	5129	3.51E-04	20	4.55%	4082	2.79E-04
5	1.60%	1433	9.79E-05	13	5.85%	5249	3.59E-04	21	3.95%	3549	2.43E-04
6	2.99%	2684	1.83E-04	14	6.00%	5384	3.68E-04	22	3.57%	3205	2.19E-04
7	4.47%	4010	2.74E-04	15	6.29%	5647	3.86E-04	23	2.91%	2613	1.79E-04
8	5.31%	4762	3.25E-04	16	6.27%	5632	3.85E-04	24	2.14%	1924	1.31E-04
								Total		89,760	

888 Bransten Rd, San Carlos, CA - Off-Site Residential
Cumulative Operation - Highway 101
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_NB_101	Highway 101 Northbound	NB	4	679.9	0.42	20.6	68	1.3	62.708333	89,760
PM2.5_SB_101	Highway 101 Southbound	SB	4	686.2	0.43	20.6	68	1.3	67.916667	89,760
									Total	179,520

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	70	65	60	45
Emissions per Vehicle (g/VMT)	0.001762	0.00166	0.001455	0.001265

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_101

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.55%	1395	2.88E-04	9	5.01%	4493	8.75E-04	17	6.79%	6092	9.04E-04
2	1.23%	1108	2.29E-04	10	5.01%	4494	8.75E-04	18	6.40%	5741	8.52E-04
3	1.12%	1005	2.08E-04	11	5.31%	4765	8.14E-04	19	5.50%	4940	9.62E-04
4	1.14%	1024	2.12E-04	12	5.78%	5187	8.86E-04	20	4.80%	4307	8.39E-04
5	1.49%	1341	2.77E-04	13	6.11%	5482	9.36E-04	21	4.06%	3643	7.53E-04
6	2.49%	2235	4.35E-04	14	6.29%	5648	9.64E-04	22	3.38%	3037	6.28E-04
7	3.59%	3223	6.27E-04	15	6.69%	6002	8.91E-04	23	2.68%	2408	4.98E-04
8	4.68%	4205	8.19E-04	16	6.87%	6166	9.15E-04	24	2.03%	1820	3.76E-04
								Total		89,760	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.49%	1338	2.79E-04	9	5.37%	4820	1.01E-03	17	6.15%	5525	1.09E-03
2	1.13%	1010	2.11E-04	10	5.38%	4825	9.48E-04	18	5.92%	5310	1.04E-03
3	1.01%	907	1.89E-04	11	5.65%	5075	9.97E-04	19	5.25%	4709	9.25E-04
4	1.05%	939	1.96E-04	12	5.71%	5129	1.01E-03	20	4.55%	4082	8.52E-04
5	1.60%	1433	2.99E-04	13	5.85%	5249	1.03E-03	21	3.95%	3549	7.41E-04
6	2.99%	2684	5.60E-04	14	6.00%	5384	1.06E-03	22	3.57%	3205	6.69E-04
7	4.47%	4010	8.37E-04	15	6.29%	5647	1.11E-03	23	2.91%	2613	5.45E-04
8	5.31%	4762	9.94E-04	16	6.27%	5632	1.11E-03	24	2.14%	1924	4.02E-04
								Total		89,760	

888 Bransten Rd, San Carlos, CA - Off-Site Residential
Cumulative Operation - Highway 101
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_NB_101	Highway 101 Northbound	NB	4	679.9	0.42	20.6	68	1.3	62.708333	89,760
TEXH_SB_101	Highway 101 Southbound	SB	4	686.2	0.43	20.6	68	1.3	67.916667	89,760
									Total	179,520

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	70	65	60	45
Emissions per Vehicle (g/VMT)	0.03826	0.03533	0.03128	0.02941

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_101

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.55%	1395	6.26E-03	9	5.01%	4493	1.86E-02	17	6.79%	6092	2.10E-02
2	1.23%	1108	4.97E-03	10	5.01%	4494	1.86E-02	18	6.40%	5741	1.98E-02
3	1.12%	1005	4.51E-03	11	5.31%	4765	1.75E-02	19	5.50%	4940	2.05E-02
4	1.14%	1024	4.60E-03	12	5.78%	5187	1.90E-02	20	4.80%	4307	1.79E-02
5	1.49%	1341	6.02E-03	13	6.11%	5482	2.01E-02	21	4.06%	3643	1.64E-02
6	2.49%	2235	9.26E-03	14	6.29%	5648	2.07E-02	22	3.38%	3037	1.36E-02
7	3.59%	3223	1.34E-02	15	6.69%	6002	2.07E-02	23	2.68%	2408	1.08E-02
8	4.68%	4205	1.74E-02	16	6.87%	6166	2.13E-02	24	2.03%	1820	8.17E-03
								Total		89,760	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.49%	1338	6.06E-03	9	5.37%	4820	2.18E-02	17	6.15%	5525	2.31E-02
2	1.13%	1010	4.58E-03	10	5.38%	4825	2.02E-02	18	5.92%	5310	2.22E-02
3	1.01%	907	4.11E-03	11	5.65%	5075	2.12E-02	19	5.25%	4709	1.97E-02
4	1.05%	939	4.25E-03	12	5.71%	5129	2.15E-02	20	4.55%	4082	1.85E-02
5	1.60%	1433	6.49E-03	13	5.85%	5249	2.20E-02	21	3.95%	3549	1.61E-02
6	2.99%	2684	1.22E-02	14	6.00%	5384	2.25E-02	22	3.57%	3205	1.45E-02
7	4.47%	4010	1.82E-02	15	6.29%	5647	2.36E-02	23	2.91%	2613	1.18E-02
8	5.31%	4762	2.16E-02	16	6.27%	5632	2.36E-02	24	2.14%	1924	8.72E-03
								Total		89,760	

888 Bransten Rd, San Carlos, CA - Off-Site Residential
Cumulative Operation - Highway 101
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_NB_101	Highway 101 Northbound	NB	4	679.9	0.42	20.6	68	1.3	62.708333	89,760
TEVAP_SB_101	Highway 101 Southbound	SB	4	686.2	0.43	20.6	68	1.3	67.916667	89,760
									Total	179,520

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	70	65	60	45
Emissions per Vehicle per Hour (g/hour)	1.21223	1.21223	1.21223	1.21223
Emissions per Vehicle per Mile (g/VMT)	0.01732	0.01865	0.02020	0.02694

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_101

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.55%	1395	2.83E-03	9	5.01%	4493	9.83E-03	17	6.79%	6092	1.93E-02
2	1.23%	1108	2.25E-03	10	5.01%	4494	9.84E-03	18	6.40%	5741	1.81E-02
3	1.12%	1005	2.04E-03	11	5.31%	4765	1.13E-02	19	5.50%	4940	1.08E-02
4	1.14%	1024	2.08E-03	12	5.78%	5187	1.23E-02	20	4.80%	4307	9.43E-03
5	1.49%	1341	2.72E-03	13	6.11%	5482	1.30E-02	21	4.06%	3643	7.40E-03
6	2.49%	2235	4.89E-03	14	6.29%	5648	1.34E-02	22	3.38%	3037	6.17E-03
7	3.59%	3223	7.05E-03	15	6.69%	6002	1.90E-02	23	2.68%	2408	4.89E-03
8	4.68%	4205	9.20E-03	16	6.87%	6166	1.95E-02	24	2.03%	1820	3.70E-03
								Total		89,760	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.49%	1338	2.74E-03	9	5.37%	4820	9.89E-03	17	6.15%	5525	1.22E-02
2	1.13%	1010	2.07E-03	10	5.38%	4825	1.07E-02	18	5.92%	5310	1.17E-02
3	1.01%	907	1.86E-03	11	5.65%	5075	1.12E-02	19	5.25%	4709	1.04E-02
4	1.05%	939	1.93E-03	12	5.71%	5129	1.13E-02	20	4.55%	4082	8.37E-03
5	1.60%	1433	2.94E-03	13	5.85%	5249	1.16E-02	21	3.95%	3549	7.28E-03
6	2.99%	2684	5.51E-03	14	6.00%	5384	1.19E-02	22	3.57%	3205	6.57E-03
7	4.47%	4010	8.22E-03	15	6.29%	5647	1.25E-02	23	2.91%	2613	5.36E-03
8	5.31%	4762	9.77E-03	16	6.27%	5632	1.24E-02	24	2.14%	1924	3.95E-03
								Total		89,760	

888 Bransten Rd, San Carlos, CA - Off-Site Residential
Cumulative Operation - Highway 101
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_NB_101	Highway 101 Northbound	NB	4	679.9	0.42	20.6	68	1.3	62.708333	89,760
FUG_SB_101	Highway 101 Southbound	SB	4	686.2	0.43	20.6	68	1.3	67.916667	89,760
									Total	179,520

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	70	65	60	45
Tire Wear - Emissions per Vehicle (g/VMT)	0.00206	0.00206	0.00206	0.00206
Brake Wear - Emissions per Vehicle (g/VMT)	0.01720	0.01720	0.01720	0.01720
Road Dust - Emissions per Vehicle (g/VMT)	0.00778	0.00778	0.00778	0.00778
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02705	0.02705	0.02705	0.02705

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_101

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.55%	1395	4.43E-03	9	5.01%	4493	1.43E-02	17	6.79%	6092	1.93E-02
2	1.23%	1108	3.52E-03	10	5.01%	4494	1.43E-02	18	6.40%	5741	1.82E-02
3	1.12%	1005	3.19E-03	11	5.31%	4765	1.51E-02	19	5.50%	4940	1.57E-02
4	1.14%	1024	3.25E-03	12	5.78%	5187	1.65E-02	20	4.80%	4307	1.37E-02
5	1.49%	1341	4.25E-03	13	6.11%	5482	1.74E-02	21	4.06%	3643	1.16E-02
6	2.49%	2235	7.09E-03	14	6.29%	5648	1.79E-02	22	3.38%	3037	9.64E-03
7	3.59%	3223	1.02E-02	15	6.69%	6002	1.91E-02	23	2.68%	2408	7.64E-03
8	4.68%	4205	1.33E-02	16	6.87%	6166	1.96E-02	24	2.03%	1820	5.78E-03
								Total		89,760	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.49%	1338	4.29E-03	9	5.37%	4820	1.54E-02	17	6.15%	5525	1.77E-02
2	1.13%	1010	3.24E-03	10	5.38%	4825	1.55E-02	18	5.92%	5310	1.70E-02
3	1.01%	907	2.90E-03	11	5.65%	5075	1.63E-02	19	5.25%	4709	1.51E-02
4	1.05%	939	3.01E-03	12	5.71%	5129	1.64E-02	20	4.55%	4082	1.31E-02
5	1.60%	1433	4.59E-03	13	5.85%	5249	1.68E-02	21	3.95%	3549	1.14E-02
6	2.99%	2684	8.60E-03	14	6.00%	5384	1.72E-02	22	3.57%	3205	1.03E-02
7	4.47%	4010	1.28E-02	15	6.29%	5647	1.81E-02	23	2.91%	2613	8.37E-03
8	5.31%	4762	1.53E-02	16	6.27%	5632	1.80E-02	24	2.14%	1924	6.16E-03
								Total		89,760	

888 Bransten Road, San Carlos, CA - Highway 101 Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2023
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions

BAAQMD San Carlos Airport Met Data	2011 - 2015
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2011 - 2015	0.0051	0.3312	0.1679

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2011 - 2015	0.2618	0.2465	0.0153

888 Bransten Road, San Carlos, CA - Industrial Road Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2023
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAAQMD San Carlos Airport Met Data	2011 - 2015
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction School MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2011 - 2015	0.0036	0.5552	0.5234

Construction School MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2011 - 2015	0.5422	0.5206	0.0216

888 Bransten Road, San Carlos, CA - Highway 101 Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

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

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

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

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

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

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

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
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

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2023	10	0.0051	0.3312	0.1679	0.069	0.026	0.0008	0.10
1	1	0 - 1	2023	10	0.0051	0.3312	0.1679	0.833	0.311	0.0093	1.15
2	1	1 - 2	2024	10	0.0051	0.3312	0.1679	0.833	0.311	0.0093	1.15
3	1	2 - 3	2025	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
4	1	3 - 4	2026	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
5	1	4 - 5	2027	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
6	1	5 - 6	2028	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
7	1	6 - 7	2029	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
8	1	7 - 8	2030	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
9	1	8 - 9	2031	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
10	1	9 - 10	2032	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
11	1	10 - 11	2033	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
12	1	11 - 12	2034	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
13	1	12 - 13	2035	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
14	1	13 - 14	2036	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
15	1	14 - 15	2037	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
16	1	15 - 16	2038	3	0.0051	0.3312	0.1679	0.131	0.049	0.0015	0.18
17	1	16-17	2039	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
18	1	17-18	2040	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
19	1	18-19	2041	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
20	1	19-20	2042	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
21	1	20-21	2043	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
22	1	21-22	2044	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
23	1	22-23	2045	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
24	1	23-24	2046	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
25	1	24-25	2047	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
26	1	25-26	2048	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
27	1	26-27	2049	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
28	1	27-28	2050	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
29	1	28-29	2051	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
30	1	29-30	2052	1	0.0051	0.3312	0.1679	0.015	0.005	0.0002	0.02
Total Increased Cancer Risk								3.77	1.407	0.042	**5.22**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00101	0.25	0.26

* Third trimester of pregnancy

888 Bransten Road, San Carlos, CA - Industrial Road Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

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

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

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

Where: C_{air} = concentration in air $(\mu g/m^3)$
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

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

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

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
8-Hr BR* =	361	1200	520	240
A =	1	1	1	1
EF =	250	250	250	250
AT =	70	70	70	70
FAH =	1.00	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

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	1	-0.25 - 0*	2022	10	0.0036	0.5552	0.5234	0.138	0.123	0.0068	0.27
1	1	0 - 1	2023	10	0.0036	0.5552	0.5234	0.459	0.409	0.0227	0.89
2	1	1 - 2	2024	10	0.0036	0.5552	0.5234	0.459	0.409	0.0227	0.89
3	1	2 - 3	2025	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
4	1	3 - 4	2026	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
5	1	4 - 5	2027	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
6	1	5 - 6	2028	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
7	1	6 - 7	2029	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
8	1	7 - 8	2030	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
9	1	8 - 9	2031	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
10	1	9 - 10	2032	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
11	1	10 - 11	2033	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
12	1	11 - 12	2034	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
13	1	12 - 13	2035	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
14	1	13 - 14	2036	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
15	1	14 - 15	2037	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
16	1	15 - 16	2038	3	0.0036	0.5552	0.5234	0.222	0.199	0.0110	0.43
17	1	16-17	2039	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
18	1	17-18	2040	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
19	1	18-19	2041	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
20	1	19-20	2042	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
21	1	20-21	2043	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
22	1	21-22	2044	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
23	1	22-23	2045	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
24	1	23-24	2046	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
25	1	24-25	2047	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
26	1	25-26	2048	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
27	1	26-27	2049	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
28	1	27-28	2050	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
29	1	28-29	2051	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
30	1	29-30	2052	1	0.0036	0.5552	0.5234	0.009	0.008	0.0005	0.02
Total Increased Cancer Risk								4.296	3.836	0.213	**8.34**

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0007	0.52	0.54

* Third trimester of pregnancy

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	**5/17/2022**
Contact Name	Zachary Palm
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x117
Email	zpalm@illingworthrodkin.com
Project Name	888 Bransten Road
Address	888 Bransten Road
City	San Carlos
County	San Mateo
Type (residential, commercial, mixed use, industrial, etc.)	Office/R&D
Project Size (# of units or building square feet)	105.416-sf
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 E[illegible] 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 [illegible]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.

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

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	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
260	3763	Superior Body Shop	747 Industrial Rd		0.00			Auto Body Coating Operation		2018 Dataset	0.58	0.00	0.001	0.00
150	5337	Midland Cabinet Co	719 Industrial Road	0.00	0.00	0.01		(1) Wood Working Shop, (1) Spraybooth		2018 Dataset	0.70	0.00	0.000	0.01
1000+	23147	Hudson Pacific Properties	959 Skyway Rd, Suite 100	1.92	0.00	0.00		Generators		2018 Dataset	0.04	0.08	0.000	0.00
1000+	23383	Greenmarc, LLC	1007 Bransten Road	0.16	0.00			(1) Sub-slab Vapor Mitigation System		2018 Dataset	0.13	0.02	0.000	0.00
500	23794	Caliber Collision Center	794 Industrial Road	0.00	0.00	0.00		(1) Auto Body Coating Operation		2018 Dataset	0.35	0.00	0.000	0.00
640	108501	City of San Carlos - Corporation Yard	1000 Bransten Rd	9.42	0.00	0.01		Gas Dispensing Facility		2018 Dataset	0.03	0.28	0.000	0.00
480	200837	MBC Biolabs	733 INDUSTRIAL RD	3.02	0.00	0.00		Generators		2018 Dataset	0.14	0.42	0.000	0.00
1000+	20582	Nxedge San Carlos	1000 Commercial Street	0.75	0.00	0.06		(1) Generator, (2) Boilers, (2) Colvent Cleaning operations		2018 Dataset	0.13	0.10	0.000	0.01
1000+	21826	Sutro BioPharma	894 Industrial Road	15.48	0.01	0.02		Generators		2018 Dataset	0.04	0.62	0.000	0.00

Footnotes:

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

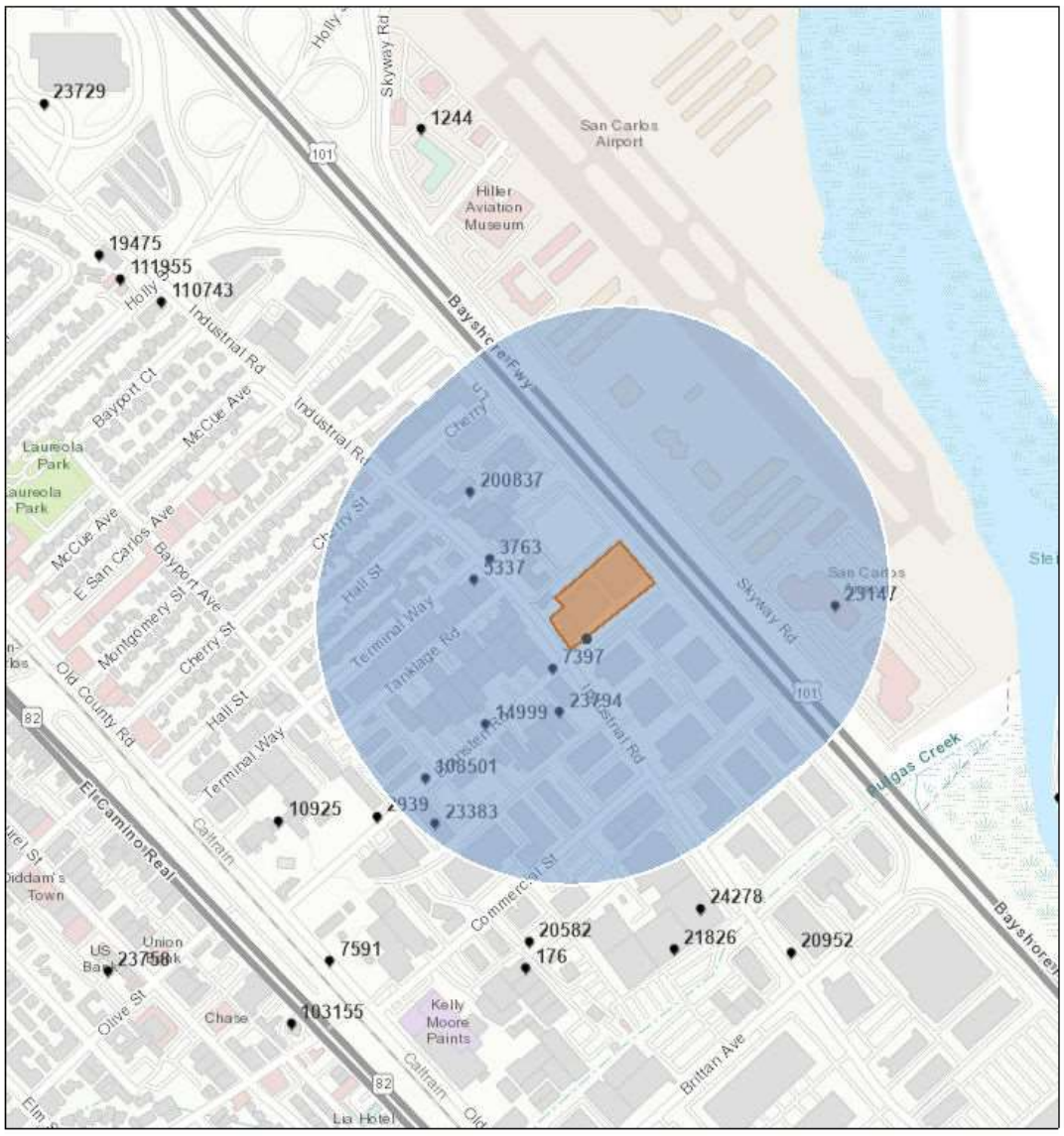
Date last updated:
03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 4,528,833.82 ft²

May 17 2022 15:03:47 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	9	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	3763	Superior Body Shop	747 Industrial Rd	San Carlos	CA
2	5337	Midland Cabinet Co	719 Industrial Road	San Carlos	CA
3	7397	San Carlos Radiator	777 Industrial Road	San Carlos	CA
4	14999	Superior Body Shop	956 Bransten Rd	San Carlos	CA
5	23147	Hudson Pacific Properties	959 Skyway Rd, Suite 100	San Carlos	CA
6	23383	Greenmarc, LLC	1007 Bransten Road	San Carlos	CA
7	23794	Caliber Collision Center	794 Industrial Road	San Carlos	CA
8	108501	City of San Carlos - Corporation Yard	1000 Bransten Rd	San Carlos	CA
9	200837	MBC Biolabs	733 INDUSTRIAL RD	SAN CARLOS	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	94070	San Mateo	0.000	0.000	0.000	Contact BAAQMD	1
2	94070	San Mateo	0.000	0.000	0.010	Contact BAAQMD	1
3	94070	San Mateo	0.000	0.000	0.000	Contact BAAQMD	1
4	94070	San Mateo	0.000	0.000	0.000	Contact BAAQMD	1
5	94070	San Mateo	1.920	0.000	0.000	Generators	1
6	94070	San Mateo	0.160	0.000	0.000	Contact BAAQMD	1
7	94070	San Mateo	0.000	0.000	0.000	Contact BAAQMD	1
8	94070	San Mateo	9.420	0.000	0.010	Gas Dispensing Facility	1
9	94070	San Mateo	3.020	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.