APPENDIX A
Air Quality Assessment

SECOND HARVEST FOOD BANK AIR QUALITY ASSESSMENT

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Introduction

The purpose of this report is to address air quality impacts associated with the proposed industrial project located at 4553 & 4653 North First Street in San Jose, California. The air quality impacts and greenhouse gas (GHG) emissions from this project would be associated with construction of the new buildings and operation of the project. Air pollutant 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 (including construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. Energy consumption based on the results of the air quality and GHG emissions modeling is also provided. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The proposed project is applying for a Planned Development Rezoning and Permit from the City of San Jose. The project site is part of a larger 152-acre approved development site that was the subject of an EIR (i.e., Cisco Site 6 Environmental Impact Report), and the approved land use entitlements adopted in 2000 allow for 2.325 million square feet (s.f). of office research and development use. The entitlements included a Planned Development Rezoning (File No. PDCSH99-054) and a Development Agreement. The EIR identified a set of mitigation measures to avoid or substantially reduce environmental impacts, and as initial portions have been implemented, the project's impacts have been mitigated and monitored for compliance with the applicable success criteria.

This project site is a 10.47-acre part of a larger 28.5-acre site development that was approved in 2013 that included four research and development office buildings totaling approximately 614,809 s.f. Two of the approved office buildings have been constructed. The project is proposing to construct a total of 249.230 square feet of building space including a 85,680 square foot one story warehouse (Building 1), 103,239 square foot one-story warehouse (Building 2), a 20,684 square foot one-story building connection area. A 39,627 square foot office space would be included in Building 1 and the building connection area. The maximum height of the buildings is 41 feet above the ground surface at the top of the roof/wall and 47.5 feet above the ground surface at the top of the roof screen. The project would include landscaping, including trees, around the building and site perimeter. The site would include an outdoor amenity space including outdoor tables and seating between Buildings 1 and 2.

The project site would be accessed via two new 26-foot wide driveways on North First Street. The project would include a surface parking lot with 161 vehicular parking stalls, including 35 truck parking spaces. The project would also include 25 truck loading docks (nine at Building 1 and 16 at Building 2).

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

Setting

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

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (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 emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

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

assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children.

The closest sensitive receptors to the project site are the George Mayne Elementary School that is directly across N. First Street, the Alviso Youth Center that is adjacent to the school, and single-family residences further to the northwest. The Balaji Temple across N. First Street appears to contain a residence.

George Mayne Elementary School, which has classrooms or play areas about 170 feet north of the project site, serves preschool and school children that are 3 to 11 years in age. The youth center adjacent to the school, which is 300 feet northwest of the project site, is assumed to serve a similar age range of children. Single family homes, which are about 770 feet or further away, are assumed to include infants, children, and adult sensitive receptors. Figure 1 is an aerial photo of the site and surrounding environment. The wind rose overlaid on the figure depicts the general wind flow in the area, which is from the northwest.

Regulatory Setting

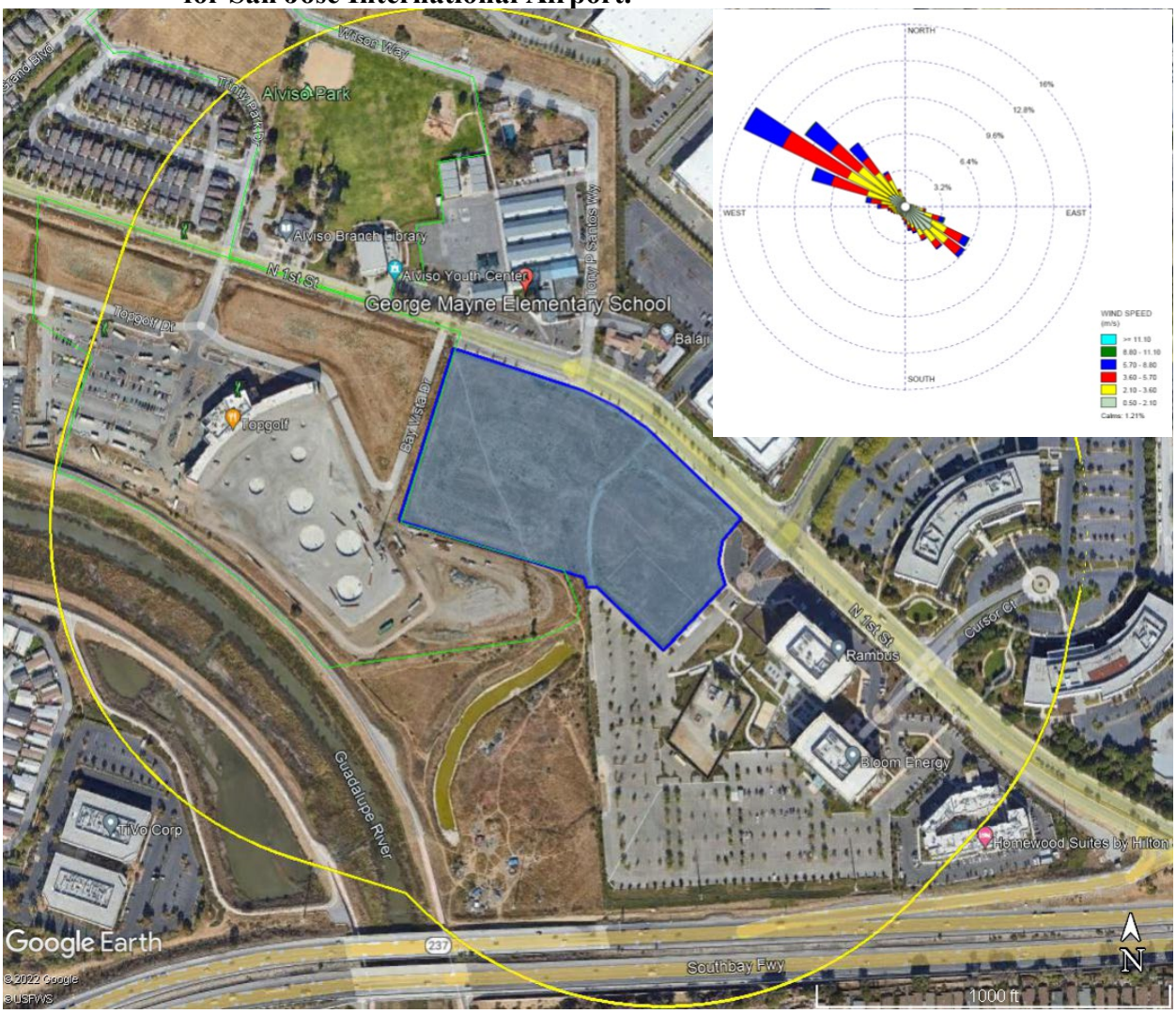
Federal Regulations

National Ambient Air Quality Standards (NAAQS) for criteria air pollutants are established by the United States Environmental Protection Agency (EPA). Where the standards are not met, States are required to develop a State Implementation Plan (SIP) to demonstrate a plan to meet the standard or show progress toward meeting the standard. EPA also establishes nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

[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.

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]

Figure 1. Second Harvest Food Bank Site with 1,000-foot Environment and Wind Rose for San Jose International Airport.



In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new

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

standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all diesel 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 Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the State Implementation Plan (SIP). Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the state endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the state standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range

of activities using diesel-fueled engines.[4] CARB subsequently developed an Air Quality and Land Use Handbook[5] (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Truck and Bus Regulation

CARB is actively enforcing heavy-duty diesel vehicle regulations that require fleets to replace or retrofit heavy-duty diesel vehicles (i.e., "Truck and Bus Regulation"), with full implementation of the program scheduled for January 1, 2023. Compliance with the program is generally considered

[4] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.
[5] California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

if vehicles are equipped with a 2010 or newer engine model year. As of January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

Other CARB diesel programs affecting heavy-duty diesel vehicles include:

- Idling limits of no more than 5 minutes with special exceptions.
- Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.
- The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.
- The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free.

Transport Refrigeration Units

Transport Refrigeration Units (TRU) are refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including truck vans, semi-truck trailers, shipping containers, and railcars. TRU engines are relatively small, ranging from 9 to 36 horsepower (hp). CARB adopted (in 2004 with amendments in 2010 and 2011) an Airborne Toxic Control Measure (ATCM) for TRUs, TRU generator sets, and facilities where TRUs and TRU generator sets operate. The TRU ATCM requires in-use TRU and TRU generator set engines that operate in California, to meet in-use performance standards that vary by horsepower range. All TRUs must meet the Ultra-Low Emission In-Use Performance Standards that are equivalent to CARB's Level 3 Verified Diesel Emission Control Strategy (VDECS) that requires at least an 85-percent reduction in particulate matter exhaust emissions.

Owners of TRUs based in California are required to register their TRUs by applying for aCARB identification number (IDN) for each TRU. Operators of terminals located in California are also required to submit an initial Operator Report to CARB that provides information about the terminal and lists the IDNs of all TRUs assigned to the terminal. Owners are responsible for ensuring that TRU engines meet in-use performance standards by using U.S. EPA Tier 4 final emission standards or installing the required level of verified diesel emission control strategy (VDECS) or using an Alternative Technology. Information regarding TRU emissions is published by CARB[6,7].

[6] CARB. 2011. *Frequently Asked Questions for Operators of TRUs and TRU Generator Sets, and Facilities Where TRUs Operate*. Last updated in January 2011. See https://ww2.arb.ca.gov/sites/default/files/classic/diesel/tru/documents/faq.pdf?_ga=2.87010590.708001769.1642533517-106250637.1504031780 accessed 1/20/2022.

[7] CARB 2019. Draft 2019 Update to Emissions Inventory for Transport Refrigeration Units. October 2019. See https://ww2.arb.ca.gov/sites/default/files/classic/cc/cold-storage/documents/hra_emissioninventory2019.pdf accessed 1/20/2022.

Off-Road Vehicle and Equipment Regulations

CARB has also adopted and implemented regulations to reduce DPM and nitrogen oxides (NOx) 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 NOx 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, is expected to substantially reduce emissions of DPM and NOx.

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should report using DOORS, which is CARB's online reporting tool. CARB issues a unique Equipment Identification Number (EIN) that is assigned to each vehicle. The fleet owner must label their vehicles with the EIN.

Other CARB diesel programs affecting off-road vehicles and equipment include:

- Idling limits of no more than 5 minutes with special exceptions.
- Portable engines 50 hp or greater may require a permit or registration to legally operate. BAAQMD is responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

Bay Area Air Quality Management District (BAAQMD)

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

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

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[8] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile

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

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, 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. The BAAQMD defines overburdened communities as 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.[9] The CalEnviroScreen 4.0 overall percentile score is 67.0. The project site and its environs are not within a CARE area and are not within a BAAQMD overburdened area as identified by CalEnviroScreen.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[10] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

San José Envision 2040 General Plan

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

Applicable Goals – Air Pollutant Emission Reduction
Goal MS-10 Minimize emissions from new development.

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

[9] 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 10/1/2021.
[10] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

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

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

MS-10.5 In order to reduce vehicle miles traveled and traffic congestion, require new development within 2,000 feet of an existing or planned transit station to encourage the use of public transit and minimize the dependence on the automobile through the application of site design guidelines and transit incentives

MS-10.7 Encourage regional and statewide air pollutant emission reduction through energy conservation to improve air quality.

Applicable Goals – Toxic Air Contaminants

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

Applicable Policies – Toxic Air Contaminants

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

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

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

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

Actions – Toxic Air Contaminants

MS-11.6 Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of toxic air contaminants (TACs) and particulate matter smaller than 2.5 microns (PM2.5), emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. The Community Risk Reduction Plan will include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, progress reporting to the public and responsible agencies, and periodic updates of the plan, as appropriate

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

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

Applicable Goals – Objectionable Odors

Goal MS-12 Minimize and avoid exposure of residents to objectionable odors.

Applicable Policies – Objectionable Odors

MS-12.1 For new, expanded, or modified facilities that are potential sources of objectionable odors (such as landfills, green waste and resource recovery facilities, wastewater treatment facilities, asphalt batch plants, and food processors), the City requires an analysis of possible odor impacts and the provision of odor minimization and control measures as mitigation.

MS-12.2 Require new residential development projects and projects categorized as sensitive receptors to be located an adequate distance from facilities that are existing and potential sources of odor. An adequate separation distance will be determined based upon the type, size and operations of the facility.

Applicable Goals – Construction Air Emissions

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

Applicable Policies – Construction Air Emissions

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

Applicable Actions – Construction Air Emissions

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

Significance Thresholds

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

Table 1. BAAQMD CEQA Significance Thresholds

Criteria Air Pollutant	**Construction Thresholds**	**Operational Thresholds**	
	Average Daily Emissions (lbs./day)	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	None	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 µg/m^3	0.8 µg/m^3	

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

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

Source: Bay Area Air Quality Management District, 2017

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*.[11] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Guidance provided in the BAAQMD CEQA guidelines recommends that Plans show consistency with the control measures listed within the Clean Air Plan. At the project-level, BAAQMD's CEQA guidance examines whether a project supports the Clean Air Plan's primary goals: (1) attain air quality standards, (2) reduce population exposure and protecting public health in the Bay Area; and (3) reduce greenhouse gas emissions and protect the climate. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see Impact below), 2) the project would be considered urban infill as it develops an area previously analyzed and approved to be an active commercial or industrial land use and would not adversely affect public health in the Bay Area, and 3) would not result in a significant impact on climate change.

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.

[11] 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 and 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.[12] 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 Modeling

Land Use Inputs

The proposed project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet	Acreage
General Office Building	39.00	1,000-sf	39,000	10.47
Refrigerated Warehouse-No Rail	210.23	1,000-sf	210,230	
Parking Lot	161	Parking Spaces	147,560	
City Park (Landscaped areas)	1.00	Acres	--	

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on CalEEMod defaults for a project of this type and size that was reviewed and approved by the applicant. The applicant also provided other information such as material import/export and asphalt hauling quantities.

The CalEEMod construction information included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was set to the CalEEMod default for each phase. The construction schedule assumed that the earliest possible start date would be July 2022 and would be built out over a period of approximately 15 months, or 330 construction workdays[13]. The earliest year of full operation was assumed to be 2024. Emission rates for construction equipment and traffic are lower in future years as newer equipment with lower emissions rates is introduced into the overall fleet replacing older equipment with high emission rates.

[12] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory.
[13] Note that construction is not likely to start until 2023; therefore, the impacts are likely to be lower as later years would be modeled to have equipment with lower emission rates.

Construction Truck 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 soil material imported and/or exported to the site and the estimate of cement and asphalt truck trips. 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 by assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips were provided for the project and converted to total one-way trips, assuming two trips per 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. Therefore, 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 cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (soil import/export). Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emissions in Santa Clara County for 2022 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	Total Trips by Trip Type			Notes
	Worker[1]	Vendor[1]	Haul[2]	
Vehicle mix[1]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	-	-	-	No Demolition
Site Preparation	180	-	-	CalEEMod default worker trips.
Grading	600	-	1,825	CalEEMod default worker trips. Import of 14,598 cy
Trenching	150	-	-	CalEEMod default worker trips.
Building Construction	54,300	21,600	-	CalEEMod default worker and vendor trips.
Architectural Coating	720	-	-	CalEEMod default worker trips
Paving	300	540	-	2,733-cy asphalt hauling. CalEEMod default worker trips.

Notes: [1] Based on 2022 EMFAC2021 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes grading trips estimated by CalEEMod based on amount of material to be removed. Asphalt trips estimated based on square footage of paved areas provided by the applicant. Cement trips included as vendor trips in CalEEMod.

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active construction workdays 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)				
2022	0.17	1.56	0.08	0.07
2023	1.59	2.12	0.11	0.09
Average Daily Construction Emissions Per Year (pounds/day)				
2022 (115 construction workdays)	2.96	27.05	1.34	1.15
2023 (215 construction workdays)	14.75	19.72	1.02	0.84
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 PM10 and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. San Jose General Policy MS-10.1 specifies that projects should Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards and identify and implement feasible air emission reduction measures requires construction projects to implement these measures. *Mitigation Measure AQ-1 would implement BAAQMD's standard and enhanced best management practices*.

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Standard Measures to Control Particulate Matter Emissions during Construction.

Measures to reduce fugitive dust (i.e., $PM_{2.5}$) emissions from construction are recommended to reduce fugitive dust emissions and ensure that health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implements both basic and additional measures to control dust and exhaust. Implementation of the dust control 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. The contractor shall implement the following enhanced best management practices:

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

Mitigation Measure AQ-1 represents standard mitigation measures that would achieve greater than a 50 percent reduction in on-site fugitive $PM_{2.5}$ emissions. These measures are consistent with recommendations in the BAAMQD CEQA Guidance for providing "best management practices" to control construction emissions.

Operational Period Emissions

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

CalEEMod Inputs

Land Uses

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

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2024 if construction begins in 2022. Emissions associated with build-out later than 2024 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. Project-specific traffic trip generation estimates, and TRU operation were provided for this assessment.[14] The project would produce 874 daily trips, including both automobile and truck trips. The daily trip generation was calculated using the size of the project and the total project trips. The project was assumed to operate seven days per week at the same rate. The default trip lengths and trip types specified by CalEEMod were used. There would be 100 truck trips generated daily by the project. CalEEMod was used to model emissions from 790 daily trips using the default model vehicle fleet mix, trip type and trip lengths. Emfac2021 was used to model the 100 heavy-duty trucks as a mix of medium- and heavy-heavy duty trucks. These trucks travel to several locations after leaving the warehouse for a total of about 70 miles per truck per day. A trip length of 35 miles per trip was used; however, this likely overestimates the project effect since some of these shorter trips are associated with other land uses.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod to model the general traffic mix 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 vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021, which were adjusted with the CARB EMFAC off-model adjustment factors. On road emission rates from 2024 Alameda 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.[15]

[14] Email correspondence with Amber Sharpe of David J. Powers & Associates, Inc. on Dec. 20, 2021, Jan. 14, 2022, and Jan. 20, 2022.

[15] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

Transportation Refrigeration Units

TRUs are powered by small diesel engines that have air pollutant and TAC emissions. The applicant reports that of the 50 trucks using the site, 45 would be under the control of the applicant and would be refrigerated (i.e., assumed to include TRUs). All loading docks would have electrical hookups to accommodate these units so that most will not use diesel engines while docked on site. The majority of the trucks using the facility (i.e., 90 percent) will be under the control of the project and use the electrical hookups. Total operation of the TRUs for all trucks was predicted by the applicant at 2 hours daily per truck per day. For on-site emissions, 15 minutes of TRU operation per trip was assumed. It's possible that non-project trucks (i.e., 10 percent of the trucks) may not work with the loading docks and have to use TRUs while on site for up to 30 minutes per trip.

TRUs are subject to emissions limits set by CARB[16]. CalEEMod does not directly compute emissions from TRUs. A separate CalEEMod run was developed to predict these emissions. The model run used a construction generator operating 2 hours per day for 365 days per year. Specific inputs were entered that include:

Number of TRUs:	50 based on the number of expected trucks to use the facility
Horsepower:	33.8hp based on in-state truck trailer TRU average
Load Factor:	0.46 based on CARB assumptions for 25-50 hp TRUs
Emission Rates:	U.S. EPA Tier 4 per as virtually all TRUs will be in compliance with CARB standards by 2024.

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. San Jose Clean Energy is the default electricity provider in San Jose. CalEEMod has a default emission factor of 807 pounds of CO_2 per megawatt of electricity produced; however, SJCE reports a current rate of 0.0806 metric tons per megawatt or 177.69 pounds per megawatt for "Standard Service" in 2021[17]. The City's Greenhouse Gas Reduction Strategy reduces this intensity factor to 0 (carbon-free) by 2030.

Project Deliveries & Equipment

As described above, the applicant anticipates 50 trucks (or 100 truck trips per day). There are 25 truck bays. There would be forklifts in operation to unload the truck deliveries. These forklifts would be powered by electricity.

[16] California Code of Regulations, Title 13, Division 3, Chapter 9, Article 8, Section 2477. Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate..

[17] San Jose Clean Energy. 2022. See https://sanjosecleanenergy.org/commercial-rates/, accessed January 21, 2022.

Generators

The project would include one 600-kilowatt and one 3,000-kilowatt generator for standby power in emergencies[18]. These generators would be maintained and tested routinely. The generator would be tested periodically and power the critical building functions in the event of a power failure. For modeling purposes, it was assumed that the generators 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. Based on the size of the proposed generators, these include emission limits similar to U.S. EPA Tier 2 engines for the 600 kilowatt generator (assumed to be powered by an 805-horsepower engine) and Tier 4 requirements for the 3,000 kilowatt generator (assumed to be powered by a 4,020 horsepower engine). The generator's emissions, including BACT engine requirements, were modeled using CalEEMod. The generators would be located in the equipment bays behind Building 2.

Existing Uses

The project site is vacant although it was entitled for office and warehouse use as part of the approved 2.325 million square feet of office and Research and Development space that was approved in 2000. The project site along with an adjacent parcel to the south were subsequently approved for development of 246 thousand square feet of office and Research & Development space and 249 thousand square feet of warehouse distribution space. Since the site is vacant at the time of this analysis, no existing emissions from the project site were assumed.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod. The daily emissions were calculated assuming 365 days of operation. Table 5 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds. Model summaries and output are provided in *Attachment 2*.

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2024 Project Operational Emissions (*tons/year*)	1.97	4.91	1.36	0.28
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2024 Project Operational Emissions (*lbs./day*)[1]	*10.8*	*26.9*	*7.5*	*1.5*
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

[18] Email correspondence with Amber Sharpe of David J. Powers & Associates, Inc. on Dec. 10, 2021.

Comparison to Approved Research & Development Use

The 2000 Cisco Site 6 EIR evaluated a Planned Development Rezoning to allow the development of 2.325 million square feet of office/research and development (office/R&D) and light industrial uses. Regional operational criteria pollutants were evaluated for Phase I of the overall office/R&D and light industrial development (1.6 million square feet), Phase 2 (725,000 square feet), and the total project buildout (2.325 million square feet of office/research and development (office/R&D). The proposed 249,230 square foot warehouse/office development would be constructed as a part of the first phase of the Cisco project. Since the 2000 Cisco Site EIR did not evaluate operational emissions specifically for the 10.47-acre project site, it is assumed that office R&D development would be 246,107 square feet of office/R&D space (which includes the two remaining unconstructed buildings that were approved under the existing entitlement (in 2013).

A comparison of estimated emissions between the 246,107 square feet of office/R&D space and the proposed warehouse development was conducted to determine if emissions for the proposed warehouse project would substantially differ from the use assumed in the Cisco Site 6 EIR. The CalEEMod model was used to compute emissions from this use for comparison to the proposed Project emissions. The land use type and size along with the projected traffic data were entered to the model. Construction emissions for the approved use are based on CalEEMod default conditions. The difference between the approved and proposed project construction and operational emissions are shown in Table 6. Note that while the proposed project includes a slightly smaller building footprint and less traffic, the analysis for the proposed project considered the higher number of trucks, the TRU operations for each truck and diesel generator use. As a result, operational NOx emissions, which are emitted at much greater rates for diesel engines, are higher with the proposed project when compared to the approved use. The proposed project's operational ROG and $PM_{2.5}$ would be lower than the approved project's emissions ROG and $PM_{2.5}$ emissions. The construction NO_X, PM_{10} and $PM_{2.5}$ emissions for the proposed warehouse/office development would be slightly higher than the approved project's emissions, but would remain lower than BAAQMD thresholds.

Table 6. Air Pollutant Emissions for the Approved and Proposed Use

Scenario		ROG	NOx	PM_{10}	$PM_{2.5}$
Construction Emissions					
Approved Use –	Total construction emissions	1.56 tons	2.53 tons	0.12 tons	0.11tons
	Average daily construction emissions	11.7 lbs.	16.9 lbs.	0.8 lbs.	0.7 lbs.
Proposed Project –	Total construction emissions	1.76 tons	3.67 tons	0.19 tons	0.16 tons
	Average daily construction emissions	10.6 lbs.	22.3 lbs.	1.1 lbs.	0.9 lbs.
Difference (Proposed – Approved) daily emissions		**-1.1 lbs.**	**+5.4 lbs.**	**+0.3 lbs.**	**+0.2 lbs**
BAAQMD Construction Thresholds (lbs/avg. day)		*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Operational Emissions					
Approved Use –	Annual emissions	2.10 tons	0.99 tons	1.29 tons	0.35 tons
	Average daily emissions	11.5 lbs.	5.4 lbs.	7.1 lbs.	1.9 lbs.
Proposed Project –	Annual emissions	1.97 tons	4.91 tons	1.36 tons	0.28 tons
	Average daily emissions	10.8 lbs.	26.9 lbs.	7.5 lbs.	1.5 lbs.
Difference (Proposed – Approved) daily emissions		**-0.13 tons**	**+3.92 tons**	**+0.07 tons**	**-0.08 tons**
BAAQMD Operational Thresholds (tons /year)		*10 tons*	*10 tons*	*15 tons*	*10 tons*
Difference (Proposed – Approved) daily emissions		**-0.7 lbs.**	**+21.5 lbs.**	**+0.4 lbs.**	**-0.4 lbs.**
BAAQMD Operational Thresholds (lbs/avg. day)		*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*

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

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

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would include the installation of two standby emergency generators powered by diesel engines. Traffic generated by the project would consist of light-duty gasoline-powered vehicles along with trucks, which would produce TAC and air pollutant emissions. Since this would be a refrigerated warehouse, most of the trucks would include TRUs that are powered by diesel engines.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk which includes the project contribution.

Community Risk Methodology for Construction and Operation

Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[19] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

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

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

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

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the George Mayne Elementary School, Alviso Youth Center, and nearby residences to the north 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. The Balaji Temple directly across N. First Street was assumed to include a residence based on inspection of that land use using GoogleEarth.

Health Risks from the Project

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[20] 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 model and EMFAC2021 emissions provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.15 tons (308 pounds). The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of half a mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.11 tons (219 pounds) for the overall construction period.

Operational Truck Traffic Emissions

The traffic report's trip generation estimates include 100 daily truck trips generated from the proposed project, which are assumed to be heavy-duty diesel-powered trucks and a source of long-term DPM emissions. These trucks would travel to and from the site and are anticipated to idle at loading docks for 5 minutes for each trip.

Emissions of DPM (assumed to be PM_{10} exhaust) from these activities were computed using the CARB EMFAC2021 model assuming trucks would travel along N. First Street at an average speed of 35 mph. While on-site the trucks were assumed to travel at a speed of 10 miles per hour and each truck would idle at the warehouse site for 5 minutes per trip. Idling emissions were computed based on EMFAC2021 emission rates for 5-mph travel and converted to hourly emissions. Fugitive

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

$PM_{2.5}$ emissions from truck travel would occur due to tire and brake wear and from road dust generated by the trucks. The fugitive $PM_{2.5}$ emissions were computed using the Caltrans CT-EMFAC2017 model.

Trucks would include TRU units that are assumed to meet CARB's latest ACTM requirements that are equivalent to U.S. EPA Tier 4 standards for particulate matter. Modeling assumptions for computing emissions were previously described. For on- and near-site emissions, TRU use was assumed for 15 minutes per trip for the anticipated 90 Project truck trips and 30 minutes per trip for the 10 non-project truck trips.

Generators

The generators would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. The diesel engines powering the generators 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. BACT requirements would apply to these generators that would limit DPM emissions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engines would be required to meet EPA emission standards and consume commercially available 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. Based on the size of the proposed generator, these include emission limits similar to U.S. EPA Tier 2 and Tier 4 engines[21]. The emissions from the operation of the generator were calculated using the CalEEMod model.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors in the vicinity of the project area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[22]

The modeling used a five-year meteorological data set (2013-2017) from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m. Operational truck, TRU, and generator emissions were assumed to occur anytime of a 24-hour day, 365 days per year. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2022-2023 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters) were used to represent the breathing height of residents

[21] CARB requires equivalent Tier 2 for engines larger than 50 hp and BAAQMD requires equivalent Tier 4 for engines larger than 999 hp.
[22] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

and receptor heights of about 3.3 feet (1.0 meter) were used for the preschool and school children.[23]

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

Construction Sources

Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[24] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

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

Truck Traffic and TRU Sources

Project operation was assumed to occur for 365 days per year and that the trucks could be operating at any hour of the day (i.e., 24 hours/day). Operation with truck traffic was assumed to begin in 2024. The U.S. EPA AERMOD model was used with San Jose Airport meteorology data to model truck travel, idling emissions, and TRU operation. Truck travel was modeled using line-volume sources at the project site and along N. First Street. Idle and TRU emissions were modeled as coming from 9 point sources located at the warehouse loading dock area. Truck idling and TRU emission source information was based on San Joaquin Valley Air Pollution Control District (SJVAPCD) information for these types of sources.[25] The effects of building downwash from the project building were included in the modeling. *Figure 3* shows the project site, truck travel routes modeled, and truck idle and TRU operation locations.

[24] 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
[25] SJVAPCD, Guidance for Air Dispersion Modeling, Draft 01/07 Rev 2.0.

Generator Sources

Generator stack parameters (exhaust flow rate, and exhaust gas temperature) for modeling the generator was based on BAAQMD default parameters for emergency generators[26] and estimated stack height of 10 feet. 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). *Figure 3* shows the locations of modeled Generator sources.

Health Risks of all Project TAC Sources at Project MEI

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the Office of Environmental Health Hazard Assessment (OEHHA) guidance for age sensitivity factors and exposure parameters as recommended by BAAQMD (see *Attachment 1)*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. 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 value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors (as shown in Figure 2) to find the maximally exposed individuals (MEI). The cumulative risk impacts from a project are the combination of construction and operation sources. These sources include on-site construction activity, truck traffic, TRU operation and infrequent standby emergency generator operation. The maximum project cancer risk impact is computed by adding the construction cancer risk for an infant/child to the increased cancer risk for the project operational conditions from the truck traffic at the MEI. Residential sensitive receptors were assumed be present near the site for up to 30 years, while school children attending George Mayne Elementary School would be exposed for 8 years. 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 cumulative but based on an annual maximum risk for the entirety of the project.

Results of this assessment indicated that the project MEI was located at the Balaji Temple along N. First Street that is assumed to include a residence. Table 7 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction and operational activities affecting the MEI.

The maximum increased health risks that would be experienced by children attending George Mayne Elementary School are also reported in Table 7. Note that cancer risks for school children are computed differently than residences mainly because of the shorter exposure duration and type of receptor.

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

The unmitigated maximum cancer risks, annual $PM_{2.5}$ concentration and non-cancer hazards at the MEI from project construction and operation activities would be below the single-source significance thresholds. *Attachment 4* to this report includes the emission calculations used for the construction and truck traffic modeling and the cancer risk calculations.

Note that the maximum cancer risk is meant to describe the maximum probability of a receptor contracting cancer if almost continuously exposed over the duration described in this assessment (i.e., 30 years for a resident and 8 years for a school child) at the location on the school or residence that has the maximum modeled concentration. Other residences or portions of the school have lower contaminant levels, and thus, lower cancer risk. For example, the risks for receptors located further away outside of 1,000 feet would be much lower than the maximum risks reported in Table 6.

Table 7. Project Health Risk Impacts at the Off-site MEI (Maximum Impacts)

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impact at MEI				
Project Construction (Years 0-2)	Unmitigated	6.81 (child)	0.05	<0.01
Project Operation* (Years 2-30))	Unmitigated	1.48	<0.01	<0.01
Total/Maximum Project Impact (Years 0-30)	Unmitigated	8.30	0.05	<0.01
Project Impact at George Mayne Elementary School				
Project Construction (Years 0-2)	Unmitigated	3.88 (child)	0.07	<0.01
Project Operation (Years 2-30)	Unmitigated	2.03 (child)	0.01	<0.01
Total/Maximum Project Impact (Years 0-30)	Unmitigated	5.91 (child)	0.07	<0.01
BAAQMD Recommended Threshold		***10***	*0.3*	*1.0*

*Project operation includes truck travel, Idling, TRU operation, and generator operation.

Figure 2. Locations of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impact

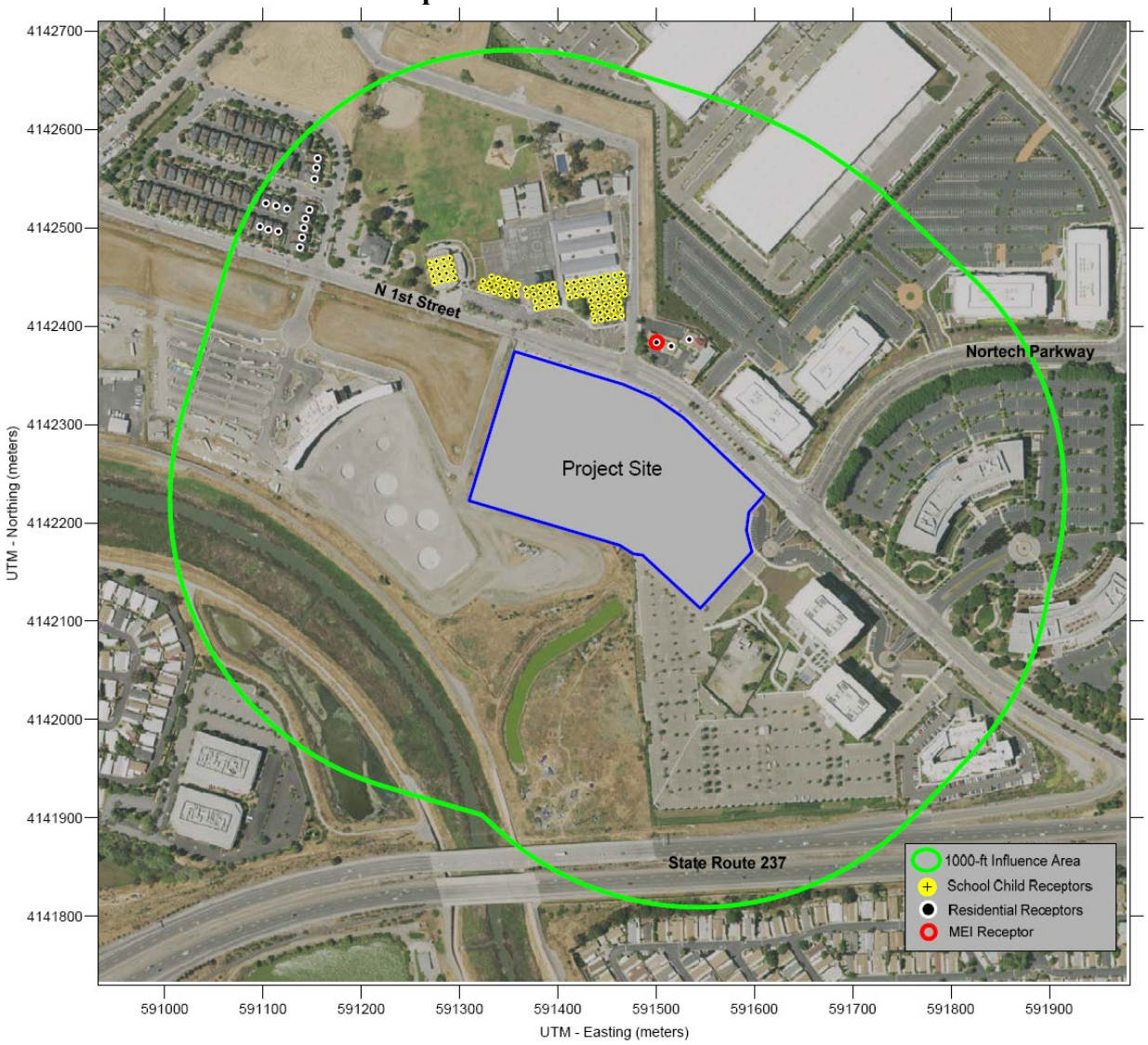
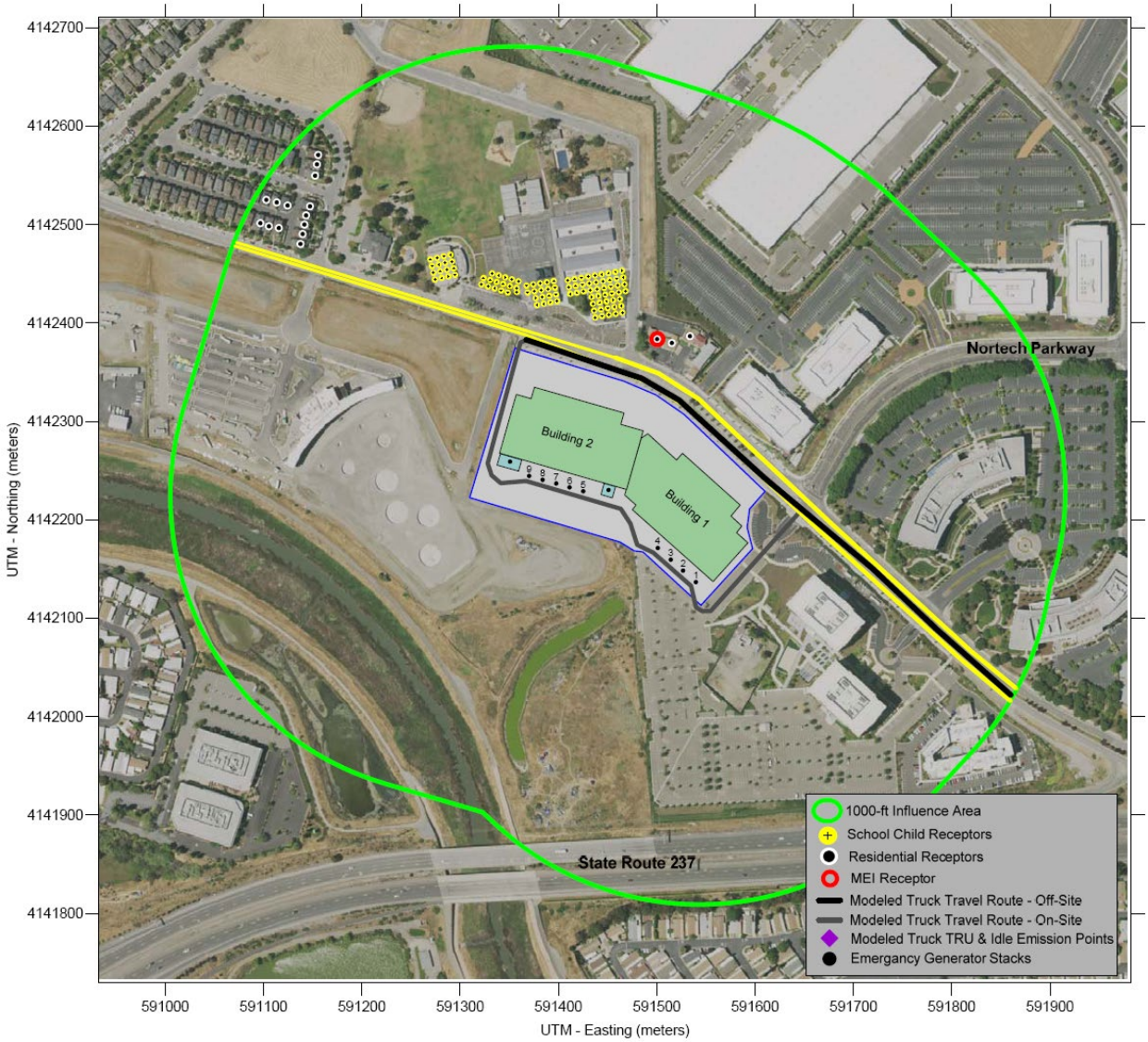


Figure 3. Locations of Project Site, Off-Site Sensitive Receptors, Truck Travel Routes, Truck Idling, TRU Operation, Generators, and Maximum TAC Impact



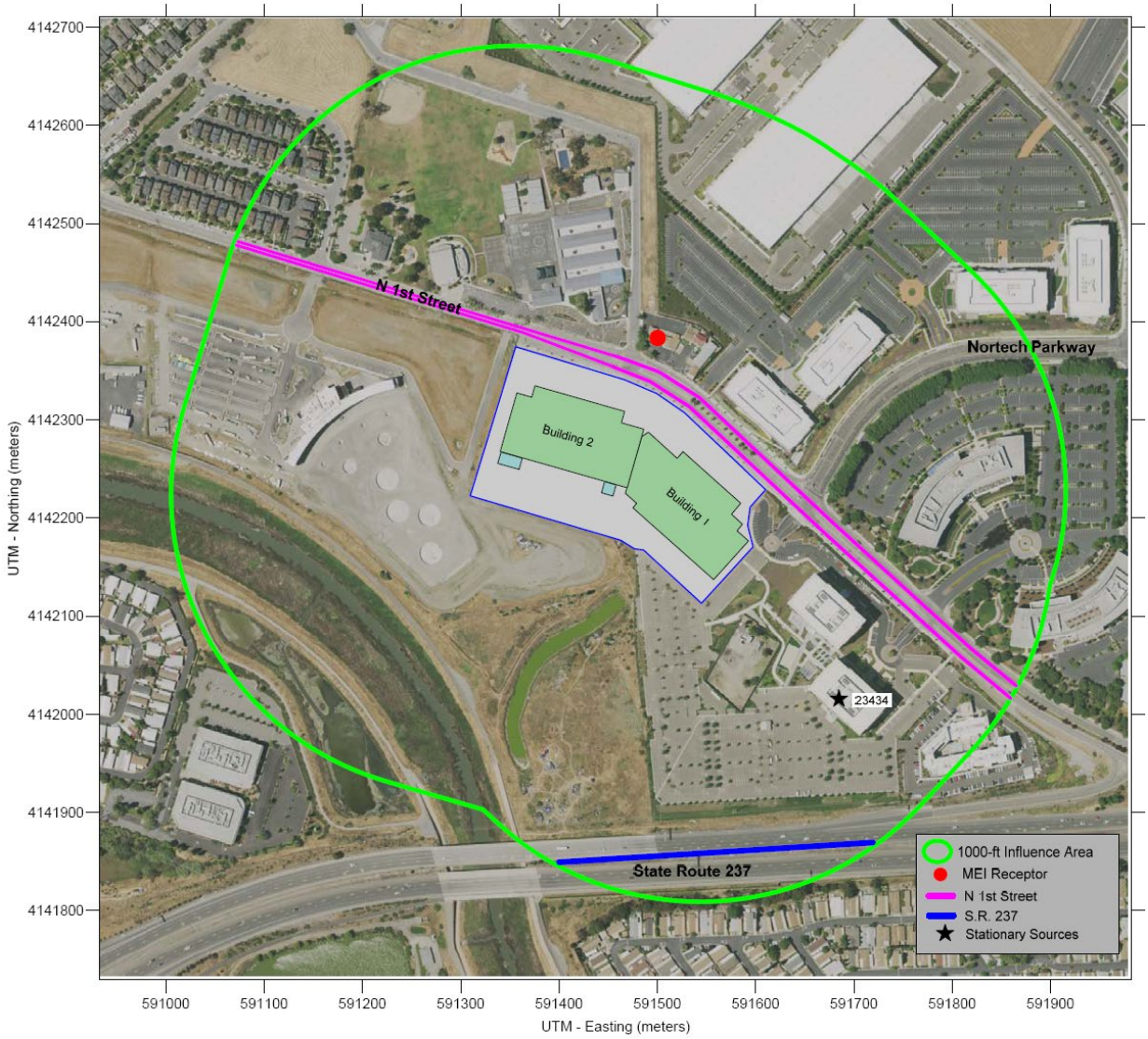
Cumulative Community Risks of all TAC Sources at the Off-Site Project MEI

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 rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area and based on provided traffic information indicated that N. First Street and a small portion of State Route 237 are within the influence area that would have average daily traffic (ADT) exceeding 10,000 vehicles. Other nearby streets are assumed to have less than 10,000 vehicles per day. A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified one stationary source (i.e., generator) within the influence area. Figure 3

shows the project area, TAC sources within the influence area, and the location of the MEI. Details of the modeling and community risk calculations are included in *Attachment 5.*

Figure 4. Project Site and Nearby TAC and $PM_{2.5}$ Sources



State Route 237

The project MEI is approximately 1,670 feet north of State Route 237. Screening data reported by BAAQMD for highways were incorporated into this analysis. BAAQMD provided raster files with cancer risk and $PM_{2.5}$ values for all highways, roadways (ADT > 30,000), and rail lines within the Bay Area. The risk values shown in the raster files were modeled in AERMOD in 20x20-meter grid cells. The files incorporate AADT for the highway using EMFAC2014 data for fleet mix and include the OEHHA 2015 factor. These raster files were used to screen State Route 237 risks and hazards upon the MEI. The highway screening level impacts are listed in Table 8 and included in *Attachment 5*. Refined modeling of the highway would have resulted in even lower risk values

since future traffic emission rates are much lower in now than 2014. Note that BAAQMD has found that non-cancer hazards were found to be minimal, so an HI value is not included.

Local Roadways – N. First Street

An assessment of operational health risks that included dispersion modeling was conducted to evaluate the cumulative contribution of risks from N. First Street traffic. The modeling of existing plus background plus project traffic on the main roadway (N. 1st Street) where all the project traffic would egress within 1,000 feet of the project site was also conducted with the AERMOD dispersion model using line-volume sources to represent the roadway near the project area (see *Figure 4*).

DPM, organic TACs, and $PM_{2.5}$ emission rates were developed for traffic on N. 1st Street using the Caltrans version of the CARB EMFAC2017 emissions model, known as CT-EMFAC2017. The CT-EMFAC2017 model 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 and from re-entrained roadway dust were included. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (Santa Clara County), type of road (major/collector), truck percentage for non-state highways in Santa Clara County (3.51 percent),[27] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2022), and season (annual). Travel speeds of 35 miles per hour (mph) for N. 1st Street, based on posted speed limit signs, were used for all hours of the day. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[28] which were then used to obtain estimated hourly traffic volumes and emissions for the roadway. The roadway was modeled using line-volume sources. Input emissions to the model were the combination of traffic volume and emission rates. The traffic volume used was 14,500 vehicles per day based on the traffic study.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website,[29] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. One source, a generator, was identified using this tool. The screening level risks and hazards provided by BAAQMD for this source were

[27] 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

[28] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour-by-hour traffic volume information.

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

adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for a Generic Source*. Community risk impacts from stationary sources upon the MEI are reported in Table 8.

Summary of Cumulative Health Risk Impact at Construction MEI

Table 8 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction and operation (i.e., the MEI). The combined maximum annual $PM_{2.5}$ concentration and Hazard risk values, which include unmitigated and mitigated, would not exceed their respective single or cumulative thresholds.

Table 8. Impacts from Combined Sources at Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Total/Maximum Project Impact	Unmitigated	8.30	0.05	<0.01
Cumulative Sources				
BAAQMD RASTER - State Route 237		10.50	0.21	-
N. First Street, ADT 14,500		8.22	0.44	<0.01
South Bay Development LLC (Facility ID #23434, Generator), MEI at over 1,000 feet		<0.10	-	-
Combined Sources	Unmitigated	<27.12	0.70	<0.02
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

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. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2021 emissions modeling.

Attachment 4 is the health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction and operation. 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 construction MEI.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[30] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[31] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[32] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). 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 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[30] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[31] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[32] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

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

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 $(mg/kg\text{-}day)^{-1}$		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*
* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.					

Non-Cancer Hazards

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

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Inputs and Outputs

Unmitigated Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2022	0.14	1.38	0.07	0.06	197.00	
2023	1.52	1.74	0.08	0.08	286.00	
2024						
2025						
2026						
2027						
EMFAC						
2022	0.03	0.18	0.01	0.00	161.74	
2023	0.07	0.38	0.03	0.01	345.71	
2024						
2025						
2026						
2027						
Total Construction Emissions by Year						
2022	0.17	1.56	0.08	0.07	358.74	
2023	1.59	2.12	0.11	0.09	631.71	
2024	0.00	0.00	0.00	0.00	0.00	
2025	0.00	0.00	0.00	0.00	0.00	
2026	0.00	0.00	0.00	0.00	0.00	
2027	0.00	0.00	0.00	0.00	0.00	
	Total Construction Emissions					
Tons	1.76	3.67	0.19	0.16	990.45	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2022	2.96	27.05	1.34	1.15		**115**
2023	14.75	19.72	1.02	0.84		**215**
2024						**0**
2025						**0**
2026						**0**
2027						**0**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds					0.00	
Average	10.64	22.27	1.13	0.94	0.00	330
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			
CalEEMod Land Use	1.83	0.70	0.78	0.21
Emfac2021 Truck	0.05	2.27	0.57	0.06
CalEEMod TRU	0.09	1.94	0.01	0.01
Total	1.97	4.91	1.36	0.28
	Existing Use Emissions			
Total				
	Net Annual Operational Emissions			
Tons/year	1.97	4.91	1.36	0.28
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**
	Average Daily Emissions			
Pounds Per Day	10.79	26.92	7.45	1.53
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Area	0.00			
Energy	302.10			
Mobile	777.81			
Trucks	1919.45			
Waste	118.00			
Water	101.00			
TRUs	367.00			
TOTAL	3585.35	0.00		0.00
Net GHG Emissions		3585.35		0.00
Service Population	0			
Per Capita Emissions		#DIV/0!		#DIV/0!
Stationary Equipment	92			

HRA, PM10ex and PM2.5 fug						
	Unmitigated		**Mitigated**			
Unmitigated	PM10 Ex	PM2.5Fug	PM10 Ex	PM2.5 fug		
Year	Tons					
Construction Equipment						
2022	0.06520	0.10540	0.00517	0.04750		
2023	0.08490	0.00000	0.00997	0.00000		
2024						
2025						
2026						
2027						
EMFAC (1 mi trip for on- and near-site)						
2022	0.00135	0.00127	0.00135	0.00127		
2023	0.00288	0.00271	0.00288	0.00271		
2024						
2025						
2026						
2027						
Total Construction Emissions by Year						
2022	0.06655	0.10667	0.00652	0.04877	0.00	
2023	0.08778	0.00271	0.01285	0.00271	0.00	
2024	0.00	0.00	0.00	0.00	0.00	
2025	0.00	0.00	0.00	0.00	0.00	
2026	0.00	0.00	0.00	0.00	0.00	
2027	0.00	0.00	0.00	0.00	0.00	
	Total Construction Emissions					
Tons	0.15	0.11	0.02	0.05	0.00	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2022	1.16	1.86	0.11	0.85		**115**
2023	0.82	0.03	0.12	0.03		**215**
2024						**0**
2025						**0**
2026						**0**
2027						**0**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	308.65	218.76	38.73	102.96	0.00	
Average	0.94	0.66	0.12	0.31	0.00	330
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Generator DPM

0.00809 tons/year

Second Harvest Food bank - Santa Clara County, Annual

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

Second Harvest Food bank

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	39.00	1000sqft	0.00	39,000.00	0
Refrigerated Warehouse-No Rail	210.23	1000sqft	10.47	210,230.00	0
Parking Lot	161.00	Space	0.00	147,560.00	0
City Park	1.00	Acre	0.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	177.69	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE 2020 CO2 intensity rate (https://sanjosecleanenergy.org/commercial-rates/) 01/19/2022

Land Use - Parking lot includes other paved areas. City Park for lansdscaped areas

Construction Phase - No demolition. Used default with trenching added simulataneous with grading

Off-road Equipment - default

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - added trenching equipment

Trips and VMT - Roughly 2,733 cy of asphalt imported at 10 cy/load = 273*2 truck trips - Modeled in Emfac2021

Date: 4/6/2022 4:34 PM

Second Harvest Food bank - Santa Clara County, Annual

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

Grading -

Vehicle Trips - 874-100 total trips as 100 or 12% are modeled seperately MHDT or HHDT = 3.11 trips/1ksf

Vehicle Emission Factors - Emfac2021 rates

Water And Wastewater - Grey water use for irrigation

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Fleet Mix - Emfac2021 population vehcile mix

Stationary Sources - Emergency Generators and Fire Pumps - 600kw = 805hp and 3,000kw = 4020hp

Stationary Sources - Emergency Generators and Fire Pumps EF - Gen #2 has to be Tier 4 NOx=0.5, PM=0.02

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	55
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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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
tblFleetMix	HHD	6.4040e-003	7.3066e-003
tblFleetMix	HHD	6.4040e-003	7.3066e-003
tblFleetMix	HHD	6.4040e-003	7.3066e-003
tblFleetMix	HHD	6.4040e-003	7.3066e-003
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1020e-003	5.6406e-003
tblFleetMix	LHD2	5.1020e-003	5.6406e-003

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tblFleetMix	LHD2	5.1020e-003	5.6406e-003
tblFleetMix	LHD2	5.1020e-003	5.6406e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	2.7760e-003	2.6662e-003
tblFleetMix	MH	2.7760e-003	2.6662e-003
tblFleetMix	MH	2.7760e-003	2.6662e-003
tblFleetMix	MH	2.7760e-003	2.6662e-003
tblFleetMix	MHD	7.9340e-003	9.3581e-003
tblFleetMix	MHD	7.9340e-003	9.3581e-003
tblFleetMix	MHD	7.9340e-003	9.3581e-003
tblFleetMix	MHD	7.9340e-003	9.3581e-003
tblFleetMix	OBUS	9.0000e-004	1.0549e-003
tblFleetMix	OBUS	9.0000e-004	1.0549e-003
tblFleetMix	OBUS	9.0000e-004	1.0549e-003
tblFleetMix	OBUS	9.0000e-004	1.0549e-003
tblFleetMix	SBUS	9.1400e-004	6.8245e-004
tblFleetMix	SBUS	9.1400e-004	6.8245e-004
tblFleetMix	SBUS	9.1400e-004	6.8245e-004
tblFleetMix	SBUS	9.1400e-004	6.8245e-004
tblFleetMix	UBUS	3.8000e-004	4.1703e-004
tblFleetMix	UBUS	3.8000e-004	4.1703e-004
tblFleetMix	UBUS	3.8000e-004	4.1703e-004
tblFleetMix	UBUS	3.8000e-004	4.1703e-004

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tblGrading	MaterialImported	0.00	14,598.00
tblLandUse	LandUseSquareFeet	64,400.00	147,560.00
tblLandUse	LotAcreage	0.90	0.00
tblLandUse	LotAcreage	4.83	10.47
tblLandUse	LotAcreage	1.45	0.00
tblLandUse	LotAcreage	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	807.98	177.69
tblStationaryGeneratorsPumpsEF	NOX_EF	4.56	0.50
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	0.02
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	0.02
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	4,020.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	805.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	HaulingTripNumber	1,825.00	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00

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tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripNumber	72.00	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	181.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	36.00	0.00
tblTripsAndVMT	WorkerTripNumber	36.00	0.00
tblTripsAndVMT	WorkerTripNumber	36.00	0.00
tblVehicleEF	HHD	0.02	0.23
tblVehicleEF	HHD	0.05	0.12
tblVehicleEF	HHD	6.33	5.20
tblVehicleEF	HHD	0.40	0.77
tblVehicleEF	HHD	5.9420e-003	6.2600e-004
tblVehicleEF	HHD	1,048.88	832.60
tblVehicleEF	HHD	1,413.90	1,617.58
tblVehicleEF	HHD	0.05	0.02

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tblVehicleEF	HHD	0.17	0.13
tblVehicleEF	HHD	0.22	0.26
tblVehicleEF	HHD	7.0000e-006	1.9000e-005
tblVehicleEF	HHD	5.39	4.11
tblVehicleEF	HHD	2.69	1.85
tblVehicleEF	HHD	2.32	2.73
tblVehicleEF	HHD	2.5820e-003	2.1820e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	2.4710e-003	2.0820e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8830e-003	8.7810e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	1.9600e-004
tblVehicleEF	HHD	9.3000e-005	5.8000e-005
tblVehicleEF	HHD	0.43	0.33
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	4.1000e-005	5.2500e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	9.7610e-003	7.2830e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	2.0000e-006	1.9600e-004
tblVehicleEF	HHD	9.3000e-005	5.8000e-005
tblVehicleEF	HHD	0.49	0.59
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.14
tblVehicleEF	HHD	4.1000e-005	5.2500e-004
tblVehicleEF	HHD	3.0000e-006	0.00

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tblVehicleEF	LDA	1.7200e-003	2.0510e-003
tblVehicleEF	LDA	0.04	0.07
tblVehicleEF	LDA	0.52	0.65
tblVehicleEF	LDA	2.08	3.01
tblVehicleEF	LDA	234.59	246.81
tblVehicleEF	LDA	49.79	64.09
tblVehicleEF	LDA	3.9560e-003	4.1560e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.16	0.24
tblVehicleEF	LDA	0.04	7.1680e-003
tblVehicleEF	LDA	1.2900e-003	1.1710e-003
tblVehicleEF	LDA	1.6800e-003	1.9110e-003
tblVehicleEF	LDA	0.02	2.5090e-003
tblVehicleEF	LDA	1.1880e-003	1.0780e-003
tblVehicleEF	LDA	1.5440e-003	1.7570e-003
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	6.4090e-003	7.8860e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.19	0.31
tblVehicleEF	LDA	2.3210e-003	2.4400e-003
tblVehicleEF	LDA	4.9300e-004	6.3400e-004
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	9.3170e-003	0.01
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.21	0.34

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tblVehicleEF	LDT1	3.6010e-003	6.2220e-003
tblVehicleEF	LDT1	0.06	0.10
tblVehicleEF	LDT1	0.85	1.42
tblVehicleEF	LDT1	2.26	5.23
tblVehicleEF	LDT1	280.86	327.08
tblVehicleEF	LDT1	60.30	86.30
tblVehicleEF	LDT1	5.8110e-003	9.3740e-003
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.07	0.13
tblVehicleEF	LDT1	0.21	0.38
tblVehicleEF	LDT1	0.04	9.2260e-003
tblVehicleEF	LDT1	1.6380e-003	1.9270e-003
tblVehicleEF	LDT1	2.1080e-003	2.8980e-003
tblVehicleEF	LDT1	0.02	3.2290e-003
tblVehicleEF	LDT1	1.5070e-003	1.7740e-003
tblVehicleEF	LDT1	1.9380e-003	2.6640e-003
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.27	0.54
tblVehicleEF	LDT1	2.7790e-003	3.2330e-003
tblVehicleEF	LDT1	5.9700e-004	8.5300e-004
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.30	0.59

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tblVehicleEF	LDT2	2.9320e-003	2.8170e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.73	0.83
tblVehicleEF	LDT2	2.69	3.66
tblVehicleEF	LDT2	301.75	340.73
tblVehicleEF	LDT2	65.36	87.27
tblVehicleEF	LDT2	5.6680e-003	6.0170e-003
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.25	0.33
tblVehicleEF	LDT2	0.04	8.8660e-003
tblVehicleEF	LDT2	1.3400e-003	1.3330e-003
tblVehicleEF	LDT2	1.7010e-003	2.1070e-003
tblVehicleEF	LDT2	0.02	3.1030e-003
tblVehicleEF	LDT2	1.2340e-003	1.2260e-003
tblVehicleEF	LDT2	1.5640e-003	1.9380e-003
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.28	0.38
tblVehicleEF	LDT2	2.9850e-003	3.3680e-003
tblVehicleEF	LDT2	6.4700e-004	8.6300e-004
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.31	0.42

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tblVehicleEF	LHD1	4.9880e-003	5.3770e-003
tblVehicleEF	LHD1	7.8580e-003	8.1800e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.71	0.90
tblVehicleEF	LHD1	1.05	2.13
tblVehicleEF	LHD1	8.86	8.73
tblVehicleEF	LHD1	779.34	784.16
tblVehicleEF	LHD1	11.55	17.80
tblVehicleEF	LHD1	7.4200e-004	6.4200e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.04
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.65	0.66
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	8.4200e-004	6.8100e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7790e-003	9.4140e-003
tblVehicleEF	LHD1	9.6230e-003	0.01
tblVehicleEF	LHD1	2.4700e-004	2.2700e-004
tblVehicleEF	LHD1	8.0500e-004	6.5100e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4450e-003	2.3540e-003
tblVehicleEF	LHD1	9.1590e-003	0.01
tblVehicleEF	LHD1	2.2800e-004	2.0900e-004
tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.09	0.09

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tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.07	0.11
tblVehicleEF	LHD1	8.6000e-005	8.5000e-005
tblVehicleEF	LHD1	7.6080e-003	7.6600e-003
tblVehicleEF	LHD1	1.1400e-004	1.7600e-004
tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.08	0.12
tblVehicleEF	LHD2	3.0380e-003	3.2490e-003
tblVehicleEF	LHD2	6.6540e-003	6.9740e-003
tblVehicleEF	LHD2	7.7290e-003	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.59	0.57
tblVehicleEF	LHD2	0.60	1.20
tblVehicleEF	LHD2	13.88	13.79
tblVehicleEF	LHD2	754.92	828.98
tblVehicleEF	LHD2	7.59	9.91
tblVehicleEF	LHD2	1.7350e-003	1.6850e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.77	0.89
tblVehicleEF	LHD2	0.17	0.25
tblVehicleEF	LHD2	1.4370e-003	1.3710e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01

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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2700e-004	1.0100e-004
tblVehicleEF	LHD2	1.3750e-003	1.3110e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6920e-003	2.6640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1700e-004	9.3000e-005
tblVehicleEF	LHD2	9.8500e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	1.3300e-004	1.3200e-004
tblVehicleEF	LHD2	7.2890e-003	7.9880e-003
tblVehicleEF	LHD2	7.5000e-005	9.8000e-005
tblVehicleEF	LHD2	9.8500e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.07
tblVehicleEF	MCY	0.33	0.17
tblVehicleEF	MCY	0.25	0.19
tblVehicleEF	MCY	18.60	14.38
tblVehicleEF	MCY	9.06	7.69
tblVehicleEF	MCY	210.08	190.69
tblVehicleEF	MCY	60.71	51.78

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tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.9480e-003
tblVehicleEF	MCY	1.15	0.60
tblVehicleEF	MCY	0.27	0.15
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	1.9970e-003	1.9540e-003
tblVehicleEF	MCY	2.9300e-003	3.3800e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.8650e-003	1.8270e-003
tblVehicleEF	MCY	2.7520e-003	3.1770e-003
tblVehicleEF	MCY	0.90	3.90
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.19	1.12
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	1.93	1.40
tblVehicleEF	MCY	2.0790e-003	1.8850e-003
tblVehicleEF	MCY	6.0100e-004	5.1200e-004
tblVehicleEF	MCY	0.90	0.09
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.72	1.35
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	2.10	1.52
tblVehicleEF	MDV	3.4000e-003	3.7490e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.78	0.94
tblVehicleEF	MDV	2.95	3.93
tblVehicleEF	MDV	364.87	411.00
tblVehicleEF	MDV	77.92	104.42

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tblVehicleEF	MDV	7.5920e-003	8.3470e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.29	0.42
tblVehicleEF	MDV	0.04	9.0000e-003
tblVehicleEF	MDV	1.4300e-003	1.3730e-003
tblVehicleEF	MDV	1.8100e-003	2.1610e-003
tblVehicleEF	MDV	0.02	3.1500e-003
tblVehicleEF	MDV	1.3190e-003	1.2660e-003
tblVehicleEF	MDV	1.6640e-003	1.9870e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.02
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.34	0.50
tblVehicleEF	MDV	3.6060e-003	4.0610e-003
tblVehicleEF	MDV	7.7100e-004	1.0320e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.38	0.54
tblVehicleEF	MH	9.5570e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.93	1.29
tblVehicleEF	MH	2.03	2.49
tblVehicleEF	MH	1,501.42	1,686.59
tblVehicleEF	MH	18.14	22.55

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tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.31	1.54
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.6100e-004	3.1300e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2790e-003	3.3010e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4000e-004	2.8800e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.06	0.08
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.7900e-004	2.2300e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.08	0.11
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.10	0.12
tblVehicleEF	MHD	3.5790e-003	0.01
tblVehicleEF	MHD	1.6940e-003	9.6580e-003
tblVehicleEF	MHD	9.1320e-003	8.7730e-003
tblVehicleEF	MHD	0.39	0.67

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tblVehicleEF	MHD	0.23	0.35
tblVehicleEF	MHD	1.07	1.07
tblVehicleEF	MHD	72.08	160.32
tblVehicleEF	MHD	1,080.76	1,229.84
tblVehicleEF	MHD	9.15	8.53
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.14	0.16
tblVehicleEF	MHD	7.2440e-003	6.0320e-003
tblVehicleEF	MHD	0.41	0.89
tblVehicleEF	MHD	1.45	1.11
tblVehicleEF	MHD	1.70	1.41
tblVehicleEF	MHD	3.6900e-004	2.1280e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	7.0230e-003	0.01
tblVehicleEF	MHD	1.1500e-004	1.0700e-004
tblVehicleEF	MHD	3.5300e-004	2.0350e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	6.7130e-003	0.01
tblVehicleEF	MHD	1.0600e-004	9.8000e-005
tblVehicleEF	MHD	3.8300e-004	0.03
tblVehicleEF	MHD	0.02	6.2600e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	6.8400e-004	1.4910e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	9.1000e-005	8.4000e-005
tblVehicleEF	MHD	3.8300e-004	0.03

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tblVehicleEF	MHD	0.02	6.2600e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	OBUS	7.0640e-003	7.4580e-003
tblVehicleEF	OBUS	3.6240e-003	9.2750e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.58	0.51
tblVehicleEF	OBUS	0.43	0.49
tblVehicleEF	OBUS	1.84	1.96
tblVehicleEF	OBUS	92.66	85.71
tblVehicleEF	OBUS	1,326.08	1,389.14
tblVehicleEF	OBUS	15.18	15.50
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.13	0.16
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.38	0.37
tblVehicleEF	OBUS	1.47	1.01
tblVehicleEF	OBUS	1.09	0.98
tblVehicleEF	OBUS	1.2200e-004	4.2300e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.3930e-003	0.02
tblVehicleEF	OBUS	1.4500e-004	1.3400e-004
tblVehicleEF	OBUS	1.1700e-004	4.0500e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.0600e-003	0.02
tblVehicleEF	OBUS	1.3300e-004	1.2400e-004
tblVehicleEF	OBUS	1.0900e-003	0.07

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tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.02	0.05
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	8.8000e-004	8.1100e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.5000e-004	1.5300e-004
tblVehicleEF	OBUS	1.0900e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.03	0.06
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.10	0.10
tblVehicleEF	SBUS	0.05	0.07
tblVehicleEF	SBUS	6.0180e-003	0.09
tblVehicleEF	SBUS	4.9720e-003	4.8000e-003
tblVehicleEF	SBUS	2.27	1.65
tblVehicleEF	SBUS	0.49	0.88
tblVehicleEF	SBUS	0.72	0.66
tblVehicleEF	SBUS	346.78	189.45
tblVehicleEF	SBUS	1,049.23	1,028.12
tblVehicleEF	SBUS	4.12	3.73
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.13	0.13
tblVehicleEF	SBUS	4.7550e-003	4.2250e-003
tblVehicleEF	SBUS	3.44	1.39
tblVehicleEF	SBUS	4.65	2.57

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tblVehicleEF	SBUS	0.86	0.48
tblVehicleEF	SBUS	3.6120e-003	1.3090e-003
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.8000e-005	4.0000e-005
tblVehicleEF	SBUS	3.4560e-003	1.2520e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.7190e-003	2.6500e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.4000e-005	3.6000e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3010e-003
tblVehicleEF	SBUS	0.25	0.18
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.08	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	3.3010e-003	1.7240e-003
tblVehicleEF	SBUS	0.01	9.5560e-003
tblVehicleEF	SBUS	4.1000e-005	3.7000e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3010e-003
tblVehicleEF	SBUS	0.36	0.30
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.10	0.16
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	UBUS	1.35	0.35
tblVehicleEF	UBUS	1.5380e-003	3.9300e-003

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tblVehicleEF	UBUS	10.12	4.17
tblVehicleEF	UBUS	0.14	0.53
tblVehicleEF	UBUS	1,597.16	1,098.81
tblVehicleEF	UBUS	1.39	3.20
tblVehicleEF	UBUS	0.26	0.17
tblVehicleEF	UBUS	1.0770e-003	6.8290e-003
tblVehicleEF	UBUS	0.73	0.33
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.07	0.11
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	5.3280e-003	6.2290e-003
tblVehicleEF	UBUS	1.5000e-005	1.2000e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	8.3320e-003	8.1710e-003
tblVehicleEF	UBUS	5.0960e-003	5.9560e-003
tblVehicleEF	UBUS	1.4000e-005	1.1000e-005
tblVehicleEF	UBUS	2.1000e-005	9.8940e-003
tblVehicleEF	UBUS	1.6100e-004	3.3030e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	2.9000e-005	7.9870e-003
tblVehicleEF	UBUS	6.4070e-003	0.01
tblVehicleEF	UBUS	0.01	9.4250e-003
tblVehicleEF	UBUS	1.4000e-005	3.2000e-005
tblVehicleEF	UBUS	2.1000e-005	9.8940e-003
tblVehicleEF	UBUS	1.6100e-004	3.3030e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	1.38	0.42
tblVehicleEF	UBUS	2.9000e-005	7.9870e-003
tblVehicleEF	UBUS	7.0150e-003	0.02

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tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	3.17
tblVehicleTrips	ST_TR	2.12	3.17
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	3.17
tblVehicleTrips	SU_TR	2.12	3.17
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	3.17
tblVehicleTrips	WD_TR	2.12	3.17
tblWater	OutdoorWaterUseRate	1,191,481.35	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					
2022	0.1389	1.3776	1.2220	2.2400e-003	0.2372	0.0652	0.3023	0.1054	0.0606	0.1660	0.0000	195.1632	195.1632	0.0559	0.0000	196.5615
2023	1.5203	1.7404	1.9995	3.3000e-003	0.0000	0.0849	0.0849	0.0000	0.0798	0.0798	0.0000	284.5195	284.5195	0.0689	0.0000	286.2430
Maximum	**1.5203**	**1.7404**	**1.9995**	**3.3000e-003**	**0.2372**	**0.0849**	**0.3023**	**0.1054**	**0.0798**	**0.1660**	**0.0000**	**284.5195**	**284.5195**	**0.0689**	**0.0000**	**286.2430**

Mitigated Construction

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	ROG	NOx	CO	SO2	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	0.0404	0.8081	1.4209	2.2400e-003	0.1067	5.1700e-003	0.1119	0.0475	5.1700e-003	0.0526	0.0000	195.1630	195.1630	0.0559	0.0000	196.5613
2023	1.3945	1.3441	2.2110	3.3000e-003	0.0000	9.9700e-003	9.9700e-003	0.0000	9.9700e-003	9.9700e-003	0.0000	284.5191	284.5191	0.0689	0.0000	286.2427
Maximum	**1.3945**	**1.3441**	**2.2110**	**3.3000e-003**	**0.1067**	**9.9700e-003**	**0.1119**	**0.0475**	**9.9700e-003**	**0.0526**	**0.0000**	**284.5191**	**284.5191**	**0.0689**	**0.0000**	**286.2427**

	ROG	NOx	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	**13.52**	**30.98**	**-12.74**	**0.00**	**55.00**	**89.91**	**68.53**	**55.00**	**89.21**	**74.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-26-2022**	**10-25-2022**	1.0901	0.5641
2	**10-26-2022**	**1-25-2023**	0.5652	0.3841
3	**1-26-2023**	**4-25-2023**	0.5129	0.3679
4	**4-26-2023**	**7-25-2023**	0.5186	0.3720
5	**7-26-2023**	**9-30-2023**	0.3818	0.2739
		Highest	1.0901	0.5641

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	1.1167	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-003

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Energy	7.6900e-003	0.0699	0.0587	4.2000e-004		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	299.1238	299.1238	0.0429	6.4200e-003	302.1075
Mobile	0.5114	0.4056	3.7309	8.3000e-003	0.7593	5.8100e-003	0.7651	0.1894	5.4200e-003	0.1948	0.0000	766.3997	766.3997	0.0399	0.0349	777.8050
Stationary	0.1980	0.2286	0.5047	9.5000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	91.8673	91.8673	0.0129	0.0000	92.1893
Waste						0.0000	0.0000		0.0000	0.0000	47.4958	0.0000	47.4958	2.8069	0.0000	117.6689
Water						0.0000	0.0000		0.0000	0.0000	17.6226	25.4238	43.0464	1.8147	0.0433	101.3212
Total	**1.8337**	**0.7041**	**4.2982**	**9.6700e-003**	**0.7593**	**0.0192**	**0.7785**	**0.1894**	**0.0188**	**0.2082**	**65.1184**	**1,182.8219**	**1,247.9403**	**4.7174**	**0.0847**	**1,391.0998**

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	1.1167	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-003
Energy	7.6900e-003	0.0699	0.0587	4.2000e-004		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	299.1238	299.1238	0.0429	6.4200e-003	302.1075
Mobile	0.5114	0.4056	3.7309	8.3000e-003	0.7593	5.8100e-003	0.7651	0.1894	5.4200e-003	0.1948	0.0000	766.3997	766.3997	0.0399	0.0349	777.8050
Stationary	0.1980	0.2286	0.5047	9.5000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	91.8673	91.8673	0.0129	0.0000	92.1893
Waste						0.0000	0.0000		0.0000	0.0000	47.4958	0.0000	47.4958	2.8069	0.0000	117.6689
Water						0.0000	0.0000		0.0000	0.0000	17.6226	25.4238	43.0464	1.8147	0.0433	101.3212
Total	**1.8337**	**0.7041**	**4.2982**	**9.6700e-003**	**0.7593**	**0.0192**	**0.7785**	**0.1894**	**0.0188**	**0.2082**	**65.1184**	**1,182.8219**	**1,247.9403**	**4.7174**	**0.0847**	**1,391.0998**

	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

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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	Site Preparation	Site Preparation	7/26/2022	8/8/2022	5	10	
2	Grading	Grading	8/9/2022	9/19/2022	5	30	
3	Utilties	Trenching	9/20/2022	10/31/2022	5	30	overlap
4	Building Construction	Building Construction	9/20/2022	11/13/2023	5	300	
5	Paving	Paving	10/14/2023	11/10/2023	5	20	overlap
6	Architectural Coating	Architectural Coating	10/14/2023	11/10/2023	5	20	overlap

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 373,845; Non-Residential Outdoor: 124,615; Striped Parking Area: 8,854

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilties	Excavators	1	8.00	158	0.38
Utilties	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
Site Preparation	7	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Grading	8	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Utilities	2	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

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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					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0983**	**8.0600e-003**	**0.1064**	**0.0505**	**7.4200e-003**	**0.0579**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

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

Second Harvest Food bank - Santa Clara 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					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0608	0.1148	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**3.4800e-003**	**0.0608**	**0.1148**	**1.9000e-004**	**0.0442**	**3.1000e-004**	**0.0445**	**0.0227**	**3.1000e-004**	**0.0230**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

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 Grading - 2022

Unmitigated Construction On-Site

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

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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					0.1389	0.0000	0.1389	0.0549	0.0000	0.0549	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1389**	**0.0245**	**0.1634**	**0.0549**	**0.0226**	**0.0775**	**0.0000**	**81.8019**	**81.8019**	**0.0265**	**0.0000**	**82.4633**

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					

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

Fugitive Dust					0.0625	0.0000	0.0625	0.0247	0.0000	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.2891	0.5508	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	**0.0152**	**0.2891**	**0.5508**	**9.3000e-004**	**0.0625**	**1.5200e-003**	**0.0640**	**0.0247**	**1.5200e-003**	**0.0262**	**0.0000**	**81.8018**	**81.8018**	**0.0265**	**0.0000**	**82.4632**

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 Utilties - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5100e-003	0.0518	0.0824	1.2000e-004		2.6400e-003	2.6400e-003		2.4300e-003	2.4300e-003	0.0000	10.9033	10.9033	3.5300e-003	0.0000	10.9914

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Total	**5.5100e-003**	**0.0518**	**0.0824**	**1.2000e-004**		**2.6400e-003**	**2.6400e-003**		**2.4300e-003**	**2.4300e-003**	**0.0000**	**10.9033**	**10.9033**	**3.5300e-003**	**0.0000**	**10.9914**

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	2.0000e-003	0.0545	0.0939	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.9033	10.9033	3.5300e-003	0.0000	10.9914
Total	**2.0000e-003**	**0.0545**	**0.0939**	**1.2000e-004**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**10.9033**	**10.9033**	**3.5300e-003**	**0.0000**	**10.9914**

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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**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0631	0.5778	0.6055	1.0000e-003		0.0299	0.0299		0.0282	0.0282	0.0000	85.7383	85.7383	0.0205	0.0000	86.2519
Total	**0.0631**	**0.5778**	**0.6055**	**1.0000e-003**		**0.0299**	**0.0299**		**0.0282**	**0.0282**	**0.0000**	**85.7383**	**85.7383**	**0.0205**	**0.0000**	**86.2519**

Unmitigated Construction Off-Site

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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					
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	0.0197	0.4038	0.6613	1.0000e-003		3.1300e-003	3.1300e-003		3.1300e-003	3.1300e-003	0.0000	85.7382	85.7382	0.0205	0.0000	86.2518
Total	**0.0197**	**0.4038**	**0.6613**	**1.0000e-003**		**3.1300e-003**	**3.1300e-003**		**3.1300e-003**	**3.1300e-003**	**0.0000**	**85.7382**	**85.7382**	**0.0205**	**0.0000**	**86.2518**

Mitigated Construction Off-Site

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

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 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	0.1777	1.6255	1.8356	3.0400e-003		0.0791	0.0791		0.0744	0.0744	0.0000	261.9394	261.9394	0.0623	0.0000	263.4972
Total	**0.1777**	**1.6255**	**1.8356**	**3.0400e-003**		**0.0791**	**0.0791**		**0.0744**	**0.0744**	**0.0000**	**261.9394**	**261.9394**	**0.0623**	**0.0000**	**263.4972**

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

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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					
Off-Road	0.0603	1.2331	2.0197	3.0400e-003		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003	0.0000	261.9391	261.9391	0.0623	0.0000	263.4968
Total	**0.0603**	**1.2331**	**2.0197**	**3.0400e-003**		**9.5600e-003**	**9.5600e-003**		**9.5600e-003**	**9.5600e-003**	**0.0000**	**261.9391**	**261.9391**	**0.0623**	**0.0000**	**263.4968**

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

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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 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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

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**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.3400e-003**	**0.1004**	**0.1730**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

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**

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

3.7 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	1.3304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.3323**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

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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	1.3304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4000e-004	0.0106	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.3309**	**0.0106**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

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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					
Mitigated	0.5114	0.4056	3.7309	8.3000e-003	0.7593	5.8100e-003	0.7651	0.1894	5.4200e-003	0.1948	0.0000	766.3997	766.3997	0.0399	0.0349	777.8050
Unmitigated	0.5114	0.4056	3.7309	8.3000e-003	0.7593	5.8100e-003	0.7651	0.1894	5.4200e-003	0.1948	0.0000	766.3997	766.3997	0.0399	0.0349	777.8050

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	123.63	123.63	123.63	295,445	295,445
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	666.43	666.43	666.43	1,945,647	1,945,647
Total	790.06	790.06	790.06	2,241,092	2,241,092

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
General Office Building	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666

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

Parking Lot	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
Refrigerated Warehouse-No Rail	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666

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	223.0020	223.0020	0.0414	5.0200e-003	225.5333
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.0020	223.0020	0.0414	5.0200e-003	225.5333
NaturalGas Mitigated	7.6900e-003	0.0699	0.0587	4.2000e-004		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	76.1218	76.1218	1.4600e-003	1.4000e-003	76.5742
NaturalGas Unmitigated	7.6900e-003	0.0699	0.0587	4.2000e-004		5.3100e-003	5.3100e-003		5.3100e-003	5.3100e-003	0.0000	76.1218	76.1218	1.4600e-003	1.4000e-003	76.5742

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					

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

City Park	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
General Office Building	631800	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.7153	33.7153	6.5000e-004	6.2000e-004	33.9156
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
Refrigerated Warehouse-No Rail	794669	4.2800e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4066	42.4066	8.1000e-004	7.8000e-004	42.6586
Total		**7.6900e-003**	**0.0699**	**0.0587**	**4.2000e-004**		**5.3100e-003**	**5.3100e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**76.1218**	**76.1218**	**1.4600e-003**	**1.4000e-003**	**76.5742**

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					
City Park	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
General Office Building	631800	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.7153	33.7153	6.5000e-004	6.2000e-004	33.9156
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
Refrigerated Warehouse-No Rail	794669	4.2800e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4066	42.4066	8.1000e-004	7.8000e-004	42.6586
Total		**7.6900e-003**	**0.0699**	**0.0587**	**4.2000e-004**		**5.3100e-003**	**5.3100e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**76.1218**	**76.1218**	**1.4600e-003**	**1.4000e-003**	**76.5742**

5.3 Energy by Land Use - Electricity

Unmitigated

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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			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	669630	53.9714	0.0100	1.2100e-003	54.5840
Parking Lot	51646	4.1626	7.7000e-004	9.0000e-005	4.2099
Refrigerated Warehouse-No Rail	2.04554e+006	164.8680	0.0306	3.7100e-003	166.7394
Total		**223.0020**	**0.0414**	**5.0100e-003**	**225.5333**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	669630	53.9714	0.0100	1.2100e-003	54.5840
Parking Lot	51646	4.1626	7.7000e-004	9.0000e-005	4.2099
Refrigerated Warehouse-No Rail	2.04554e+006	164.8680	0.0306	3.7100e-003	166.7394
Total		**223.0020**	**0.0414**	**5.0100e-003**	**225.5333**

6.0 Area Detail

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

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	1.1167	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-003
Unmitigated	1.1167	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-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	0.1330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-003
Total	**1.1167**	**3.0000e-005**	**3.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3500e-003**	**7.3500e-003**	**2.0000e-005**	**0.0000**	**7.8300e-003**

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

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	0.1330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3500e-003	7.3500e-003	2.0000e-005	0.0000	7.8300e-003
Total	**1.1167**	**3.0000e-005**	**3.7700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3500e-003**	**7.3500e-003**	**2.0000e-005**	**0.0000**	**7.8300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.0464	1.8147	0.0433	101.3212
Unmitigated	43.0464	1.8147	0.0433	101.3212

7.2 Water by Land Use

Date: 4/6/2022 4:34 PM

Second Harvest Food bank - Santa Clara County, Annual

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

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	6.93162 / 4.24841	6.4206	0.2267	5.4300e-003	13.7044
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	48.6157 / 0	36.6258	1.5881	0.0379	87.6168
Total		**43.0464**	**1.8147**	**0.0433**	**101.3212**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	6.93162 / 4.24841	6.4206	0.2267	5.4300e-003	13.7044
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	48.6157 / 0	36.6258	1.5881	0.0379	87.6168
Total		**43.0464**	**1.8147**	**0.0433**	**101.3212**

Second Harvest Food bank - Santa Clara County, Annual

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.4958	2.8069	0.0000	117.6689
Unmitigated	47.4958	2.8069	0.0000	117.6689

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.09	0.0183	1.0800e-003	0.0000	0.0453
General Office Building	36.27	7.3625	0.4351	0.0000	18.2402
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	197.62	40.1151	2.3707	0.0000	99.3834

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

Total		**47.4958**	**2.8069**	**0.0000**	**117.6689**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.09	0.0183	1.0800e-003	0.0000	0.0453
General Office Building	36.27	7.3625	0.4351	0.0000	18.2402
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	197.62	40.1151	2.3707	0.0000	99.3834
Total		**47.4958**	**2.8069**	**0.0000**	**117.6689**

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	1	50	805	0.73	Diesel
Emergency Generator	1	1	50	4020	0.73	Diesel

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

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)	0.1980	0.2286	0.5047	9.5000e-004		8.0900e-003	8.0900e-003		8.0900e-003	8.0900e-003	0.0000	91.8673	91.8673	0.0129	0.0000	92.1893
Total	**0.1980**	**0.2286**	**0.5047**	**9.5000e-004**		**8.0900e-003**	**8.0900e-003**		**8.0900e-003**	**8.0900e-003**	**0.0000**	**91.8673**	**91.8673**	**0.0129**	**0.0000**	**92.1893**

11.0 Vegetation

Table 2
Project Trip Generation Estimates

Land Use	Trip Rate Source	Size	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Trips	Rate	In	Out	In	Out	Trips	Rate	In	Out	In	Out	Trips
Approved Office Space																
Two Office Buildings	Research and Development[1]	246,107 square feet	8.00	1,969	16%	80%	20%	252	63	315	14%	10%	90%	28	248	276
Proposed Warehouse Distribution Space (ITE Rates)																
Warehouse	ITE # 150 - Warehousing[2]	209,603 Square Feet	1.71	358	0.17	77%	23%	28	8	36	0.18	28%	72%	11	27	38
Office	ITE # 710 - General Office Building[2]	39,627 Square Feet	10.84	430	1.52	88%	12%	53	7	60	1.44	17%	83%	10	47	57
Total Project Trips				***788***				***81***	***15***	***96***				***21***	***74***	***95***
Net Project Trips (Proposed - Approved)				**-1,181**				**-171**	**-48**	**-219**				**-7**	**-174**	**-181**
Proposed Warehouse Distribution Space (Applicant's Information)																
Warehouse	Applicant's Information	249,230 Square Feet	3.507	874				264	48	312				36	226	262
Net Project Trips (Proposed - Approved)				**-1,095**				**12**	**-15**	**-3**				**8**	**-22**	**-14**

Notes:
[1]Interim Guidelines for Traffic Impact Analysis of Land Developments, June 1994 based on the original Cisco Site 6 EIR traffic study.
[2]ITE Trip Generation Manual, 11th Edition 2021

Air Quality/Noise Construction Information Data Request

Project Name: Second Harvest Food Bank

ALL CONSTRUCTION DURATIONS ARE ESTIMATES AND WILL BE ADJUSTED WHEN THE PROJECT HAS A GC ON BOARD. PLEASE DEFER TO THE MODEL FOR DEFAULTS TO PUT INTO THE SYSTEM. FOR NOW, THE BEST ESTIMATE WE HAVE ON CONSTRUCTION DURATION IS 15 MONTHS

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

	Dwelling Units	10.47	total project acres disturbed
	s.f. residential		
	s.f. retail		
39000	s.f. office/commercial		
210,230	s.f. other, specify:		
	s.f. parking garage	161	spaces
147560	s.f. parking lot		spaces (+ 35 TRUCK STALLS)

Construction Hours am to pm

Pile Driving? Y/N?

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

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: ____3,600 KW_____

Fuel Type: ___TBD_____

Location in project (Plans Desired if Available): Back of building around docks

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	No Demolition	**Start Date:**	**7/26/2022**	**Total phase:**	**0**			**Overall Import/Export Volumes**
		End Date:	**8/9/2022**					
	Concrete/Industrial Saws	81	0.73				0	**Demolition Volume**
	Excavators	158	0.38				0	Square footage of buildings to be demolished
	Rubber-Tired Dozers	247	0.4				0	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37				0	**0** square feet *or*
								? Hauling volume (tons)
								Any pavement demolished and hauled? **0 tons**
	Site Preparation	**Start Date:**	**7/26/2022**	**Total phase:**	**10**			
		End Date:						
	Graders	187	0.41			0	0	
3	Rubber Tired Dozers	247	0.4	8	10	8	240	
4	Tractors/Loaders/Backhoes	97	0.37	8	10	8	320	
	Grading / Excavation	**Start Date:**	**8/6/2022**	**Total phase:**	**30**			
		End Date:						**Soil Hauling Volume**
2	Excavators	158	0.38	8	30	8	480	Export volume = **?** cubic yards?
1	Graders	187	0.41	8	30	8	240	Import volume = **14,598** cubic yards?
1	Rubber Tired Dozers	247	0.4	8	30	8	240	
2	Scrapers	367	0.73	8	30	8	480	
2	Tractors/Loaders/Backhoes	97	0.37	8	30	8	480	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**8/6/2022**	**Total phase:**	**30**			
		End Date:						
1	Tractor/Loader/Backhoe	97	0.37	8	30	8	240	
1	Excavators	158	0.38	8	30	8	240	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**9/18/2022**	**Total phase:**	**300**			**Cement Trucks? _?_ Total Round-Trips**
		End Date:						
1	Cranes	231	0.29	7	300	7	2100	Electric? (Y/N) Otherwise assumed diesel
3	Forklifts	89	0.2	8	300	8	7200	Liquid Propane (LPG)? (Y/N) Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	300	8	2400	Or temporary line power? (Y/N) ___
3	Tractors/Loaders/Backhoes	97	0.37	7	300	7	6300	
1	Welders	46	0.45	8	300	8	2400	
	Other Equipment?					0		
	Building - Interior/Architectural Coating	**Start Date:**	**11/11/2023**	**Total phase:**	**20**			
		End Date:						
1	Air Compressors	78	0.48	6	20	6	120	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**11/11/2023**	**Total phase:**	**20**			
		Start Date:						
	Cement and Mortar Mixers	9	0.56			0	0	
2	Pavers	130	0.42	8	20	8	320	**Asphalt? 2733 cubic yards computed based on square footage * 0.5ft thick**
2	Paving Equipment	132	0.36	8	20	8	320	
2	Rollers	80	0.38	8	20	8	320	
	Tractors/Loaders/Backhoes	97	0.37			0	0	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						

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 horepower or load factor, as appropriate

Complete one sheet for each project component

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

Second Harvest Food Bank - TRU Operation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	807.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Operational Off-Road Equipment - TRU Emissions: 100 trucks, 2hrs in transit, 15min on site. In-state avg Hp is 33.8hp, load factor is 0.46

Construction Phase - TRU operation

Off-road Equipment - TRU Emissions: 50 trucks, 2hrs in transit, 15min on site. In-state avg Hp is 33.8hp, load factor is 0.46

Construction Off-road Equipment Mitigation - assume Tier 4

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	50.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	0.00	366.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFleetMix	HHD	6.4040e-003	0.00
tblFleetMix	LDA	0.57	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.1020e-003	0.00
tblFleetMix	MCY	0.02	0.00

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

tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	2.7760e-003	0.00
tblFleetMix	MHD	7.9340e-003	0.00
tblFleetMix	OBUS	9.0000e-004	0.00
tblFleetMix	SBUS	9.1400e-004	0.00
tblFleetMix	UBUS	3.8000e-004	0.00
tblOffRoadEquipment	HorsePower	84.00	33.80
tblOffRoadEquipment	LoadFactor	0.74	0.46
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	33.80
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.25
tblOperationalOffRoadEquipment	OperLoadFactor	0.74	0.46
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	100.00
tblTripsAndVMT	WorkerTripNumber	125.00	3.00

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					
2024	0.3358	2.5236	2.6786	4.9700e-003	4.3500e-003	0.0754	0.0797	1.1600e-003	0.0754	0.0765	0.0000	366.3100	366.3100	0.0269	9.0000e-005	367.0087
Maximum	**0.3358**	**2.5236**	**2.6786**	**4.9700e-003**	**4.3500e-003**	**0.0754**	**0.0797**	**1.1600e-003**	**0.0754**	**0.0765**	**0.0000**	**366.3100**	**366.3100**	**0.0269**	**9.0000e-005**	**367.0087**

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					

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

2024	0.0858	1.9377	2.8991	4.9700e-003	4.3500e-003	5.6500e-003	0.0100	1.1600e-003	5.6500e-003	6.8100e-003	0.0000	366.3096	366.3096	0.0269	9.0000e-005	367.0083
Maximum	**0.0858**	**1.9377**	**2.8991**	**4.9700e-003**	**4.3500e-003**	**5.6500e-003**	**0.0100**	**1.1600e-003**	**5.6500e-003**	**6.8100e-003**	**0.0000**	**366.3096**	**366.3096**	**0.0269**	**9.0000e-005**	**367.0083**

	ROG	NOx	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	**74.45**	**23.22**	**-8.23**	**0.00**	**0.00**	**92.50**	**87.45**	**0.00**	**92.50**	**91.10**	**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)
4	**10-19-2023**	**1-18-2024**	0.1406	0.0995
5	**1-19-2024**	**4-18-2024**	0.7110	0.5031
6	**4-19-2024**	**7-18-2024**	0.7110	0.5031
7	**7-19-2024**	**9-30-2024**	0.5781	0.4091
		Highest	0.7110	0.5031

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.6528	4.9224	5.2041	9.6200e-003		0.1470	0.1470		0.1470	0.1470	0.0000	708.4734	708.4734	0.0524	0.0000	709.7824
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6528**	**4.9224**	**5.2041**	**9.6200e-003**	**0.0000**	**0.1470**	**0.1470**	**0.0000**	**0.1470**	**0.1470**	**0.0000**	**708.4734**	**708.4734**	**0.0524**	**0.0000**	**709.7824**

Mitigated Operational

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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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.6528	4.9224	5.2041	9.6200e-003		0.1470	0.1470		0.1470	0.1470	0.0000	708.4734	708.4734	0.0524	0.0000	709.7824
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6528**	**4.9224**	**5.2041**	**9.6200e-003**	**0.0000**	**0.1470**	**0.1470**	**0.0000**	**0.1470**	**0.1470**	**0.0000**	**708.4734**	**708.4734**	**0.0524**	**0.0000**	**709.7824**

	ROG	NOx	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	Site Preparation	Site Preparation	1/1/2024	12/31/2024	7	366	

Acres of Grading (Site Preparation Phase): 0

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
Site Preparation	Generator Sets	50	2.30	33.8	0.46

Trips and VMT

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

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
Site Preparation	50	3.00	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

3.2 Site Preparation - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3345	2.5228	2.6672	4.9300e-003		0.0754	0.0754		0.0754	0.0754	0.0000	363.1011	363.1011	0.0268	0.0000	363.7720
Total	**0.3345**	**2.5228**	**2.6672**	**4.9300e-003**	**0.0000**	**0.0754**	**0.0754**	**0.0000**	**0.0754**	**0.0754**	**0.0000**	**363.1011**	**363.1011**	**0.0268**	**0.0000**	**363.7720**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.5000e-004	0.0114	3.0000e-005	4.3500e-003	2.0000e-005	4.3700e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.2089	3.2089	9.0000e-005	9.0000e-005	3.2367
Total	**1.2900e-003**	**8.5000e-004**	**0.0114**	**3.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3700e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.2089**	**3.2089**	**9.0000e-005**	**9.0000e-005**	**3.2367**

Mitigated Construction On-Site

Second Harvest Food Bank - TRU Operation - Santa Clara 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0845	1.9368	2.8876	4.9300e-003		5.6300e-003	5.6300e-003		5.6300e-003	5.6300e-003	0.0000	363.1007	363.1007	0.0268	0.0000	363.7716
Total	**0.0845**	**1.9368**	**2.8876**	**4.9300e-003**	**0.0000**	**5.6300e-003**	**5.6300e-003**	**0.0000**	**5.6300e-003**	**5.6300e-003**	**0.0000**	**363.1007**	**363.1007**	**0.0268**	**0.0000**	**363.7716**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.5000e-004	0.0114	3.0000e-005	4.3500e-003	2.0000e-005	4.3700e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.2089	3.2089	9.0000e-005	9.0000e-005	3.2367
Total	**1.2900e-003**	**8.5000e-004**	**0.0114**	**3.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3700e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.2089**	**3.2089**	**9.0000e-005**	**9.0000e-005**	**3.2367**

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

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

Category	tons/yr										MT/yr					
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	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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

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

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					
User Defined Industrial	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					
User Defined Industrial	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			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000

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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			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

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

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

SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Second Harvest Food Bank - TRU Operation - Santa Clara County, Annual

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Second Harvest Food Bank - TRU Operation - Santa Clara County, Annual

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

Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	100	2.25	365	33.8	0.46	Diesel

UnMitigated/Mitigated

Second Harvest Food Bank - TRU Operation - Santa Clara 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
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.6528	4.9224	5.2041	9.6200e-003		0.1470	0.1470		0.1470	0.1470	0.0000	708.4734	708.4734	0.0524	0.0000	709.7824
Total	**0.6528**	**4.9224**	**5.2041**	**9.6200e-003**		**0.1470**	**0.1470**		**0.1470**	**0.1470**	**0.0000**	**708.4734**	**708.4734**	**0.0524**	**0.0000**	**709.7824**

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

Truck and TRU Assumptions

From: Stan Edde sedde@shfb.org
Sent: Thursday, January 20, 2022 8:23 AM
To: Amber Sharpe ASharpe@davidjpowers.com
Subject: RE: Second Harvest Food Bank Project - Trucks

These are routes and involve several sops. Some, require a return to warehouse and second deliveries. We could not say 35 miles one way, but the routes from warehouse, to sites, and back, average 70 miles per day. Stan

Stan Edde (he/him)
COO
Second Harvest of Silicon Valley
o: 408-266-8866, ext. 318 | **c:** 832-266-6347
e: sedde@shfb.org

Visit us online – shfb.org

From: Amber Sharpe <ASharpe@davidjpowers.com>
Sent: Thursday, January 20, 2022 7:47 AM
To: Stan Edde <sedde@shfb.org>
Subject: RE: Second Harvest Food Bank Project - Trucks

Hi Stan,

Thank you. Would that be 35 miles per truck trip (assuming each truck would make a trip to and from the site)?

Amber Sharpe | Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200 | San José, CA 95126
Main: 408.258.3500 | Direct: 408.454.3409
asharpe@davidjpowers.com

From: Stan Edde <sedde@shfb.org>
Sent: Thursday, January 20, 2022 7:00 AM
To: Amber Sharpe <ASharpe@davidjpowers.com>
Subject: RE: Second Harvest Food Bank Project - Trucks

Our truck average 70 miles per day; Stan

Stan Edde (he/him)
COO
Second Harvest of Silicon Valley
o: 408-266-8866, ext. 318 | **c:** 832-266-6347
e: sedde@shfb.org

Visit us online – shfb.org

From: Stan Edde sedde@shfb.org
Sent: Friday, January 14, 2022 4:28 PM
To: Amber Sharpe ASharpe@davidjpowers.com
Cc: Gidzinski, Kirstin Kirstin.Gidzinski@am.jll.com; David Andris dandris@southbay.us; Akoni Danielsen ADanielsen@davidjpowers.com
Subject: Re: Second Harvest Food Bank Project - Truck

YES. To all three, Stan Edde

Sent from my iPhone

From: James Reyff <JReyff@illingworthrodkin.com>
Sent: Friday, January 14, 2022 3:23 PM
To: Amber Sharpe <ASharpe@davidjpowers.com>; Carrie Janello <cjanello@illingworthrodkin.com>
Cc: Michael S. Thill <mthill@illingworthrodkin.com>
Subject: RE: Second Harvest Warehouse Project - Air Quality and Noise

Hi Amber,
For clarification:

1. Is the 2hrs running on diesel (for TRU) while in transit?
2. We were planning on assuming 15 minutes of diesel TRU operation per trip onsite for the *SFHB trucks*.
3. We are planning on assuming 30 minutes of diesel TRU operation per trip onsite for the *non SFHB trucks*.

   Are these reasonable assumptions.

   -James

James A. Reyff
Illingworth & Rodkin, Inc.
Direct: 707.753-4570

(T) 707.794.0400 x106
(cell) 415-309-2814
429 E. Cotati Ave
Cotati, CA 94931

From: Amber Sharpe <ASharpe@davidjpowers.com>
Sent: Friday, January 14, 2022 11:51 AM
To: James Reyff <JReyff@illingworthrodkin.com>; Carrie Janello <cjanello@illingworthrodkin.com>
Cc: Michael S. Thill <mthill@illingworthrodkin.com>
Subject: RE: Second Harvest Warehouse Project - Air Quality and Noise

Hi James,

Below is Second Harvest's responses to your questions about trucks. Do you have any follow up questions?

Amber

From: Stan Edde sedde@shfb.org
Sent: Friday, January 14, 2022 11:34 AM
To: Amber Sharpe ASharpe@davidjpowers.com
Subject: RE: Second Harvest Food Bank Project - Truck

Amber, To answer you questions, from January 14:

Of the 50 trucks, 90% are diesel powered refrigeration trailers. 100% of SHFB trucks are refrigerated trucks.

For the 90%(40 trucks), they would be on diesel running, 2 hours per day; when at the dock all, 90% would be on electrical power.

All 25 docks will have electrical hookups, and 90% of the trucks will be on electrical power for their TRUs. Pre-cool, loading; and unloading.

I hope this answers your question. The 10% not available for electrical hookups are deliveries from over the road drivers. The plug-ins will be available for their use, but we have no guarantee that their truck would be equipped to use the hook-up.

Stan

Stan Edde (he/him)
COO
Second Harvest of Silicon Valley
o: 408-266-8866, ext. 318 | **c:** 832-266-6347
e: sedde@shfb.org

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From: Amber Sharpe
Sent: Friday, January 14, 2022 10:35 AM
To: 'James Reyff' <JReyff@illingworthrodkin.com>; Carrie Janello <cjanello@illingworthrodkin.com>
Cc: Michael S. Thill <mthill@illingworthrodkin.com>
Subject: RE: Second Harvest Warehouse Project - Air Quality and Noise

Hi James,

I sent this request to the client and asked if they could provide it today.

Thank you,

Amber Sharpe | Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200 | San José, CA 95126
Main: 408.258.3500 | Direct: 408.454.3409
asharpe@davidjpowers.com

Celebrating 50 Years of Quality Environmental Review!

From: James Reyff <JReyff@illingworthrodkin.com>
Sent: Thursday, January 13, 2022 4:51 PM
To: Amber Sharpe <ASharpe@davidjpowers.com>; Carrie Janello <cjanello@illingworthrodkin.com>
Cc: Michael S. Thill <mthill@illingworthrodkin.com>
Subject: RE: Second Harvest Warehouse Project - Air Quality and Noise

Hi Amber,
We need some more information regarding trucks. Can you find out the following:

1. What percent of trucks are refrigerated i.e., include diesel-powered Transport Refrigeration Units (TRUs)
2. How long would the TRUs operate per day when trucks are on site
3. Would there be electrical plug ins and would trucks use those?

I noticed that the worksheet originally submitted but for a different site showed most of the trucks were TRUs (i.e., 95%).

Thanks!
-James

James A. Reyff
Illingworth & Rodkin, Inc.

Direct: 707.753-4570
(T) 707.794.0400 x106
(cell) 415-309-2814
429 E. Cotati Ave
Cotati, CA 94931

From: Amber Sharpe <ASharpe@davidjpowers.com>
Sent: Monday, December 20, 2021 5:27 PM
To: Carrie Janello <cjanello@illingworthrodkin.com>; James Reyff <JReyff@illingworthrodkin.com>
Cc: Michael S. Thill <mthill@illingworthrodkin.com>
Subject: RE: Second Harvest Warehouse Project - Air Quality and Noise

Hi Carrie,

I wanted to circle back with you on this.

- For the truck delivery hours, your reports should assume there will be up to four (4) truck deliveries at night (between the hours of 10 pm and 6 am)
- Also, we recently heard from the applicant that we should assume up to 100 daily truck trips (50 trucks) instead of 86 daily truck trips (43 trucks). Have you already started modeling? If not, Carrie and James - please assume there will be 100 operational daily truck trips in the air quality and noise reports.
- Also, I wanted to send you the most recent trip generation table (see attached). It shows that the proposed warehouse would generate less trips than the previously entitled office buildings. Since the warehouse would generate less trips than the 2013 entitled office buildings and the 2013 approved office buildings fit within the 2000 Cisco Site 6 EIR), we can assume the proposed project would tier from the 2000 Cisco Site 6 EIR cumulative.

Thanks and feel free to let me know if you have any questions.

Amber Sharpe | Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200 | San José, CA 95126
Direct: 408.454.3409
asharpe@davidjpowers.com

Generator Assumptions

From: Amber Sharpe <ASharpe@davidjpowers.com>
Sent: Friday, December 10, 2021 1:45 PM
To: Michael S. Thill <mthill@illingworthrodkin.com>; James Reyff <JReyff@illingworthrodkin.com>
Subject: RE: Construction Info Request - Second Harvest Warehouse Project

Hello,

I believe the applicant addressed our questions regarding the discrepancies in the data that was provided. See attached data (for daily truck generation estimates, use Distribution Trip and Volumes sheet provided by Hexagon, and not the trip estimates in the Data Request sheet provided by the applicant). Below are the answers to our questions:

- **Number of Delivery Trucks and Daily Truck Trips**: The Second Harvest Data Request shows there 42 delivery trucks and 32 daily trips (traffic report/trip generation and volumes sheet assumes 43 delivery trucks and 86 daily trips based on previous information provided). The traffic study and air quality report should be consistent. Please confirm that our I&R should evaluate number of trucks and 86 daily trips assumed in the traffic report (this would provide a conservative estimate). @Stan Edde – Per David Andris 12/9 email. The technical studies should assume 86 operational daily truck trips. **(question answered)**

- **Refrigerated/Non-Refrigerated Trucks**: Will you confirm the number of trucks that will be refrigerated (these have diesel motors and different emissions rates)? The Data Request sheet indicates 41 trucks will be refrigerated. Yes there will be 41 refrigerated trucks. **(question answered)**

- **Generators**: The Data Request sheet (Generators Tab) indicates there will be 1 – 3000 KW generator and 1 – 600 KW generator. The Air Quality Noise Construction Data Request sheet indicates there is 1 – 3,600 KW generator. How many generators will be on-site (1 or 2) There will be 2 generators on-site: 1-600 KW and 1-3,000 KW generator. **(question answered)**

- **Other Equipment (Post Construction)**: Will there be any forklifts used during project operations? Based on email from Stan Edde – 50 forklifts will used at the site. These will be battery-operated, with charging stations (batteries will be sealed, no water). No natural gas or propane will be used for any material handling equipment. **(question answered)**

Is there anything else needed for the air and noise studies?

Thank you,

Amber Sharpe | Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200 | San José, CA 95126
Direct: 408.454.3409
asharpe@davidjpowers.com

Quality Environmental Review Makes a Difference

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	246.11	1000sqft	5.65	246,107.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	807.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No demolition

Vehicle Trips - Traffic report = 8.00 (1.35/0.79)

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	246,110.00	246,107.00
tblVehicleEF	HHD	0.02	0.23
tblVehicleEF	HHD	0.05	0.12
tblVehicleEF	HHD	0.00	8.0277e-008
tblVehicleEF	HHD	6.33	5.20
tblVehicleEF	HHD	0.40	0.77
tblVehicleEF	HHD	5.9420e-003	6.2621e-004
tblVehicleEF	HHD	1,048.88	832.60
tblVehicleEF	HHD	1,413.90	1,617.58
tblVehicleEF	HHD	0.05	0.02
tblVehicleEF	HHD	0.17	0.13
tblVehicleEF	HHD	0.22	0.26
tblVehicleEF	HHD	7.0000e-006	1.9476e-005
tblVehicleEF	HHD	5.39	4.11
tblVehicleEF	HHD	2.69	1.85
tblVehicleEF	HHD	2.32	2.73
tblVehicleEF	HHD	2.5820e-003	2.1825e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	1.0000e-006	6.0968e-007
tblVehicleEF	HHD	2.4710e-003	2.0821e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8830e-003	8.7814e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	5.6058e-007
tblVehicleEF	HHD	2.0000e-006	1.9598e-004
tblVehicleEF	HHD	9.3000e-005	5.8285e-005
tblVehicleEF	HHD	0.43	0.33
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	4.1000e-005	5.2501e-004
tblVehicleEF	HHD	2.0000e-006	4.3615e-007
tblVehicleEF	HHD	9.7610e-003	7.2827e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.00	1.9355e-007
tblVehicleEF	HHD	2.0000e-006	1.9598e-004

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tblVehicleEF	HHD	9.3000e-005	5.8285e-005
tblVehicleEF	HHD	0.49	0.59
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.14
tblVehicleEF	HHD	4.1000e-005	5.2501e-004
tblVehicleEF	HHD	3.0000e-006	4.7753e-007
tblVehicleEF	LDA	1.7200e-003	2.0505e-003
tblVehicleEF	LDA	0.04	0.07
tblVehicleEF	LDA	0.52	0.65
tblVehicleEF	LDA	2.08	3.01
tblVehicleEF	LDA	234.59	246.81
tblVehicleEF	LDA	49.79	64.09
tblVehicleEF	LDA	3.9560e-003	4.1561e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.16	0.24
tblVehicleEF	LDA	0.04	7.1681e-003
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.2900e-003	1.1710e-003
tblVehicleEF	LDA	1.6800e-003	1.9109e-003
tblVehicleEF	LDA	0.02	2.5088e-003
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.1880e-003	1.0780e-003
tblVehicleEF	LDA	1.5440e-003	1.7570e-003
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	6.4090e-003	7.8857e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.19	0.31
tblVehicleEF	LDA	2.3210e-003	2.4398e-003
tblVehicleEF	LDA	4.9300e-004	6.3364e-004
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	9.3170e-003	0.01
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.21	0.34
tblVehicleEF	LDT1	3.6010e-003	6.2221e-003
tblVehicleEF	LDT1	0.06	0.10
tblVehicleEF	LDT1	0.85	1.42
tblVehicleEF	LDT1	2.26	5.23
tblVehicleEF	LDT1	280.86	327.08
tblVehicleEF	LDT1	60.30	86.30
tblVehicleEF	LDT1	5.8110e-003	9.3742e-003
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.07	0.13
tblVehicleEF	LDT1	0.21	0.38
tblVehicleEF	LDT1	0.04	9.2256e-003
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.6380e-003	1.9273e-003
tblVehicleEF	LDT1	2.1080e-003	2.8975e-003
tblVehicleEF	LDT1	0.02	3.2290e-003
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.5070e-003	1.7740e-003
tblVehicleEF	LDT1	1.9380e-003	2.6642e-003
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.03

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tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.27	0.54
tblVehicleEF	LDT1	2.7790e-003	3.2334e-003
tblVehicleEF	LDT1	5.9700e-004	8.5312e-004
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.30	0.59
tblVehicleEF	LDT2	2.9320e-003	2.8175e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.73	0.83
tblVehicleEF	LDT2	2.69	3.66
tblVehicleEF	LDT2	301.75	340.73
tblVehicleEF	LDT2	65.36	87.27
tblVehicleEF	LDT2	5.6680e-003	6.0170e-003
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.25	0.33
tblVehicleEF	LDT2	0.04	8.8664e-003
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.3400e-003	1.3328e-003
tblVehicleEF	LDT2	1.7010e-003	2.1075e-003
tblVehicleEF	LDT2	0.02	3.1032e-003
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.2340e-003	1.2261e-003
tblVehicleEF	LDT2	1.5640e-003	1.9377e-003
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.28	0.38
tblVehicleEF	LDT2	2.9850e-003	3.3680e-003
tblVehicleEF	LDT2	6.4700e-004	8.6280e-004
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.31	0.42
tblVehicleEF	LHD1	4.9880e-003	5.3774e-003
tblVehicleEF	LHD1	7.8580e-003	8.1797e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.71	0.90
tblVehicleEF	LHD1	1.05	2.13
tblVehicleEF	LHD1	8.86	8.73
tblVehicleEF	LHD1	779.34	784.16
tblVehicleEF	LHD1	11.55	17.80
tblVehicleEF	LHD1	7.4200e-004	6.4155e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.04
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.65	0.66
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	8.4200e-004	6.8092e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7790e-003	9.4143e-003

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tblVehicleEF	LHD1	9.6230e-003	0.01
tblVehicleEF	LHD1	2.4700e-004	2.2700e-004
tblVehicleEF	LHD1	8.0500e-004	6.5146e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4450e-003	2.3536e-003
tblVehicleEF	LHD1	9.1590e-003	0.01
tblVehicleEF	LHD1	2.2800e-004	2.0872e-004
tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.07	0.11
tblVehicleEF	LHD1	8.6000e-005	8.4970e-005
tblVehicleEF	LHD1	7.6080e-003	7.6604e-003
tblVehicleEF	LHD1	1.1400e-004	1.7601e-004
tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.08	0.12
tblVehicleEF	LHD2	3.0380e-003	3.2486e-003
tblVehicleEF	LHD2	6.6540e-003	6.9742e-003
tblVehicleEF	LHD2	7.7290e-003	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.59	0.57
tblVehicleEF	LHD2	0.60	1.20
tblVehicleEF	LHD2	13.88	13.79
tblVehicleEF	LHD2	754.92	828.98
tblVehicleEF	LHD2	7.59	9.91
tblVehicleEF	LHD2	1.7350e-003	1.6846e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.77	0.89
tblVehicleEF	LHD2	0.17	0.25
tblVehicleEF	LHD2	1.4370e-003	1.3708e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2700e-004	1.0091e-004
tblVehicleEF	LHD2	1.3750e-003	1.3115e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6920e-003	2.6644e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1700e-004	9.2783e-005
tblVehicleEF	LHD2	9.8500e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	1.3300e-004	1.3213e-004
tblVehicleEF	LHD2	7.2890e-003	7.9884e-003
tblVehicleEF	LHD2	7.5000e-005	9.7950e-005
tblVehicleEF	LHD2	9.8500e-004	0.07

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tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.07
tblVehicleEF	MCY	0.33	0.17
tblVehicleEF	MCY	0.25	0.19
tblVehicleEF	MCY	18.60	14.38
tblVehicleEF	MCY	9.06	7.69
tblVehicleEF	MCY	210.08	190.69
tblVehicleEF	MCY	60.71	51.78
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.9480e-003
tblVehicleEF	MCY	1.15	0.60
tblVehicleEF	MCY	0.27	0.15
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.9970e-003	1.9536e-003
tblVehicleEF	MCY	2.9300e-003	3.3804e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.8650e-003	1.8272e-003
tblVehicleEF	MCY	2.7520e-003	3.1775e-003
tblVehicleEF	MCY	0.90	3.90
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.19	1.12
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	1.93	1.40
tblVehicleEF	MCY	2.0790e-003	1.8852e-003
tblVehicleEF	MCY	6.0100e-004	5.1188e-004
tblVehicleEF	MCY	0.90	0.09
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.72	1.35
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	2.10	1.52
tblVehicleEF	MDV	3.4000e-003	3.7489e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.78	0.94
tblVehicleEF	MDV	2.95	3.93
tblVehicleEF	MDV	364.87	411.00
tblVehicleEF	MDV	77.92	104.42
tblVehicleEF	MDV	7.5920e-003	8.3472e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.29	0.42
tblVehicleEF	MDV	0.04	8.9998e-003
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.4300e-003	1.3734e-003
tblVehicleEF	MDV	1.8100e-003	2.1610e-003
tblVehicleEF	MDV	0.02	3.1499e-003
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.3190e-003	1.2657e-003
tblVehicleEF	MDV	1.6640e-003	1.9870e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.02

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tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.34	0.50
tblVehicleEF	MDV	3.6060e-003	4.0606e-003
tblVehicleEF	MDV	7.7100e-004	1.0323e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.38	0.54
tblVehicleEF	MH	9.5570e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.93	1.29
tblVehicleEF	MH	2.03	2.49
tblVehicleEF	MH	1,501.42	1,686.59
tblVehicleEF	MH	18.14	22.55
tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.31	1.54
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.6100e-004	3.1274e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2790e-003	3.3014e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4000e-004	2.8755e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.06	0.08
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.7900e-004	2.2292e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.08	0.11
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.10	0.12
tblVehicleEF	MHD	3.5790e-003	0.01
tblVehicleEF	MHD	1.6940e-003	9.6583e-003
tblVehicleEF	MHD	9.1320e-003	8.7727e-003
tblVehicleEF	MHD	0.39	0.67
tblVehicleEF	MHD	0.23	0.35
tblVehicleEF	MHD	1.07	1.07
tblVehicleEF	MHD	72.08	160.32
tblVehicleEF	MHD	1,080.76	1,229.84
tblVehicleEF	MHD	9.15	8.53
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.14	0.16
tblVehicleEF	MHD	7.2440e-003	6.0319e-003
tblVehicleEF	MHD	0.41	0.89
tblVehicleEF	MHD	1.45	1.11
tblVehicleEF	MHD	1.70	1.41
tblVehicleEF	MHD	3.6900e-004	2.1276e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	0.01	0.01

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tblVehicleEF	MHD	7.0230e-003	0.01
tblVehicleEF	MHD	1.1500e-004	1.0681e-004
tblVehicleEF	MHD	3.5300e-004	2.0351e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.7130e-003	0.01
tblVehicleEF	MHD	1.0600e-004	9.8212e-005
tblVehicleEF	MHD	3.8300e-004	0.03
tblVehicleEF	MHD	0.02	6.2598e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	6.8400e-004	1.4906e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	9.1000e-005	8.4359e-005
tblVehicleEF	MHD	3.8300e-004	0.03
tblVehicleEF	MHD	0.02	6.2598e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	OBUS	7.0640e-003	7.4577e-003
tblVehicleEF	OBUS	3.6240e-003	9.2746e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.58	0.51
tblVehicleEF	OBUS	0.43	0.49
tblVehicleEF	OBUS	1.84	1.96
tblVehicleEF	OBUS	92.66	85.71
tblVehicleEF	OBUS	1,326.08	1,389.14
tblVehicleEF	OBUS	15.18	15.50
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.13	0.16
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.38	0.37
tblVehicleEF	OBUS	1.47	1.01
tblVehicleEF	OBUS	1.09	0.98
tblVehicleEF	OBUS	1.2200e-004	4.2305e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3930e-003	0.02
tblVehicleEF	OBUS	1.4500e-004	1.3439e-004
tblVehicleEF	OBUS	1.1700e-004	4.0468e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	7.0600e-003	0.02
tblVehicleEF	OBUS	1.3300e-004	1.2357e-004
tblVehicleEF	OBUS	1.0900e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.02	0.05
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	8.8000e-004	8.1111e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.5000e-004	1.5320e-004
tblVehicleEF	OBUS	1.0900e-003	0.07

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tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.03	0.06
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.10	0.10
tblVehicleEF	SBUS	0.05	0.07
tblVehicleEF	SBUS	6.0180e-003	0.09
tblVehicleEF	SBUS	4.9720e-003	4.8000e-003
tblVehicleEF	SBUS	2.27	1.65
tblVehicleEF	SBUS	0.49	0.88
tblVehicleEF	SBUS	0.72	0.66
tblVehicleEF	SBUS	346.78	189.45
tblVehicleEF	SBUS	1,049.23	1,028.12
tblVehicleEF	SBUS	4.12	3.73
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.13	0.13
tblVehicleEF	SBUS	4.7550e-003	4.2255e-003
tblVehicleEF	SBUS	3.44	1.39
tblVehicleEF	SBUS	4.65	2.57
tblVehicleEF	SBUS	0.86	0.48
tblVehicleEF	SBUS	3.6120e-003	1.3093e-003
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.8000e-005	3.9503e-005
tblVehicleEF	SBUS	3.4560e-003	1.2516e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.7190e-003	2.6499e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.4000e-005	3.6322e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3009e-003
tblVehicleEF	SBUS	0.25	0.18
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.08	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	3.3010e-003	1.7240e-003
tblVehicleEF	SBUS	0.01	9.5563e-003
tblVehicleEF	SBUS	4.1000e-005	3.6848e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3009e-003
tblVehicleEF	SBUS	0.36	0.30
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.10	0.16
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	UBUS	1.35	0.35
tblVehicleEF	UBUS	1.5380e-003	3.9302e-003
tblVehicleEF	UBUS	10.12	4.17
tblVehicleEF	UBUS	0.14	0.53
tblVehicleEF	UBUS	1,597.16	1,098.81
tblVehicleEF	UBUS	1.39	3.20
tblVehicleEF	UBUS	0.26	0.17
tblVehicleEF	UBUS	1.0770e-003	6.8294e-003
tblVehicleEF	UBUS	0.73	0.33
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.07	0.11
tblVehicleEF	UBUS	0.03	0.03

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tblVehicleEF	UBUS	5.3280e-003	6.2294e-003
tblVehicleEF	UBUS	1.5000e-005	1.2107e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	8.3320e-003	8.1709e-003
tblVehicleEF	UBUS	5.0960e-003	5.9561e-003
tblVehicleEF	UBUS	1.4000e-005	1.1132e-005
tblVehicleEF	UBUS	2.1000e-005	9.8939e-003
tblVehicleEF	UBUS	1.6100e-004	3.3034e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	2.9000e-005	7.9869e-003
tblVehicleEF	UBUS	6.4070e-003	0.01
tblVehicleEF	UBUS	0.01	9.4248e-003
tblVehicleEF	UBUS	1.4000e-005	3.1606e-005
tblVehicleEF	UBUS	2.1000e-005	9.8939e-003
tblVehicleEF	UBUS	1.6100e-004	3.3034e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	1.38	0.42
tblVehicleEF	UBUS	2.9000e-005	7.9869e-003
tblVehicleEF	UBUS	7.0150e-003	0.02
tblVehicleTrips	ST_TR	1.90	1.35
tblVehicleTrips	SU_TR	1.11	0.79
tblVehicleTrips	WD_TR	11.26	8.00

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					
2022	0.2256	2.0779	2.0455	4.3600e-003	0.2551	0.0965	0.3516	0.1082	0.0904	0.1986	0.0000	388.1701	388.1701	0.0696	0.0130	393.7726
2023	1.3335	0.4497	0.5515	1.1000e-003	0.0207	0.0204	0.0411	5.6300e-003	0.0192	0.0248	0.0000	98.0544	98.0544	0.0186	2.7200e-003	99.3301
Maximum	**1.3335**	**2.0779**	**2.0455**	**4.3600e-003**	**0.2551**	**0.0965**	**0.3516**	**0.1082**	**0.0904**	**0.1986**	**0.0000**	**388.1701**	**388.1701**	**0.0696**	**0.0130**	**393.7726**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2256	2.0779	2.0455	4.3600e-003	0.2551	0.0965	0.3516	0.1082	0.0904	0.1986	0.0000	388.1698	388.1698	0.0696	0.0130	393.7723
2023	1.3335	0.4497	0.5515	1.1000e-003	0.0207	0.0204	0.0411	5.6300e-003	0.0192	0.0248	0.0000	98.0543	98.0543	0.0186	2.7200e-003	99.3301
Maximum	**1.3335**	**2.0779**	**2.0455**	**4.3600e-003**	**0.2551**	**0.0965**	**0.3516**	**0.1082**	**0.0904**	**0.1986**	**0.0000**	**388.1698**	**388.1698**	**0.0696**	**0.0130**	**393.7723**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2022	4-30-2022	0.5459	0.5459
2	5-1-2022	7-31-2022	0.6555	0.6555
3	8-1-2022	10-31-2022	0.6572	0.6572

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4	**11-1-2022**	**1-31-2023**	0.6393	0.6393
5	**2-1-2023**	**4-30-2023**	1.5872	1.5872
		Highest	1.5872	1.5872

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	1.0897	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-003
Energy	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	1,074.4201	1,074.4201	0.0364	9.9200e-003	1,078.2871
Mobile	0.9712	0.6721	6.5533	0.0134	1.2562	9.4400e-003	1.2657	0.3131	8.8100e-003	0.3219	0.0000	1,240.4107	1,240.4107	0.0721	0.0577	1,259.4131
Waste						0.0000	0.0000		0.0000	0.0000	3.7959	0.0000	3.7959	0.2243	0.0000	9.4043
Water						0.0000	0.0000		0.0000	0.0000	38.3911	239.9761	278.3673	3.9529	0.0943	405.2904
Total	**2.0956**	**0.9879**	**6.8209**	**0.0153**	**1.2562**	**0.0335**	**1.2897**	**0.3131**	**0.0328**	**0.3459**	**42.1871**	**2,554.8113**	**2,596.9984**	**4.2858**	**0.1619**	**2,752.3995**

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	1.0897	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-003
Energy	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	1,074.4201	1,074.4201	0.0364	9.9200e-003	1,078.2871
Mobile	0.9712	0.6721	6.5533	0.0134	1.2562	9.4400e-003	1.2657	0.3131	8.8100e-003	0.3219	0.0000	1,240.4107	1,240.4107	0.0721	0.0577	1,259.4131
Waste						0.0000	0.0000		0.0000	0.0000	3.7959	0.0000	3.7959	0.2243	0.0000	9.4043
Water						0.0000	0.0000		0.0000	0.0000	38.3911	239.9761	278.3673	3.9529	0.0943	405.2904
Total	**2.0956**	**0.9879**	**6.8209**	**0.0153**	**1.2562**	**0.0335**	**1.2897**	**0.3131**	**0.0328**	**0.3459**	**42.1871**	**2,554.8113**	**2,596.9984**	**4.2858**	**0.1619**	**2,752.3995**

	ROG	NOx	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	Site Preparation	Site Preparation	3/1/2022	3/14/2022	5	10	
2	Grading	Grading	3/15/2022	4/11/2022	5	20	
3	Building Construction	Building Construction	4/12/2022	2/27/2023	5	230	
4	Paving	Paving	2/28/2023	3/27/2023	5	20	
5	Architectural Coating	Architectural Coating	3/28/2023	4/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 369,161; Non-Residential Outdoor: 123,054; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

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Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	79.00	40.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0983**	**8.0600e-003**	**0.1064**	**0.0505**	**7.4200e-003**	**0.0579**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.1700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5608	0.5608	2.0000e-005	2.0000e-005	0.5661
Total	**2.4000e-004**	**1.8000e-004**	**2.1700e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5608**	**0.5608**	**2.0000e-005**	**2.0000e-005**	**0.5661**

Mitigated Construction On-Site

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0983**	**8.0600e-003**	**0.1064**	**0.0505**	**7.4200e-003**	**0.0579**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.1700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5608	0.5608	2.0000e-005	2.0000e-005	0.5661
Total	**2.4000e-004**	**1.8000e-004**	**2.1700e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5608**	**0.5608**	**2.0000e-005**	**2.0000e-005**	**0.5661**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654
Total	**0.0195**	**0.2086**	**0.1527**	**3.0000e-004**	**0.0708**	**9.4100e-003**	**0.0802**	**0.0343**	**8.6600e-003**	**0.0429**	**0.0000**	**26.0548**	**26.0548**	**8.4300e-003**	**0.0000**	**26.2654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.6100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9347	0.9347	3.0000e-005	3.0000e-005	0.9435
Total	**4.0000e-004**	**2.9000e-004**	**3.6100e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9347**	**0.9347**	**3.0000e-005**	**3.0000e-005**	**0.9435**

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654
Total	**0.0195**	**0.2086**	**0.1527**	**3.0000e-004**	**0.0708**	**9.4100e-003**	**0.0802**	**0.0343**	**8.6600e-003**	**0.0429**	**0.0000**	**26.0547**	**26.0547**	**8.4300e-003**	**0.0000**	**26.2654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.6100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9347	0.9347	3.0000e-005	3.0000e-005	0.9435
Total	**4.0000e-004**	**2.9000e-004**	**3.6100e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9347**	**0.9347**	**3.0000e-005**	**3.0000e-005**	**0.9435**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1612	1.4757	1.5463	2.5500e-003		0.0765	0.0765		0.0719	0.0719	0.0000	218.9804	218.9804	0.0525	0.0000	220.2919
Total	**0.1612**	**1.4757**	**1.5463**	**2.5500e-003**		**0.0765**	**0.0765**		**0.0719**	**0.0719**	**0.0000**	**218.9804**	**218.9804**	**0.0525**	**0.0000**	**220.2919**

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	8.3600e-003	0.2131	0.0623	8.1000e-004	0.0249	2.2300e-003	0.0271	7.1900e-003	2.1400e-003	9.3300e-003	0.0000	78.4021	78.4021	1.7700e-003	0.0116	81.8937
Worker	0.0200	0.0147	0.1799	5.1000e-004	0.0592	3.1000e-004	0.0595	0.0158	2.8000e-004	0.0160	0.0000	46.5178	46.5178	1.4400e-003	1.3500e-003	46.9571
Total	**0.0284**	**0.2277**	**0.2422**	**1.3200e-003**	**0.0841**	**2.5400e-003**	**0.0866**	**0.0229**	**2.4200e-003**	**0.0254**	**0.0000**	**124.9199**	**124.9199**	**3.2100e-003**	**0.0129**	**128.8508**

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	0.1612	1.4757	1.5463	2.5500e-003		0.0765	0.0765		0.0719	0.0719	0.0000	218.9801	218.9801	0.0525	0.0000	220.2916
Total	**0.1612**	**1.4757**	**1.5463**	**2.5500e-003**		**0.0765**	**0.0765**		**0.0719**	**0.0719**	**0.0000**	**218.9801**	**218.9801**	**0.0525**	**0.0000**	**220.2916**

Mitigated Construction Off-Site

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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					
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	8.3600e-003	0.2131	0.0623	8.1000e-004	0.0249	2.2300e-003	0.0271	7.1900e-003	2.1400e-003	9.3300e-003	0.0000	78.4021	78.4021	1.7700e-003	0.0116	81.8937
Worker	0.0200	0.0147	0.1799	5.1000e-004	0.0592	3.1000e-004	0.0595	0.0158	2.8000e-004	0.0160	0.0000	46.5178	46.5178	1.4400e-003	1.3500e-003	46.9571
Total	**0.0284**	**0.2277**	**0.2422**	**1.3200e-003**	**0.0841**	**2.5400e-003**	**0.0866**	**0.0229**	**2.4200e-003**	**0.0254**	**0.0000**	**124.9199**	**124.9199**	**3.2100e-003**	**0.0129**	**128.8508**

3.4 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	0.0322	0.2949	0.3330	5.5000e-004		0.0143	0.0143		0.0135	0.0135	0.0000	47.5200	47.5200	0.0113	0.0000	47.8026
Total	**0.0322**	**0.2949**	**0.3330**	**5.5000e-004**		**0.0143**	**0.0143**		**0.0135**	**0.0135**	**0.0000**	**47.5200**	**47.5200**	**0.0113**	**0.0000**	**47.8026**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	0.0365	0.0115	1.7000e-004	5.4000e-003	2.1000e-004	5.6100e-003	1.5600e-003	2.1000e-004	1.7700e-003	0.0000	16.3041	16.3041	3.4000e-004	2.4000e-003	17.0265
Worker	4.0500e-003	2.8200e-003	0.0362	1.1000e-004	0.0128	6.0000e-005	0.0129	3.4200e-003	6.0000e-005	3.4700e-003	0.0000	9.7784	9.7784	2.8000e-004	2.7000e-004	9.8666
Total	**4.9500e-003**	**0.0394**	**0.0477**	**2.8000e-004**	**0.0182**	**2.7000e-004**	**0.0185**	**4.9800e-003**	**2.7000e-004**	**5.2400e-003**	**0.0000**	**26.0825**	**26.0825**	**6.2000e-004**	**2.6700e-003**	**26.8931**

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	0.0322	0.2949	0.3330	5.5000e-004		0.0143	0.0143		0.0135	0.0135	0.0000	47.5199	47.5199	0.0113	0.0000	47.8025
Total	**0.0322**	**0.2949**	**0.3330**	**5.5000e-004**		**0.0143**	**0.0143**		**0.0135**	**0.0135**	**0.0000**	**47.5199**	**47.5199**	**0.0113**	**0.0000**	**47.8025**

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

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

Vendor	9.0000e-004	0.0365	0.0115	1.7000e-004	5.4000e-003	2.1000e-004	5.6100e-003	1.5600e-003	2.1000e-004	1.7700e-003	0.0000	16.3041	16.3041	3.4000e-004	2.4000e-003	17.0265
Worker	4.0500e-003	2.8200e-003	0.0362	1.1000e-004	0.0128	6.0000e-005	0.0129	3.4200e-003	6.0000e-005	3.4700e-003	0.0000	9.7784	9.7784	2.8000e-004	2.7000e-004	9.8666
Total	**4.9500e-003**	**0.0394**	**0.0477**	**2.8000e-004**	**0.0182**	**2.7000e-004**	**0.0185**	**4.9800e-003**	**2.7000e-004**	**5.2400e-003**	**0.0000**	**26.0825**	**26.0825**	**6.2000e-004**	**2.6700e-003**	**26.8931**

3.5 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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

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	3.7000e-004	2.6000e-004	3.3500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9057	0.9057	3.0000e-005	3.0000e-005	0.9139
Total	**3.7000e-004**	**2.6000e-004**	**3.3500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9057**	**0.9057**	**3.0000e-005**	**3.0000e-005**	**0.9139**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

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	3.7000e-004	2.6000e-004	3.3500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9057	0.9057	3.0000e-005	3.0000e-005	0.9139
Total	**3.7000e-004**	**2.6000e-004**	**3.3500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9057**	**0.9057**	**3.0000e-005**	**3.0000e-005**	**0.9139**

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

3.6 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	1.2833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.2852**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	3.5700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.9661	0.9661	3.0000e-005	3.0000e-005	0.9748
Total	**4.0000e-004**	**2.8000e-004**	**3.5700e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9661**	**0.9661**	**3.0000e-005**	**3.0000e-005**	**0.9748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2833					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.2852**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.8000e-004	3.5700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.9661	0.9661	3.0000e-005	3.0000e-005	0.9748
Total	**4.0000e-004**	**2.8000e-004**	**3.5700e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9661**	**0.9661**	**3.0000e-005**	**3.0000e-005**	**0.9748**

4.0 Operational Detail - Mobile

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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	0.9712	0.6721	6.5533	0.0134	1.2562	9.4400e-003	1.2657	0.3131	8.8100e-003	0.3219	0.0000	1,240.4107	1,240.4107	0.0721	0.0577	1,259.4131
Unmitigated	0.9712	0.6721	6.5533	0.0134	1.2562	9.4400e-003	1.2657	0.3131	8.8100e-003	0.3219	0.0000	1,240.4107	1,240.4107	0.0721	0.0577	1,259.4131

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Research & Development	1,968.88	332.25	194.43	3,713,212	3,713,212
Total	1,968.88	332.25	194.43	3,713,212	3,713,212

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
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
Research & Development	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776

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	730.5927	730.5927	0.0298	3.6200e-003	732.4165
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	730.5927	730.5927	0.0298	3.6200e-003	732.4165
NaturalGas Mitigated	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.8274	343.8274	6.5900e-003	6.3000e-003	345.8706
NaturalGas Unmitigated	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.8274	343.8274	6.5900e-003	6.3000e-003	345.8706

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					
Research & Development	6.44308e+006	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.8274	343.8274	6.5900e-003	6.3000e-003	345.8706
Total		**0.0347**	**0.3158**	**0.2653**	**1.9000e-003**		**0.0240**	**0.0240**		**0.0240**	**0.0240**	**0.0000**	**343.8274**	**343.8274**	**6.5900e-003**	**6.3000e-003**	**345.8706**

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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					
Research & Development	6.44308e+006	0.0347	0.3158	0.2653	1.9000e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.8274	343.8274	6.5900e-003	6.3000e-003	345.8706
Total		**0.0347**	**0.3158**	**0.2653**	**1.9000e-003**		**0.0240**	**0.0240**		**0.0240**	**0.0240**	**0.0000**	**343.8274**	**343.8274**	**6.5900e-003**	**6.3000e-003**	**345.8706**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	1.99347e+006	730.5927	0.0298	3.6200e-003	732.4165
Total		**730.5927**	**0.0298**	**3.6200e-003**	**732.4165**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Research & Development	1.99347e+006	730.5927	0.0298	3.6200e-003	732.4165
Total		**730.5927**	**0.0298**	**3.6200e-003**	**732.4165**

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	1.0897	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-003
Unmitigated	1.0897	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-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	0.1283					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9612					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-003
Total	**1.0897**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.4000e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**4.6800e-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	0.1283					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9612					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4000e-003	4.4000e-003	1.0000e-005	0.0000	4.6800e-003
Total	**1.0897**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.4000e-003**	**4.4000e-003**	**1.0000e-005**	**0.0000**	**4.6800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	278.3673	3.9529	0.0943	405.2904
Unmitigated	278.3673	3.9529	0.0943	405.2904

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	121.011 / 0	278.3673	3.9529	0.0943	405.2904
Total		**278.3673**	**3.9529**	**0.0943**	**405.2904**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Research & Development	121.011 / 0	278.3673	3.9529	0.0943	405.2904
Total		**278.3673**	**3.9529**	**0.0943**	**405.2904**

8.0 Waste Detail

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8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.7959	0.2243	0.0000	9.4043
Unmitigated	3.7959	0.2243	0.0000	9.4043

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	18.7	3.7959	0.2243	0.0000	9.4043
Total		**3.7959**	**0.2243**	**0.0000**	**9.4043**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Research & Development	18.7	3.7959	0.2243	0.0000	9.4043
Total		**3.7959**	**0.2243**	**0.0000**	**9.4043**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2021 Calculations

Emfac2021 Construction Mobile Emissions

Summary of Construction Traffic Emissions (EMFAC2021)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
						Grams								
Hauling	1712.77	107524.95	49922.406	721.633	14142.70	6740.92	20883.6	2128.03	2937.65	5065.68	79727686.73	6500.97	12723.44	83681797
Vendor	10494.98	347423.61	170513.3	2198.926	47146.32	16988.17	64134.5	7094.02	7555.61	14649.63	238291506.6	13474.22	35085.88	249083955
Worker	75475.31	63686.02	802364.8	1824.722	181642.50	10820.69	192463.2	27331.43	3885.53	31216.96	184590301.4	6964.552	5864.682	186512090
Total (g)	87683.06	518634.5772	1022800.6	4745.280757	242931.52	34549.78353	277481.3	36553.4752	14378.79855	50932.27375	502609494.8	26939.74	53674.01	519277843
Total (lbs)	193.31	1143.39	2254.89	10.46	535.57	76.2	611.74	80.59	31.70	112.29	1108064.262	59.39197	118.3309	1144811.7
Total (tons)	0.0967	0.572	1.127	0.005	0.268	0.0381	0.3059	0.0403	0.016	0.056	554.03	0.03	0.06	572.40584
Total (MT)											502.61	0.03	0.05	519.27784

YEAR														
							Tons							
	2022	0.0308	0.1822	0.3593	0.0017	0.0854	0.0121	0.0975	0.0128	0.0051	0.0179	160.1943	0.008586	0.017107	165.50688
	2023	0.0658	0.3895	0.7681	0.0036	0.1824	0.0259	0.2084	0.0275	0.0108	0.0382	342.4152	0.018353	0.036567	353.77096

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*
Site Preparation	18	0	180	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	1944	0	0
Grading	20	0	600	0	1825	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	6480	0	36500
Trenching	5	0	150	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	1620	0	0
Building Construction	181	72	54300	21600	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	586440	157680	0
Paving	15	0	300	0	540	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	3240	0	10800
Architectural Coating	36	0	720	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	7776	0	0
			0	0					LD_Mix	HDT_Mix	HHDT	0	0	0

Number of Days Per Year					
2022	7/25/22	12/31/22	160	115	
2023	1/1/23	12/8/23	342	245	
			502	**360*Total Workdays***	

Phase	Start Date	End Date	Days/Week	Workdays
Site Preparation	7/25/2022	8/5/2022	5	10
Grading	8/6/2022	9/16/2022	5	30
Trenching	8/6/2022	9/16/2022	5	30
Building Construction	9/18/2022	11/10/2023	5	300
Paving	11/11/2023	12/8/2023	5	20
Architectural Coating	11/11/2023	12/8/2023	5	20

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
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 Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	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_HOTSOAK	ROG_RUNLOSS	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSOAK	TOG_RUNLOSS	TOG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2023	HHDT	Aggregate	Aggregate	Gasoline	3.454009	114.3093	114.3093	0	69.10781	8.107874	0	1.602501	0.00493	0	0.0017	0.005	0.035266	0.005362	0	0.001849	0.02	0.100759	2306.817	0	49.81185	0.340225	0	0.00018	0.208909	0	0.045697	2.104867	0	0.000979	0.158374	1.426645	10.65375	3.071416	0	0.001072	0.158374	1.426645	10.65375	0.040468	83.0074	0	1.02738	0.022805	0	0.000492
Santa Clara	2023	HHDT	Aggregate	Aggregate	Diesel	8235.059	991289	991289	0	120860.8	1.969368	63.40488	2.849455	0.025957	0.031631	0	0.008769	0.027531	0.027131	0.033061	0	0.035077	0.078661	1656.801	12241.32	0	0.000809	0.237446	0	0.26103	1.928625	0	0.017417	5.112156	0	0	0	0	0.019828	5.819801	0	0	0	0	0.214624	0.087393	74.20136	0	0.015689	0.115918	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Electricity	6.70171	411.5054	0	411.5054	103.2044	0	0	0	0	0	0	0.00874	0.013383	0	0	0	0.03496	0.038238	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
Santa Clara	2023	HHDT	Aggregate	Aggregate	Natural Gas	753.7366	53295.97	53295.97	0	6914.034	1.208844	13.92832	0	0.001774	0.024237	0	0.009	0.046729	0.001929	0.02636	0	0.036	0.133512	1398.51	10630.2	0	2.44811	37.44665	0	0.285095	2.167036	0	0.054572	0.572265	0	0	0	0	2.520799	38.25947	0	0	0	0	0.860105	13.78246	74.03965	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Gasoline	601938.3	22370251	22370251	0	2795479	0.047412	0	0.27189	0.001217	0	0.001992	0.002	0.002656	0.001323	0	0.002167	0.008	0.007588	282.586	0	71.87767	0.002603	0	0.076449	0.004995	0	0.034134	0.01016	0	0.353794	0.094758	0.240611	1.480552	0.014823	0	0.387359	0.094758	0.240611	1.480552	0.033781	0.787617	0	3.436611	0.002794	0	0.000711
Santa Clara	2023	LDA	Aggregate	Aggregate	Diesel	1871.125	56220.8	56220.8	0	8000.531	0.238318	0	0	0.018559	0	0	0.002	0.002698	0.019399	0	0	0.008	0.007709	234.6327	0	0	0.001413	0	0	0.036966	0	0	0.030417	0	0	0	0	0	0.034627	0	0	0	0	0	0.0031	0.342459	0	0	0.002223	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Electricity	53751.15	2268185	0	2268185	265250.1	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
Santa Clara	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	15805.32	700610.9	356649.7	343961.3	65355	0.00334	0	0.11551	0.000664	0	0.002171	0.002	0.001373	0.000722	0	0.002361	0.008	0.003922	141.9339	0	66.50966	0.000457	0	0.042604	0.000605	0	0.020916	0.001444	0	0.173285	0.040642	0.036088	0.447056	0.002108	0	0.189725	0.040642	0.036088	0.447056	0.019705	0.219019	0	1.339893	0.001403	0	0.000658
Santa Clara	2023	LDT1	Aggregate	Aggregate	Gasoline	53782.25	1744480	1744480	0	239737.9	0.143293	0	0.404336	0.00185	0	0.002837	0.002	0.003239	0.002012	0	0.003085	0.008	0.009253	333.6435	0	88.48953	0.006987	0	0.112557	0.010257	0	0.039834	0.031222	0	0.583212	0.174145	0.503091	2.807011	0.045546	0	0.638542	0.174145	0.503091	2.807011	0.035775	1.553409	0	5.660037	0.003298	0	0.000875
Santa Clara	2023	LDT1	Aggregate	Aggregate	Diesel	26.04714	391.8698	391.8698	0	75.17737	1.659056	0	0	0.24041	0	0	0.002	0.003728	0.25128	0	0	0.008	0.010651	415.6155	0	0	0.013928	0	0	0.06548	0	0	0.299852	0	0	0	0	0	0.341362	0	0	0	0	0	0.0031	1.601395	0	0	0.003938	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Electricity	194.8941	7068.184	0	7068.184	916.4832	0	0	0	0	0	0	0.002	0.00154	0	0	0	0.008	0.0044	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
Santa Clara	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	43.27677	2048.369	944.1579	1104.211	178.9495	0.003025	0	0.11551	0.000387	0	0.00141	0.002	0.001383	0.000421	0	0.001534	0.008	0.003951	128.5161	0	72.39136	0.000412	0	0.042439	0.000544	0	0.020762	0.001308	0	0.173285	0.024584	0.021781	0.285922	0.001909	0	0.189725	0.024584	0.021781	0.285922	0.019359	0.198314	0	1.339893	0.001271	0	0.000716
Santa Clara	2023	LDT2	Aggregate	Aggregate	Gasoline	280180.4	10140967	10140967	0	1311796	0.077207	0	0.358346	0.001265	0	0.002003	0.002	0.003125	0.001375	0	0.002179	0.008	0.008929	351.1382	0	90.07377	0.003121	0	0.087759	0.006381	0	0.038646	0.012417	0	0.410727	0.085119	0.224187	1.404898	0.018118	0	0.449694	0.085119	0.224187	1.404898	0.035545	0.896823	0	3.892097	0.003471	0	0.00089
Santa Clara	2023	LDT2	Aggregate	Aggregate	Diesel	978.4967	36936.87	36936.87	0	4673.401	0.046157	0	0	0.005431	0	0	0.002	0.003102	0.005677	0	0	0.008	0.008863	315.6668	0	0	0.00065	0	0	0.049733	0	0	0.013984	0	0	0	0	0	0.015919	0	0	0	0	0	0.0031	0.132099	0	0	0.002991	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Electricity	1105.879	38931.7	0	38931.7	5663.051	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004357	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
Santa Clara	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1696.55	77270.66	37142.68	40127.98	7015.234	0.003154	0	0.11551	0.000504	0	0.001759	0.002	0.001378	0.000548	0	0.001913	0.008	0.003938	134.0231	0	78.93358	0.000429	0	0.042457	0.000568	0	0.020778	0.001364	0	0.173285	0.02624	0.024448	0.318232	0.00199	0	0.189725	0.02624	0.024448	0.318232	0.020144	0.206812	0	1.339893	0.001325	0	0.00078
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Gasoline	19180.96	711085.5	711085.5	0	285767.8	0.197814	0.037373	0.6588	0.001595	0	0.000328	0.002	0.0273	0.001734	0	0.000356	0.008	0.078	889.7424	120.2664	25.83956	0.009485	0.115635	0.034516	0.011082	0.003012	0.051891	0.047656	0.428153	0.172233	0.050564	0.277601	2.913784	0.069539	0.62476	0.188574	0.050564	0.277601	2.913784	0.044872	1.225109	3.753425	3.080251	0.008796	0.001189	0.000255
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Diesel	9807.465	384084.8	384084.8	0	123365.6	1.780633	2.029274	0	0.038253	0.026974	0	0.003	0.0273	0.039983	0.028193	0	0.012	0.078	635.427	132.908	0	0.008623	0.005098	0	0.100112	0.02094	0	0.185652	0.10976	0	0	0	0	0.211352	0.124954	0	0	0	0	0.16551	0.518876	0.909745	0	0.006021	0.001259	0
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Gasoline	2494.382	90793.04	90793.04	0	37162.58	0.187016	0.036817	0.642061	0.001446	0	0.00026	0.002	0.03185	0.001572	0	0.000283	0.008	0.091	997.3845	138.7974	25.72325	0.007074	0.114568	0.033461	0.01097	0.002967	0.050452	0.033047	0.42203	0.165607	0.046993	0.25097	2.676301	0.048222	0.615826	0.181319	0.046993	0.25097	2.676301	0.044967	0.961891	3.759407	3.119312	0.00986	0.001372	0.000254
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Diesel	4479.532	176769.2	176769.2	0	56346.87	1.416942	1.998258	0	0.034177	0.027026	0	0.003	0.03185	0.035723	0.028248	0	0.012	0.091	764.5039	212.1206	0	0.007824	0.005098	0	0.120448	0.03342	0	0.168448	0.10976	0	0	0	0	0.191767	0.124954	0	0	0	0	0.178982	0.44054	0.909745	0	0.007244	0.00201	0
Santa Clara	2023	MCY	Aggregate	Aggregate	Gasoline	27894.5	164894.5	164894.5	0	55788.99	0.586927	0	0.142374	0.001778	0	0.003413	0.001	0.0042	0.001899	0	0.003626	0.004	0.012	188.3093	0	49.59811	0.167622	0	0.187482	0.040223	0	0.008379	1.105923	0	1.392636	3.5601	3.745685	3.947874	1.324135	0	1.513873	3.5601	3.745685	3.947874	0.00876	13.08956	0	8.051197	0.001862	0	0.00049
Santa Clara	2023	MDV	Aggregate	Aggregate	Gasoline	153799.1	5358084	5358084	0	712433.9	0.11759	0	0.470106	0.001289	0	0.002144	0.002	0.003187	0.001402	0	0.002331	0.008	0.009106	426.0995	0	109.7064	0.004406	0	0.110292	0.008479	0	0.043081	0.018826	0	0.559259	0.101975	0.285798	1.72733	0.02744	0	0.612315	0.101975	0.285798	1.72733	0.035428	1.067328	0	4.333252	0.004212	0	0.001085
Santa Clara	2023	MDV	Aggregate	Aggregate	Diesel	2374.918	86834.44	86834.44	0	11267.05	0.053096	0	0	0.00515	0	0	0.002	0.003181	0.005383	0	0	0.008	0.00909	413.3141	0	0	0.000529	0	0	0.065118	0	0	0.011397	0	0	0	0	0	0.012975	0	0	0	0	0	0.0031	0.202592	0	0	0.003916	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Electricity	1130.115	40073.7	0	40073.7	5799.833	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
Santa Clara	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	986.0895	41899.14	20787.35	21111.79	4077.48	0.003256	0	0.11551	0.000638	0	0.002151	0.002	0.001376	0.000693	0	0.002339	0.008	0.00393	138.3296	0	98.37574	0.000441	0	0.042261	0.000581	0	0.020595	0.001408	0	0.173285	0.02985	0.028058	0.359617	0.002054	0	0.189725	0.02985	0.028058	0.359617	0.020837	0.213457	0	1.339893	0.001368	0	0.000973
Santa Clara	2023	MH	Aggregate	Aggregate	Gasoline	2522.745	22546.87	22546.87	0	252.3754	0.479133	0	0.412521	0.001781	0	0.000428	0.003	0.015756	0.001937	0	0.000466	0.012	0.045017	1948.243	0	31.87585	0.018146	0	0.038028	0.02809	0	0.042647	0.082252	0	0.163779	13.03985	0.30297	4.773625	0.120022	0	0.179318	13.03985	0.30297	4.773625	0.044742	2.111943	0	3.629376	0.01926	0	0.000315
Santa Clara	2023	MH	Aggregate	Aggregate	Diesel	959.1578	9344.849	9344.849	0	95.91578	4.269554	0	0	0.097907	0	0	0.004	0.015675	0.102334	0	0	0.016	0.044785	1081.435	0	0	0.005704	0	0	0.17038	0	0	0.122812	0	0	0	0	0	0.139813	0	0	0	0	0	0.150005	0.410284	0	0	0.010247	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Gasoline	1418.703	70785.86	70785.86	0	28385.41	0.562864	0.088304	0.453053	0.001386	0	0.000555	0.003	0.015756	0.001507	0	0.000603	0.012	0.045017	1792.411	536.9661	47.19918	0.018074	0.254589	0.049387	0.026381	0.007064	0.032566	0.09086	1.010025	0.279571	0.037187	0.302385	3.037923	0.132583	1.473826	0.306095	0.037187	0.302385	3.037923	0.04497	1.909686	15.08517	6.156285	0.01772	0.005308	0.000467
Santa Clara	2023	MHDT	Aggregate	Aggregate	Diesel	10273.55	431550.4	431550.4	0	122418.7	1.337342	13.57242	1.624162	0.016518	0.035742	0	0.003	0.015941	0.017265	0.037358	0	0.012	0.045546	1151.562	2263.789	0	0.001721	0.012298	0	0.181429	0.356661	0	0.037048	0.26478	0	0	0	0	0.042176	0.301431	0	0	0	0	0.209014	0.132571	7.583386	0	0.010905	0.021437	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Electricity	4.749835	101.8022	0	101.8022	59.6458	0	0	0	0	0	0	0.003	0.00799	0	0	0	0.012	0.022828	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
Santa Clara	2023	MHDT	Aggregate	Aggregate	Natural Gas	83.841	4047.874	4047.874	0	762.81	0.141319	6.52743	0	0.001137	0.017647	0	0.003	0.016002	0.001236	0.019193	0	0.012	0.045721	989.385	5296.533	0	0.740055	17.59163	0	0.201693	1.079733	0	0.010574	0.25135	0	0	0	0	0.755281	17.95355	0	0	0	0	1.06	2.992708	33.64344	0	0	0	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Gasoline	458.8974	20830.08	20830.08	0	9181.619	0.553081	0.064991	0.405616	0.000893	0	0.000264	0.003	0.01568	0.000972	0	0.000287	0.012	0.044799	1784.092	381.8461	31.89445	0.015808	0.194938	0.036281	0.026177	0.005253	0.030766	0.078109	0.745234	0.192301	0.034706	0.154035	2.766253	0.113977	1.087444	0.210546	0.034706	0.154035	2.766253	0.044918	1.743956	5.768375	4.071703	0.017638	0.003775	0.000315
Santa Clara	2023	OBUS	Aggregate	Aggregate	Diesel	870.4209	61645.66	61645.66	0	8910.755	1.203188	7.410097	1.541404	0.020323	0.008632	0	0.003	0.018018	0.021242	0.009022	0	0.012	0.05148	1282.538	1552.949	0	0.001991	0.020568	0	0.202064	0.244668	0	0.04286	0.442828	0	0	0	0	0.048793	0.504126	0	0	0	0	0.215865	0.153454	7.510858	0	0.012145	0.014706	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Natural Gas	6.1456	409.5466	409.5466	0	54.69584	0.219315	1.549107	0	0.000923	0.00362	0	0.003	0.016148	0.001004	0.003937	0	0.012	0.046137	1017.405	1188.285	0	0.774069	4.381267	0	0.207405	0.24224	0	0.01106	0.0626	0	0	0	0	0.789994	4.471404	0	0	0	0	1.06	3.211954	6.724204	0	0	0	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Gasoline	166.9867	8309.308	8309.308	0	667.9468	0.519317	0.925703	0.7051	0.000862	0	0.00056	0.002	0.015721	0.000937	0	0.000609	0.008	0.044917	815.0909	2602.033	58.66947	0.011871	2.46208	0.074918	0.027733	0.086224	0.064904	0.057744	10.62943	0.427061	0.112221	0.259299	1.591441	0.084259	15.51043	0.467578	0.112221	0.259299	1.591441	0.045	1.469507	82.16746	10.56434	0.008058	0.025724	0.00058
Santa Clara	2023	SBUS	Aggregate	Aggregate	Diesel	667.1185	15392.68	15392.68	0	9659.876	4.028015	22.39863	0.467155	0.020908	0.02125	0	0.003	0.015721	0.021853	0.022211	0	0.012	0.044917	1148.524	2237.814	0	0.002748	0.008083	0	0.18095	0.352568	0	0.059161	0.174017	0	0	0	0	0.06735	0.198106	0	0	0	0	0.144154	0.181489	4.581854	0	0.010876	0.021191	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Electricity	0.302373	3.510494	0	3.510494	4.378365	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
Santa Clara	2023	SBUS	Aggregate	Aggregate	Natural Gas	23.50762	595.8705	595.8705	0	340.3903	0.587321	5.282702	0	0.003378	0.011076	0	0.003	0.015721	0.003674	0.012046	0	0.012	0.044917	1271.127	4058.811	0	3.490611	15.40242	0	0.259128	0.827415	0	0.049874	0.22007	0	0	0	0	3.562424	15.7193	0	0	0	0	1.06	11.90284	20.11199	0	0	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Gasoline	45.94709	4798.244	4798.244	0	183.7884	0.026807	0	0.443444	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.2924	0	36.84613	0.002031	0	0.041715	0.004215	0	0.070149	0.005614	0	0.147842	0.038144	0.09212	0.456803	0.008192	0	0.161868	0.038144	0.09212	0.456803	0.045	0.571128	0	6.073786	0.009157	0	0.000364
Santa Clara	2023	UBUS	Aggregate	Aggregate	Diesel	436.6681	48829.71	48829.71	0	1746.672	0.386256	0	0	0.007022	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1100.965	0	0	0.003215	0	0	0.173457	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.18785	0.079368	0	0	0.010432	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	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
Santa Clara	2023	UBUS	Aggregate	Aggregate	Natural Gas	42.26114	4829.673	4829.673	0	169.0446	0.05878	0	0	0.000282	0	0	0.008182	0.0385	0.000295	0	0	0.032727	0.11	1299.127	0	0	4.245742	0	0	0.264835	0	0	0.060663	0	0	0	0	0	4.333091	0	0	0	0	0	0.97	49.04231	0	0	0	0	0

Emfac2021 Operational Truck Traffic Emissions

Summary of Construction Traffic Emissions (EMFAC2021)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
						Grams								
Hauling	0.00	0.00	0	0.000	0.00	0.00	0.0	0.00	0.00	0.00	0	0	0	0
Vendor	45151.40	2059845.72	842766.4	16967.287	381972.50	135675.42	517647.9	57474.73	59422.62	116897.34	1837063170	88547.04	269024.8	1.919E+09
Worker	0.00	0.00	0.0	0.000	0.00	0.00	0.0	0.00	0.00	0.00	0	0	0	0
Total (g)	45151.40	2059845.716	842766.44	16967.28701	381972.5	135675.4202	517647.92	57474.725	59422.61543	116897.3404	1837063170	88547.04	269024.8	1.919E+09
Total (lbs)	99.54	4541.18	1857.98	37.41	842.11	299.1	1141.22	126.71	131.00	257.71	4050031.022	195.2128	593.0981	4231654.6
Total (tons)	0.0498	2.271	0.929	0.019	0.421	0.1496	0.5706	0.0634	0.066	0.129	2025.02	0.10	0.30	2115.8273
Total (MT)											1837.06	0.09	0.27	1919.4462

YEAR														
							Tons							
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0
2023	0.0498	2.2706	0.9290	0.0187	0.4211	0.1496	0.5706	0.0634	0.0655	0.1289	1837.0632	0.088547	0.269025	1919.4462

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*
Truck Trips	0	100	0	36500	0	10.8	35		20LD_Mix	HDT_Mix	HHDT	0	1277500	0
	0	0	0	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	0	0	0
	0	0	0	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	0	0	0
	0	0	0	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	0	0	0
	0	0	0	0	0	10.8	7.3		7.3LD_Mix	HDT_Mix	HHDT	0	0	0
	0	0	0	0	0	10.8	7.3		20LD_Mix	HDT_Mix	HHDT	0	0	0
				0	0				LD_Mix	HDT_Mix	HHDT	0	0	0

Number of Days Per Year				
2022	1/1/24	12/31/22	0	0
2023	1/1/23	1/0/00	365	365
			365	

Phase	Start Date	End Date	Days/Week	Workdays
Truck Trips	1/1/2024	12/31/2024	7	365

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	0.005377	0.003249	0.013383	0.232934116	0.007458	0	0	0.074531	0
A	CH4_RUNEX	0.002051	0.006222	0.002817	0.003749	0.00818	0.006974	0.009658	0.121678903	0.009275	0.353984559	0.171772	0.091035	0.012488
A	CH4_STREX	0.067726	0.104963	0.08275	0.099602	0.022625	0.012599	0.008773	8.02769E-08	0.017671	0.00393016	0.189534	0.0048	0.026745
A	CO_IDLEX	0	0	0	0	0.196553	0.142433	0.671381	5.195559849	0.514566	0	0	1.654918	0
A	CO_RUNEX	0.649711	1.418726	0.829327	0.943281	0.89701	0.569575	0.346173	0.774886828	0.491534	4.169641806	14.38328	0.884386	1.294901
A	CO_STREX	3.008478	5.230353	3.655626	3.931792	2.13326	1.201025	1.07433	0.000626211	1.960551	0.525737998	7.689677	0.664389	2.491606
A	CO2_NBIO_IDLEX	0	0	0	0	8.727528	13.78864	160.3244	832.6005736	85.71146	0	0	189.4507	0
A	CO2_NBIO_RUNEX	246.8081	327.0753	340.7339	411.0049	784.1623	828.9778	1229.838	1617.576982	1389.139	1098.805139	190.6913	1028.119	1686.59
A	CO2_NBIO_STREX	64.09427	86.29597	87.2747	104.4236	17.80424	9.907975	8.533177	0.019577946	15.49631	3.197080643	51.77839	3.727325	22.54937
A	NOX_IDLEX	0	0	0	0	0.048387	0.093022	0.894313	4.111213715	0.365684	0	0	1.389668	0
A	NOX_RUNEX	0.037369	0.127832	0.068032	0.098516	0.661225	0.88969	1.112922	1.850604526	1.007061	0.327856595	0.598844	2.57268	1.5351
A	NOX_STREX	0.240038	0.379704	0.332074	0.41728	0.438657	0.24651	1.407896	2.731408381	0.979918	0.042218612	0.148555	0.480958	0.299202
A	PM10_IDLEX	0	0	0	0	0.000681	0.001371	0.002128	0.002182492	0.000423	0	0	0.001309	0
A	PM10_PMBW	0.007168	0.009226	0.008866	0.009	0.077823	0.090794	0.045399	0.08129752	0.049798	0.11066361	0.012	0.044858	0.044947
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009414	0.010658	0.012	0.035125425	0.012	0.032683644	0.004	0.0106	0.013206
A	PM10_RUNEX	0.001171	0.001927	0.001333	0.001373	0.014027	0.022761	0.012985	0.025474433	0.015841	0.006229362	0.001954	0.013303	0.03019
A	PM10_STREX	0.001911	0.002898	0.002107	0.002161	0.000227	0.000101	0.000107	6.09682E-07	0.000134	1.21066E-05	0.00338	3.95E-05	0.000313
A	PM25_IDLEX	0	0	0	0	0.000651	0.001311	0.002035	0.002082052	0.000405	0	0	0.001252	0
A	PM25_PMBW	0.002509	0.003229	0.003103	0.00315	0.027238	0.031778	0.01589	0.028454132	0.017429	0.038732263	0.0042	0.0157	0.015732
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002354	0.002664	0.003	0.008781356	0.003	0.008170911	0.001	0.00265	0.003301
A	PM25_RUNEX	0.001078	0.001774	0.001226	0.001266	0.01338	0.021758	0.012415	0.0243688	0.015147	0.005956092	0.001827	0.012712	0.028836
A	PM25_STREX	0.001757	0.002664	0.001938	0.001987	0.000209	9.28E-05	9.82E-05	5.6058E-07	0.000124	1.11315E-05	0.003177	3.63E-05	0.000288
A	ROG_DIURN	0.272416	0.595124	0.287823	0.349834	0.128573	0.066802	0.025795	0.000195977	0.069031	0.00989389	3.900294	0.027017	32.73442
A	ROG_HTSK	0.080672	0.164385	0.080502	0.093899	0.032798	0.017191	0.00626	5.82846E-05	0.0166	0.00330336	3.559276	0.007301	8.700008
A	ROG_IDLEX	0	0	0	0	0.021942	0.016299	0.026359	0.329789936	0.040067	0	0	0.181581	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.007886	0.027617	0.0111	0.015872	0.087665	0.11544	0.038113	0.018605536	0.047576	0.063031406	1.123169	0.055863	0.083758
A	ROG_RUNLS	0.203855	0.469715	0.214096	0.266358	0.182065	0.092651	0.050964	0.000525006	0.075921	0.007986926	3.75283	0.017605	0.204308
A	ROG_STREX	0.311462	0.537261	0.383703	0.4977	0.112219	0.061861	0.048943	4.36152E-07	0.093584	0.014025351	1.402019	0.027327	0.113367
A	SO2_IDLEX	0	0	0	0	8.5E-05	0.000132	0.001491	0.007282701	0.000811	0	0	0.001724	0
A	SO2_RUNEX	0.00244	0.003233	0.003368	0.004061	0.00766	0.007988	0.011671	0.014639651	0.013278	0.009424764	0.001885	0.009556	0.01654
A	SO2_STREX	0.000634	0.000853	0.000863	0.001032	0.000176	9.8E-05	8.44E-05	1.93548E-07	0.000153	3.16064E-05	0.000512	3.68E-05	0.000223
A	TOG_DIURN	0.272416	0.595124	0.287823	0.349834	0.128573	0.066802	0.025795	0.000195977	0.069031	0.00989389	0.086215	0.027017	32.73442
A	TOG_HTSK	0.080672	0.164385	0.080502	0.093899	0.032798	0.017191	0.00626	5.82846E-05	0.0166	0.00330336	3.559276	0.007301	8.700008
A	TOG_IDLEX	0	0	0	0	0.031162	0.022074	0.043266	0.594148623	0.053137	0	0	0.296054	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.011489	0.040276	0.016182	0.023096	0.108371	0.134469	0.053054	0.142671417	0.063874	0.424562425	1.354171	0.155502	0.11065
A	TOG_RUNLS	0.203855	0.469715	0.214096	0.266358	0.182065	0.092651	0.050964	0.000525006	0.075921	0.007986926	3.75283	0.017605	0.204308
A	TOG_STREX	0.341012	0.588232	0.420106	0.544917	0.122865	0.06773	0.053586	4.77531E-07	0.102462	0.015355994	1.524416	0.029919	0.124122
A	N2O_IDLEX	0	0	0	0	0.000642	0.001685	0.024699	0.134118084	0.012191	0	0	0.025119	0
A	N2O_RUNEX	0.004156	0.009374	0.006017	0.008347	0.041472	0.08253	0.158314	0.25814886	0.157784	0.166447984	0.040955	0.128311	0.069357
A	N2O_STREX	0.030787	0.038539	0.037034	0.039993	0.035165	0.019738	0.006032	1.94763E-05	0.015206	0.00682938	0.008948	0.004225	0.031398

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.53116	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666

Source: EMFAC2021 (v1.0.0) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total CVMT	VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_TWP	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	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_HOTSOAK	ROG_RUNLOSS	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSOAK	TOG_RUNLOSS	TOG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2024	HHDT	Aggregate	Aggregate	Gasoline	2.588708	115.1526	115.1526	115.1526	0	51.79487	7.013725	0	1.695629	0.003612	0	0.001433	0.005	0.03384	0.003929	0	0.001559	0.02	0.096686	2170.143	0	50.05673	0.246012	0	0.000205	0.192927	0	0.049797	1.47824	0	0.001115	0.149022	1.34233	10.02547	2.157045	0	0.001221	0.149022	1.34233	10.02547	0.04274	52.51903	0	1.60109	0.021454	0	0.000495
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	8486.693	1001095	1001095	1001095	0	0.124748.4	1.894567	62.88367	2.898867	0.025674	0.03017	0	0.00877	0.027454	0.026835	0.031534	0	0.035082	0.07844	1634.533	12000.89	0	0.000777	0.23663	0	0.257521	1.890745	0	5.094584	0	0	0.016732	5.094584	0	0	0.019048	5.799796	0	0	0	0	0	0	0.215084	0.082124	74.10576	0	0.015478	0.113641	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Electricity	28.33039	2794.261	0	2794.261	0	2794.261	0	0	0	0	0	0	0.008585	0.014055	0	0	0	0.034341	0.040158	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
Santa Clara	2024	HHDT	Aggregate	Aggregate	Natural Gas	794.401	54591.27	54591.27	0	7249.717	1.128254	13.55515	0	0.001724	0.024776	0	0	0.009	0.047521	0.001875	0.026946	0	0.036	0.135775	1388.265	10589.52	0	2.344742	36.30276	0	0.283007	2.158743	0	0.050833	0.550696	0	0	0	0	2.412728	37.08609	0	0	0	0	0	0	0.85184	13.40196	74.43135	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Gasoline	600108.2	22290344	22290344	0	2786617	0.042281	0	0.257993	0.001177	0	0.001931	0	0.002	0.002656	0.00128	0	0.0021	0.008	0.007587	277.9403	0	70.44944	0.002338	0	0.072036	0.004672	0	0.033228	0.008937	0	0.328953	0.090491	0.230394	1.422636	0.013041	0	0.360162	0.090491	0.230394	1.422636	0.034712	0.737516	0	3.233068	0.002748	0	0.000696
Santa Clara	2024	LDA	Aggregate	Aggregate	Diesel	1750.024	51573.48	51573.48	0	7442.61	0.213181	0	0	0.016747	0	0	0	0.002	0.002706	0.017504	0	0	0.008	0.00773	232.7849	0	0	0.001289	0	0	0.036675	0	0	0.027749	0	0	0.00731	0	0	0.03159	0	0	0	0	0	0	0.0031	0.331109	0	0	0.002206	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Electricity	57627.4	2472767	0	2472767	282733	0	0	0	0	0	0	0	0.002	0.001533	0	0	0	0.008	0.00438	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
Santa Clara	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	17457.1	767059.2	381568.7	385490.5	858801.64	0.003264	0	0.4687	0.000618	0	0.002058	0	0.002	0.003377	0.000672	0	0.002238	0.008	0.003935	138.6993	0	74.45751	0.000357	0	0.1568	0.000388	0	0.055629	0.001412	0	0.796754	0.034587	0.031374	0.447104	0.00206	0	0.872345	0.034587	0.031374	0.447104	0.019502	0.214038	0	5.588845	0.001371	0	0.000736
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	52693.37	1706864	1706864	0	234793.4	0.128357	0	0.381294	0.001737	0	0.002678	0	0.002	0.00324	0.001889	0	0.002913	0.008	0.009258	328.9675	0	86.69483	0.006261	0	0.105365	0.009424	0	0.03869	0.027741	0	0.539321	0.165332	0.472477	2.667158	0.040475	0	0.590488	0.165332	0.472477	2.667158	0.036079	1.427621	0	5.253053	0.003252	0	0.000857
Santa Clara	2024	LDT1	Aggregate	Aggregate	Diesel	23.46233	343.9308	343.9308	0	66.44459	1.651932	0	0	0.239373	0	0	0	0.002	0.003724	0.250196	0	0	0.008	0.01064	415.4307	0	0	0.013862	0	0	0.065451	0	0	0.298448	0	0	0	0.339763	0	0	0	0.003936	0	0	0	0.0031	1.593665	0	0	0.003936	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Electricity	211.0028	8008.646	0	8008.646	994.4346	0	0	0	0	0	0	0	0.002	0.001539	0	0	0	0.008	0.004397	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
Santa Clara	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	67.64578	3164.46	1414.302	1750.158	332.479	0.002933	0	0.4687	0.000367	0	0.001373	0	0.002	0.001389	0.0004	0	0.001493	0.008	0.003967	124.6157	0	79.97615	0.000319	0	0.15991	0.000344	0	0.05495	0.001268	0	0.796754	0.02032	0.017638	0.279628	0.001851	0	0.872345	0.02032	0.017638	0.279628	0.018771	0.192305	0	5.588845	0.001232	0	0.000791
Santa Clara	2024	LDT2	Aggregate	Aggregate	Gasoline	285585.4	1032275	810322758	0	1336438	0.069091	0	0.334237	0.001227	0	0.001959	0	0.002	0.003127	0.001334	0	0.00213	0.008	0.008936	344.6046	0	88.12796	0.002864	0	0.082985	0.005943	0	0.037254	0.011242	0	0.384216	0.081741	0.217688	1.368189	0.016404	0	0.420668	0.081741	0.217688	1.368189	0.036359	0.842122	0	3.673764	0.003407	0	0.000871
Santa Clara	2024	LDT2	Aggregate	Aggregate	Diesel	1015.453	37944.26	37944.26	0	4835.434	0.041515	0	0	0.004813	0	0	0	0.002	0.003113	0.005031	0	0	0.008	0.008895	311.1925	0	0	0.000609	0	0	0.049029	0	0	0.013105	0	0	0.014919	0	0	0.014919	0	0	0	0	0	0	0.0031	0.129976	0	0	0.002949	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Electricity	1597.567	55532.59	0	55532.59	8150.927	0	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004359	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
Santa Clara	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	2116.58	94757.71	44376.61	50381.09	10402.99	0.003073	0	0.4687	0.000467	0	0.001662	0	0.002	0.001383	0.000508	0	0.001808	0.008	0.003953	130.578	0	86.60619	0.000334	0	0.155965	0.000361	0	0.054992	0.001329	0	0.796754	0.021831	0.019927	0.309385	0.001939	0	0.872345	0.021831	0.019927	0.309385	0.019635	0.201506	0	5.588845	0.001291	0	0.000856
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Gasoline	19314.14	722529.3	722529.3	0	28775.1	0.172795	0.036221	0.633985	0.001534	0	0.000302	0	0.002	0.0273	0.001668	0	0.000328	0.008	0.078	872.9955	119.2079	25.73223	0.008333	0.113121	0.0327	0.009677	0.002988	0.050823	0.041628	0.415023	0.162188	0.047402	0.263136	2.768514	0.060744	0.605601	0.177575	0.047402	0.263136	2.768514	0.044898	1.136594	3.756209	3.083172	0.00863	0.001178	0.000254
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	10107.74	398004.1	398004.1	0	61271.42.6	1.556402	1.92168	0	0.035057	0.026804	0	0	0.003	0.0273	0.036642	0.028016	0	0.012	0.078	632.9651	131.3094	0	0.008006	0.005098	0	0.099724	0.020688	0	0.172364	0.10976	0	0	0	0	0.196225	0.124954	0	0	0	0	0	0	0.172781	0.473592	0.909745	0	0.005998	0.001244	0
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Electricity	70.82836	5110.544	0	5110.544	989.4273	0	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
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Gasoline	2506.906	91452.57	91452.57	0	37349.16	0.161867	0.036635	0.633678	0.00139	0	0.000239	0	0.002	0.03185	0.001512	0	0.000259	0.008	0.091	981.6545	137.7625	25.46939	0.006204	0.114931	0.032387	0.00943	0.003022	0.050739	0.028705	0.420058	0.15902	0.04419	0.238167	2.558385	0.041886	0.612948	0.174107	0.04419	0.238167	2.558385	0.044971	0.893936	3.762546	3.087348	0.009705	0.001362	0.000252
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	4663.455	183558.4	183558.4	0	58660.4	1.25838	1.895403	0	0.032055	0.027	0	0	0.003	0.03185	0.033504	0.028221	0	0.012	0.091	758.5711	209.8195	0	0.007406	0.005098	0	0.119513	0.033057	0	0.159442	0.10976	0	0	0	0	0.181514	0.124954	0	0	0	0	0	0	0.184132	0.411866	0.909745	0	0.007188	0.001988	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Electricity	18.33259	1253.286	0	1253.286	242.668	0	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
Santa Clara	2024	MCY	Aggregate	Aggregate	Gasoline	28171.51	1660223	1660223	0	56343.02	0.598844	0	0.148555	0.001827	0	0.003177	0	0.001	0.0042	0.001954	0	0.00338	0.004	0.012	190.6913	0	51.77839	0.171772	0	0.189534	0.040955	0	0.008948	1.123169	0	1.402019	3.559276	3.75283	3.900294	1.354171	0	1.524416	3.559276	3.75283	3.900294	0.008808	14.38328	0	7.689677	0.001885	0	0.000512
Santa Clara	2024	MDV	Aggregate	Aggregate	Gasoline	156642.4	5468054	5468054	0	726101.1	0.101279	0	0.42828	0.001229	0	0.002042	0	0.002	0.003184	0.001336	0	0.002221	0.008	0.009096	418.13	0	107.2801	0.003873	0	0.10186	0.007628	0	0.040967	0.01626	0	0.508806	0.097051	0.275722	1.677059	0.023715	0	0.557077	0.097051	0.275722	1.677059	0.036179	0.972241	0	4.022964	0.004134	0	0.001061
Santa Clara	2024	MDV	Aggregate	Aggregate	Diesel	2400.615	86292.69	86292.69	0	011318.82	0.048844	0	0	0.004909	0	0	0	0.002	0.003206	0.005131	0	0	0.008	0.009159	409.13	0	0	0.00051	0	0	0.064459	0	0	0.010978	0	0	0	0.012498	0	0	0	0.003877	0	0	0	0.0031	0.201538	0	0	0.003877	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Electricity	1678.684	58660.63	0	058660.6	38578.496	0	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004358	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
Santa Clara	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	1250.857	52904.03	25301.52	27602.51	6147.963	0.003138	0	0.4687	0.000561	0	0.00195	0	0.002	0.001382	0.00061	0	0.002121	0.008	0.003948	133.3485	0	105.0137	0.00034	0	0.155221	0.000365	0	0.05443	0.001357	0	0.796754	0.025507	0.022449	0.341695	0.020087	0.205781	0	5.588845	0.001318	0	0.001038
Santa Clara	2024	MH	Aggregate	Aggregate	Gasoline	2420.57	22012.3	22012.3	0	242.1538	0.420938	0	0.419963	0.001679	0	0.000404	0	0.003	0.015756	0.001826	0	0.000439	0.012	0.045017	1947.501	0	31.65056	0.015478	0	0.037539	0.025731	0	0.04407	0.06827	0	0.159123	12.21143	0.286769	4.596479	0.09962	0	0.174219	12.21143	0.286769	4.596479	0.044846	1.682224	0	3.497247	0.019253	0	0.000313
Santa Clara	2024	MH	Aggregate	Aggregate	Diesel	977.3606	9498.302	9498.302	0	997.7606	4.117169	0	0	0.091772	0	0	0	0.004	0.015675	0.095921	0	0	0.016	0.044785	1081.931	0	0	0.005558	0	0	0.170459	0	0	0.11965	0	0	0.136214	0	0	0	0.155539	0.397281	0	0	0.010252	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Gasoline	1414.552	71600.35	71600.35	0	028302.35	0.470752	0.088485	0.440963	0.000362	0	0.000533	0	0.003	0.015756	0.001482	0	0.000579	0.012	0.045017	1770.464	532.0924	46.27323	0.015051	0.25808	0.047572	0.022913	0.00727	0.03271	0.074951	1.01271	0.265405	0.033945	0.276365	2.798712	0.109368	1.477744	0.290585	0.033945	0.276365	2.798712	0.04498	1.56073	15.11634	5.825814	0.017503	0.00526	0.000457
Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	10390.53	434043.6	434043.6	0	123939	1.232824	13.14099	1.642732	0.014397	0.029902	0	0	0.003	0.015941	0.015048	0.031254	0	0.012	0.045546	1147.78	2249.406	0	0.001507	0.01158	0	0.180833	0.354395	0	0.032455	0.249319	0	0	0	0	0.036947	0.283831	0	0	0	0	0	0	0.210532	0.120871	7.556027	0	0.010869	0.021301	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Electricity	30.91601	1660.353	0	1660.353	407.4536	0	0	0	0	0	0	0	0.003	0.007956	0	0	0	0.012	0.022732	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
Santa Clara	2024	MHDT	Aggregate	Aggregate	Natural Gas	90.59449	4303.581	4303.581	0	827.6228	0.133415	6.499719	0	0.001179	0.018131	0	0	0.003	0.016007	0.001282	0.019719	0	0.012	0.045734	985.7588	5307.411	0	0.74573	17.31409	0	0.200953	1.08195	0	0.010655	0.247384	0	0	0	0	0.761072	17.6703	0	0	0	0	0	0	1.06	2.995842	34.7393	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Gasoline	443.1467	19894.31	19894.31	0	8866.48	0.49672	0.06506	0.408547	0.000907	0	0.000252	0	0.003	0.01568	0.000987	0	0.000274	0.012	0.044799	1765.144	379.5369	31.62131	0.013757	0.195733	0.03606	0.024018	0.005304	0.031028	0.067076	0.746281	0.190964	0.033873	0.154922	2.818385	0.097877	1.088971	0.209081	0.033873	0.154922	2.818385	0.044969	1.491576	5.774637	4.000641	0.01745	0.003752	0.000313
Santa Clara	2024	OBUS	Aggregate	Aggregate	Diesel	893.1376	61949.05	61949.05	0	09141.625	1.178643	7.363387	1.543157	0.019849	0.008167	0	0	0.003	0.018015	0.020746	0.008536	0	0.012	0.051472	1273.38	1538.564	0	0.001935	0.020479	0	0.200622	0.242401	0	0.04166	0.440905	0	0	0	0	0.047427	0.501937	0	0	0	0	0	0	0.216021	0.150181	7.500483	0	0.012058	0.014569	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Electricity	1.087481	92.50105	0	92.50105	21.75833	0	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
Santa Clara	2024	OBUS	Aggregate	Aggregate	Natural Gas	7.05737	469.3876	469.3876	0	062.81059	0.190585	1.537414	0	0.00106	0.003899	0	0	0.003	0.016148	0.001153	0.004241	0	0.012	0.046137	1004.237	1191.581	0	0.789796	4.236895	0	0.20472	0.242912	0	0.011285	0.060537	0	0	0	0	0.806045	4.324062	0	0	0	0	0	0	1.06	3.254325	7.353064	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Gasoline	172.6948	8584.866	8584.866	0	6690.7791	0.50288	0.925939	0.716801	0.000864	0	0.000567	0	0.002	0.015721	0.000939	0	0.000616	0.008	0.044917	810.994	2590.288	58.15601	0.011135	2.464862	0.074893	0.027101	0.086311	0.065929	0.054059	10.63288	0.426367	0.113914	0.274691	1.686167	0.078883	15.51547	0.468819	0.113914	0.274691	1.686167	0.045	1.38705	82.18841	10.36621	0.008018	0.025608	0.000575
Santa Clara	2024	SBUS	Aggregate	Aggregate	Diesel	670.5958	15345.26	15345.26	0	09710.228	3.821388	21.90481	0.482851	0.019766	0.019703	0	0	0.003	0.015721	0.02066	0.020594	0	0.012	0.044917	1144.573	2229.746	0	0.002665	0.008001	0	0.180328	0.351297	0	0.057376	0.172257	0	0	0	0	0.065318	0.196101	0	0	0	0	0	0	0.148025	0.1775	4.677792	0	0.010838	0.021114	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Electricity	2.064666	64.35501	0	064.35501	23.64639	0	0	0	0	0	0	0	0.002	0.002539	0.00786	0	0	0.008	0.010157	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
Santa Clara	2024	SBUS	Aggregate	Aggregate	Natural Gas	24.3995	612.0941	612.0941	0	353.3048	0.567729	5.270895	0	0.003378	0.011357	0	0	0.003	0.015721	0.003674	0.012352	0	0.012	0.044917	1261.954	4069.912	0	3.436672	15.25665	0	0.257258	0.829678	0	0.049103	0.217987	0	0	0	0	3.507376	15.57053	0	0	0	0	0	0	1.06	11.64901	20.74693	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Gasoline	46.08313	4812.451	4812.451	0	184.3325	0.022257	0	0.486921	0.001143	0	0.000128	0	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.1489	0	36.873	0.002057	0	0.045328	0.003566	0	0.078766	0.005717	0	0.161759	0.038099	0.092116	0.456438	0.008343	0	0.177106	0.038099	0.092116	0.456438	0.045	0.580123	6	6.063512	0.009156	0	0.000365
Santa Clara	2024	UBUS	Aggregate	Aggregate	Diesel	437.4745	48917.61	48917.61	0	1749.898	0.386257	0	0	0.007023	0	0	0	0.003	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1101.14	0	0.003215	0	0	0.173485	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0	0	0.187908	0.079368	0	0	0.010434	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Electricity	5.347565	235.0626	0	235.0626	21.39026	0	0	0	0	0	0	0	0.00888	0.01925	0	0	0	0.03552	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
Santa Clara	2024	UBUS	Aggregate	Aggregate	Natural Gas	42.58696	4865.187	4865.187	0	0170.3478	0.058788	0	0	0.000282	0	0	0	0.008183	0.0385	0.000295	0	0	0.032731	0.11	1299.206	0	0	4.246059	0	0	0.264852	0	0	0.060668	0	0	0	0	0	4.333415	0	0	0	0	0	0	0	0.97	49.04786	0	0	0	0	0

Attachment 4: Project Construction and Operation Emissions and Health Risk Calculations

Attachment 4

Construction Emissions and Health Risk Calculations

Second Harvest Construction, Alviso, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0669	22_DPM	133.8	0.04073	5.13E-03	42130	1.22E-07
2023	Construction	0.0873	23_DPM	174.6	0.05314	6.70E-03	42130	1.59E-07
Total		***0.1542***		***308.4***	***0.0939***	***0.0118***		

Construction Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	22_FUG	0.1067	213.3	0.06494	8.18E-03	42,130	1.94E-07
2023	Construction	23_FUG	0.0027	5.4	0.00164	2.07E-04	42,130	4.90E-09
Total			***0.1094***	***218.7***	***0.0666***	***0.0084***		

Construction Hours

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

Second Harvest, Alviso, CA - Construction Health Impact Summary

Maximum Impacts at MEI Residential Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0174	0.0293	3.09	0.05	0.003	0.05
2023	0.0227	0.0007	3.72	0.07	0.005	0.02
Total	-	-	**6.81**	**0.11**	-	-
Maximum	0.0227	0.0293	**-**	**-**	**0.005**	**0.05**

Second Harvest, Alviso, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Off-Site Residential 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			Infant/Child Cancer	Adult - Exposure Information			Adult Cancer	Maximum		
			DPM Conc (ug/m3)		Age Sensitivity	Risk	Modeled DPM Conc (ug/m3)		Age Sensitivity	Risk	Hazard	Fugitive	Total
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Factor**	**(per million)**	**Year**	**Annual**	**Factor**	**(per million)**	**Index**	**PM2.5**	**PM2.5**
0	0.25	-0.25 - 0*	2022	0.0174	10	0.24	2022	0.0174	-	-			
1	1	0 - 1	2022	0.0174	10	2.86	2022	0.0174	1	0.05	0.00	0.029	0.047
2	1	1 - 2	2023	0.0227	10	3.72	2023	0.0227	1	0.07	0.00	0.001	0.023
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**6.81**				**0.11**			

* Third trimester of pregnancy

Second Harvest, Alviso, CA- School Construction DPM & PM2.5 Concentrations
AERMOD Risk Modeling Parameters and Maximum Concentrations
Impacts at Mayne Elementary School (3+ years old) - 1 meter - Child Exposure

Receptor Information	Mayne Elementary School & Alviso Youth Center
Number of Receptors	99
Receptor Height =	1.0 meters (3.3 feet)
Receptor distances =	-

Meteorological Conditions

BAAQMD San Jose Airport Met Data	2013-2017
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

School & Youth Center maximum Concentrations - Receptor Height = 1.0 m

Construction Year	Period Average DPM Concentration ($\mu g/m^3$)
2022	0.02391
2023	0.0312
Construction Year	**Period Average PM2.5 Concentration ($\mu g/m^3$)**
2022	0.06588
2023	0.0322

Second Harvest, Alviso, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Mayne Elementary School (3+ years old) - 1 meter - Child Exposure

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = School Adjustment Factor (unitless) for source operation and exposures different than 8 hours/day
= (24/SHR) x (7days/SDay) x (SCHR/8 hrs)
SHR = Hours of emission source operation
SDay = Number of days per week of source operation
SCHR = School operation hours while emission source in operation
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	Child
Age -->	**0 - <2**	**2 - <16**
Parameter		
ASF =	10	3
DPM CPF =	1.10E+00	1.10E+00
8-Hr BR* =	1200	520
SCHR =	9	9
SHR =	9	9
SDay =	5	5
A =	1	1
EF =	250	250
AT =	70	70
SAF =	4.20	4.20

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

Maximum Construction Cancer Risk by Year - School Children

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)	Maximum Hazard Index	Maximum Total PM2.5
1	1	3 - 4	2022	0.0239	3	1.69	0.0048	0.0659
2	1	4 - 5	2023	0.0312	3	2.20	0.0062	0.0322
Total Increased Cancer Risk						**3.88**		

* Children assumed to be 3 years of age or older with 2 years of Construction Exposure

Operation Emissions and Health Risk Calculations

Second Harvest Food Bank, Alviso: On-Site DPM & PM2.5 Emissions

TRU Emissions

Emissions Source	Emission[a] Factor (g/hp-hr)	TRUs Operating per Day	TRU Operation (hours/day)	DPM/PM2.5 Emissions Daily (lb/day)	DPM/PM2.5 Emissions Annual[b] (lb/year)
SHFB Truck TRUs	0.02	45	0.5	0.015	4.72
Other Truck TRUs	0.02	5	1.0	0.003	1.05
Total		**50**		**0.019**	**5.76**

SHFB = Second Harvest Food Bank

TRU Operating Parameters [a]

TRU Horsepower[a] = 33.8

TRU Load Factor[a] = 0.46

a CARB, 2019. *Draft 2019 Update to Emissions Inventory for Transport Refrigeration Units* . October 2019.

b Based on 365 days per year operation.

Truck Idle Emissions

Emissions Source	Idle Emission Factor (g/hr)	On-Site Trucks per Day	Idle Time per Truck (min)	DPM/PM2.5 Emissions Daily (lb/day)	DPM/PM2.5 Emissions Annual (lb/year)
All Trucks	0.58710	50	10	0.0108	3.25

Truck Idle DPM (PM10) Emission Information (2024)

EMFAC2021 Emission Factor @ 5 mph (g	0.11742
Truck Idle Emission Rate (g/hr) =	0.58710
Idle Time per Trip (min)	5
Idle Time per Truck (min)	10

Idle emission factor (g/hr) = EF @5 mph (g/mi) * 5 mph

On-Site Truck Travel Emissions

Emissions Period	Emission* Factor (g/mi)	On-Site Trucks per Day	On-Site Truck Route (feet)	DPM/PM2.5 Emissions Daily (lb/day)	DPM/PM2.5 Emissions Annual (lb/year)
All Trucks	0.02768	50	1270	0.0007	0.27

***** EMFAC2021 HHDT Truck PM10 emission factor for travel at 10 mph.

Second Harvest Food Bank, Alviso: On-Site Modeling Emission Rates and Source Parameters

TRU Modeling Information[a]

Emissions Source	Number of Emission Points	Average Hourly[b] DPM/PM2.5 Emissions (g/s)	Emissions per Source (g/s)	Height (m)	Diameter (m)	Exit Velocity (m/s)	Temp (K)
Truck TRUs	9	8.29E-05	9.21E-06	4.0	0.04445	49	501

a Point source parameters from SJVAPCD *Guidance for Air Dispersion Modeling* .

b Average hourly emissions for modeling calculated based on annual emissions divided by 365 days per year, 24 hours per day.

Truck Idle Modeling Information[a]

Emissions Source	Number of Emission Points	Average Hourly[b] DPM/PM2.5 Emissions (g/s)	Emissions per Source (g/s)	Height (m)	Diameter (m)	Exit Velocity (m/s)	Temp (K)
Truck Idle	9	4.67E-05	5.19E-06	3.84	0.1	51.71	366

a Point source parameters from SJVAPCD *Guidance for Air Dispersion Modeling* .

b Average hourly emissions for modeling calculated based on annual emissions divided by 365 days per year, 24 hours per day.

On-SiteTruck Travel Modeling Information

Emissions Period	Source Type	Average Hourly[a] DPM/PM2.5 Emissions (g/s)	Line Source Length (feet)	Plume Width (feet)	Plume Height (meters)	Release Height (meters)
All Trucks	Line-Volume	3.85E-06	1270	12	6.8	3.4

a Average hourly emissions for modeling calculated based on annual emissions divided by 365 days per year, 24 hours per day.

References

EPA 2015 - *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 nonattainment and maintenance Areas* , November 2015

Second Harvest Food Bank, Alviso: Off-Site DPM & PM2.5 Emissions

Off-Site Truck Travel Exhaust Emissions - N. 1st Street

Emissions Period	Emission* Factor (g/mi)	Truck Trips per Day	Of-Site Truck Route (feet)	DPM/PM2.5 Emissions Daily (lb/day)	DPM/PM2.5 Emissions Annual (lb/year)
All Trucks	0.00977	100	2030	0.0008	0.30

* EMFAC2021 HHDT Truck PM2.5 emission factor for travel at 35 mph.

Off-Site Truck Travel Fugitive PM2.5 Emissions - N. 1st Street

Emissions Period	Emission* Factor (g/mi)	Truck Trips per Day	Off-Site Truck Route (feet)	DPM/PM2.5 Emissions Daily (lb/day)	DPM/PM2.5 Emissions Annual (lb/year)
All Trucks	0.03634	100	2030	0.0031	1.12

Truck Information

Truck Trips per day =	100
Total Trucks per day =	50
Operation Days =	365
Delivery Hours per Day=	24

Truck Fugitive PM2.5 Dust Emission Information (2024)

Truck Tire Wear Emission Factor (g/veh-mi)[a] =	0.0022
Truck Brake Wear Emission Factor (g/veh-mi)[a] =	0.0173
Fugitive Road Dust Emission Factor (g/veh-mi)[b] =	0.0168
Total PM2.5 Fugitive PM2.5 Emission Factor (g/veh-mi) =	0.0363

[a] Tire and brake wear emission factors from EMFAC2021

[b] Fugitive road dust emission factor from CT-EMFAC2017

Second Harvest Food Bank, Alviso: Off-Site Modeling Emission Rates and Source Parameters

Off-SiteTruck Travel Exhaust Emissions Modeling Information

Emissions Period	Source Type	Average Hourly[a] DPM/PM2.5 Emissions (g/s)	Line Source Length (feet)	Plume Width (feet)	Plume Height (meters)	Release Height (meters)
All Trucks	Line-Volume	4.35E-06	2030	12	6.8	3.4

a Average hourly emissions for modeling calculated based on annual emissions divided by 365 days per year, 24 hours per day.

Off-SiteTruck Travel Fugitive PM2.5 Emissions Modeling Information

Emissions Period	Source Type	Average Hourly[a] DPM/PM2.5 Emissions (g/s)	Line Source Length (feet)	Plume Width (feet)	Plume Height (meters)	Release Height (meters)
All Trucks	Line-Volume	1.62E-05	2030	44	2.6	1.3

a Average hourly emissions for modeling calculated based on annual emissions divided by 365 days per year, 24 hours per day.

References

EPA 2015 - *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 nonattainment and maintenance Areas* , November 2015

Second Harvest Food Bank, Alviso, CA

Standby Emergency Generator Impacts - w/ BAAQMD BACT Requirements for engines >1,000-hp

DPM Emission Rates		
	Total Generator DPM Emissions	
Source Type	Daily (lb/day)	Annual (lb/year)
One 600 kW (805 hp) and one 3,000-kW (4,020 hp) Generators	0.044	16.18
CalEEMod DPM Emissions	8.09E-03	tons/year

Modeling Information			
Model	AERMOD		
Source	Diesel Generator Engines		
Source Type	Two Points		
Meteorological Data	2013-2017 San Jose Airport Meterological Data		
Point Source Stack Parameters			
Generator Engine Size (hp)	-		
Stack Height (ft)	10	estimated	
Stack Diameter (ft)**	0.60		
Stack Exit Velocity (ft/sec)**	149		
Exhaust Gas Flowrate (CFM)*	2528		
Exhaust Temperature (˚F)**	872		
Emissions Rate (lb/hr)	0.0018	0.00092	each generator

* calculated

**BAAQMD default generator parameters

Second Harvest Food Bank, San Jose CA - Construction & Project Operation Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction & Operation
Impacts at Off-Site Residential MEI Location - 1.5 meter receptor height

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child Cancer	Modeled DPM Conc (ug/m3)		Age	Adult Cancer			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.0174	10	0.236	2022	0.0174	-	-			
1	1	0 - 1	2022	0.0174	10	2.856	2022	0.0174	1	0.050	0.003	0.029	**0.05**
2	1	1 - 2	2023	0.0227	10	3.722	2023	0.0227	1	0.065	**0.005**	0.001	0.02
3	1	2 - 3	2024	0.0037	3	0.095	2024	0.0037	1	0.011	0.001	0.001	0.00
4	1	3 - 4	2025	0.0037	3	0.095	2025	0.0037	1	0.011	0.001	0.001	0.005
5	1	4 - 5	2026	0.0037	3	0.095	2026	0.0037	1	0.011	0.001	0.001	0.005
6	1	5 - 6	2027	0.0037	3	0.095	2027	0.0037	1	0.011	0.001	0.001	0.005
7	1	6 - 7	2028	0.0037	3	0.095	2028	0.0037	1	0.011	0.001	0.001	0.005
8	1	7 - 8	2029	0.0037	3	0.095	2029	0.0037	1	0.011	0.001	0.001	0.005
9	1	8 - 9	2030	0.0037	3	0.095	2030	0.0037	1	0.011	0.001	0.001	0.005
10	1	9 - 10	2031	0.0037	3	0.095	2031	0.0037	1	0.011	0.001	0.001	0.005
11	1	10 - 11	2032	0.0037	3	0.095	2032	0.0037	1	0.011	0.001	0.001	0.005
12	1	11 - 12	2033	0.0037	3	0.095	2033	0.0037	1	0.011	0.001	0.001	0.005
13	1	12 - 13	2034	0.0037	3	0.095	2034	0.0037	1	0.011	0.001	0.001	0.005
14	1	13 - 14	2035	0.0037	3	0.095	2035	0.0037	1	0.011	0.001	0.001	0.005
15	1	14 - 15	2036	0.0037	3	0.095	2036	0.0037	1	0.011	0.001	0.001	0.005
16	1	15 - 16	2037	0.0037	3	0.095	2037	0.0037	1	0.011	0.001	0.001	0.005
17	1	16-17	2038	0.0037	1	0.011	2038	0.0037	1	0.011	0.001	0.001	0.005
18	1	17-18	2039	0.0037	1	0.011	2039	0.0037	1	0.011	0.001	0.001	0.005
19	1	18-19	2040	0.0037	1	0.011	2040	0.0037	1	0.011	0.001	0.001	0.005
20	1	19-20	2041	0.0037	1	0.011	2041	0.0037	1	0.011	0.001	0.001	0.005
21	1	20-21	2042	0.0037	1	0.011	2042	0.0037	1	0.011	0.001	0.001	0.005
22	1	21-22	2043	0.0037	1	0.011	2043	0.0037	1	0.011	0.001	0.001	0.005
23	1	22-23	2044	0.0037	1	0.011	2044	0.0037	1	0.011	0.001	0.001	0.005
24	1	23-24	2045	0.0037	1	0.011	2045	0.0037	1	0.011	0.001	0.001	0.005
25	1	24-25	2046	0.0037	1	0.011	2046	0.0037	1	0.011	0.001	0.001	0.005
26	1	25-26	2047	0.0037	1	0.011	2047	0.0037	1	0.011	0.001	0.001	0.005
27	1	26-27	2048	0.0037	1	0.011	2048	0.0037	1	0.011	0.001	0.001	0.005
28	1	27-28	2049	0.0037	1	0.011	2049	0.0037	1	0.011	0.001	0.001	0.005
29	1	28-29	2050	0.0037	1	0.011	2050	0.0037	1	0.011	0.001	0.001	0.005
30	1	29-30	2051	0.0037	1	0.011	2051	0.0037	1	0.011	0.001	0.001	0.005
Total Increased Cancer Risk						**8.30**				**0.41**			

* Third trimester of pregnancy

Project Construction Contribution to Total Impact			6.81	0.11	0.005	0.047
Project Operation Contribution to Total Impact			1.48	0.30	0.001	0.005

Second Harvest, San Jose, CA- School Construction DPM & PM2.5 Concentrations
AERMOD Risk Modeling Parameters and Maximum Concentrations
Impacts at Mayne Elementary School (3+ years old) - 1 meter - Child Exposure

Receptor Information	Mayne Elementary School & Alviso Youth Center
Number of Receptors	99
Receptor Height =	1.0 meters (3.3 feet)
Receptor distances =	-

Meteorological Conditions

BAAQMD San Jose Airport Met Data	2013-2017
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

School & Youth Center maximum Concentrations - Receptor Height = 1.0 m

Year	Period Average DPM Concentration ($\mu g/m^3$)
2022 - Construction	0.02391
2023 - Construction	0.0312
2024 - Operation	0.0048
2025 - Operation	0.0048
2026 - Operation	0.0048
2027 - Operation	0.0048
2028 - Operation	0.0048
2029 - Operation	0.0048
Construction Year	**Period Average PM2.5 Concentration ($\mu g/m^3$)**
2022 - Construction	0.0659
2023 - Construction	0.0322
2024 - Operation	0.0059
2025 - Operation	0.0059
2026 - Operation	0.0059
2027 - Operation	0.0059
2028 - Operation	0.0059
2029 - Operation	0.0059

Second Harvest, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Mayne Elementary School (3+ years old) - 1 meter - Child Exposure

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = School Adjustment Factor (unitless) for source operation and exposures different than 8 hours/day
= (24/SHR) x (7days/SDay) x (SCHR/8 hrs)
SHR = Hours of emission source operation
SDay = Number of days per week of source operation
SCHR = School operation hours while emission source in operation
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	Child
Age -->	**0 - <2**	**2 - <16**
Parameter		
ASF =	10	3
DPM CPF =	1.10E+00	1.10E+00
8-Hr BR* =	1200	520
SCHR =	9	9
SHR =	9	9
SDay =	5	5
A =	1	1
EF =	250	250
AT =	70	70
SAF =	4.20	4.20

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

Maximum Construction Cancer Risk by Year - School Children

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)	Maximum Hazard Index	Maximum Total PM2.5
1	1	3 - 4	2022	0.0239	3	1.69	0.0048	**0.066**
2	1	4 - 5	2023	0.0312	3	2.20	**0.0062**	0.032
3	1	5 - 6	2024	0.0048	3	0.34	0.0010	0.006
4	1	6 - 7	2025	0.0048	3	0.34	0.0010	0.006
5	1	7 - 8	2026	0.0048	3	0.34	0.0010	0.006
6	1	8 - 9	2027	0.0048	3	0.34	0.0010	0.006
7	1	9 - 10	2028	0.0048	3	0.34	0.0010	0.006
8	1	11 - 12	2029	0.0048	3	0.34	0.0010	0.006
Total Increased Cancer Risk						**5.91**		

* Children assumed to be 3 years of age or older with 2 years of Construction Exposure and 6 years of Operation

Project Construction Contribution to Total Impact	3.88	0.006	0.066
Project Operation Contribution to Total Impact	2.03	0.001	0.006

Attachment 5: Cumulative Risk Information and Calculations

Attachment 5

North 1st Street Emissions and Health Risk Calculations

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-East Leg - Project + Existing + Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

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_EBE	Eastbound N 1st Street - West Leg	SW	2	1743	1.08	13.3	43.7	3.4	35	7,250
DPM_WBE	Westbound N 1st Street - West Leg	NW	2	1743	1.08	13.3	43.7	3.4	35	7,250
										14,500

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00066			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_EBE

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	283	5.65E-05	9	6.44%	467	9.30E-05	17	5.52%	400	7.97E-05
2	2.59%	188	3.74E-05	10	7.25%	525	1.05E-04	18	3.34%	242	4.82E-05
3	2.82%	204	4.07E-05	11	6.33%	459	9.13E-05	19	2.42%	175	3.49E-05
4	3.39%	246	4.90E-05	12	6.90%	500	9.96E-05	20	0.92%	67	1.33E-05
5	2.19%	158	3.16E-05	13	6.27%	454	9.05E-05	21	2.99%	217	4.32E-05
6	3.39%	246	4.90E-05	14	6.15%	446	8.88E-05	22	4.14%	300	5.98E-05
7	6.10%	442	8.80E-05	15	5.12%	371	7.39E-05	23	2.47%	179	3.57E-05
8	4.66%	338	6.73E-05	16	3.85%	279	5.56E-05	24	0.86%	63	1.25E-05
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WBE

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	283	5.65E-05	9	6.44%	467	9.30E-05	17	5.52%	400	7.97E-05
2	2.59%	188	3.74E-05	10	7.25%	525	1.05E-04	18	3.34%	242	4.82E-05
3	2.82%	204	4.07E-05	11	6.33%	459	9.13E-05	19	2.42%	175	3.49E-05
4	3.39%	246	4.90E-05	12	6.90%	500	9.96E-05	20	0.92%	67	1.33E-05
5	2.19%	158	3.16E-05	13	6.27%	454	9.05E-05	21	2.99%	217	4.32E-05
6	3.39%	246	4.90E-05	14	6.15%	446	8.88E-05	22	4.14%	300	5.98E-05
7	6.10%	442	8.80E-05	15	5.12%	371	7.39E-05	23	2.47%	179	3.57E-05
8	4.66%	338	6.73E-05	16	3.85%	279	5.56E-05	24	0.86%	63	1.25E-05
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-East Leg - Project + Existing + Background Traffic
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

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
PM25_EBE	Eastbound N 1st Street - West Leg	SW	2	1743	1.08	13.3	44	1.3	35	7,250
PM25_WBE	Westbound N 1st Street - West Leg	NW	2	1743	1.08	13.3	44	1.3	35	7,250
										14,500

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001861			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM25_EBE

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	4.67E-05	9	7.11%	516	2.89E-04	17	7.39%	535	3.00E-04
2	0.42%	30	1.70E-05	10	4.39%	318	1.78E-04	18	8.17%	592	3.32E-04
3	0.41%	30	1.66E-05	11	4.67%	338	1.89E-04	19	5.70%	413	2.31E-04
4	0.27%	19	1.08E-05	12	5.89%	427	2.39E-04	20	4.27%	310	1.73E-04
5	0.50%	36	2.03E-05	13	6.15%	446	2.50E-04	21	3.26%	236	1.32E-04
6	0.91%	66	3.68E-05	14	6.03%	437	2.45E-04	22	3.30%	239	1.34E-04
7	3.79%	275	1.54E-04	15	7.01%	508	2.84E-04	23	2.46%	178	9.97E-05
8	7.76%	563	3.15E-04	16	7.13%	517	2.90E-04	24	1.86%	135	7.56E-05
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_WBE

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	4.67E-05	9	7.11%	516	2.89E-04	17	7.39%	535	3.00E-04
2	0.42%	30	1.70E-05	10	4.39%	318	1.78E-04	18	8.17%	592	3.32E-04
3	0.41%	30	1.66E-05	11	4.67%	338	1.89E-04	19	5.70%	413	2.31E-04
4	0.27%	19	1.08E-05	12	5.89%	427	2.39E-04	20	4.27%	310	1.73E-04
5	0.50%	36	2.03E-05	13	6.15%	446	2.50E-04	21	3.26%	236	1.32E-04
6	0.91%	66	3.68E-05	14	6.03%	437	2.45E-04	22	3.30%	239	1.34E-04
7	3.79%	275	1.54E-04	15	7.01%	508	2.84E-04	23	2.46%	178	9.97E-05
8	7.76%	563	3.15E-04	16	7.13%	517	2.90E-04	24	1.86%	135	7.56E-05
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-East Leg - Project + Existing + Background Traffic
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

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_EBE	Eastbound N 1st Street - West Leg	SW	2	1743	1.08	13.3	44	1.3	35	7,250
TEXH_WBE	Westbound N 1st Street - West Leg	NW	2	1743	1.08	13.3	44	1.3	35	7,250
										14,500

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
All Vehicles TOG Emissions per Vehicle (g/VMT)	0.03451			
Diesel Vehicles TOG Emissions per Vehicle (g/VMT)	0.00233			
Gasoline Vehicles Emissions per Vehicle (g/VMT)	0.03219			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EBE

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	8.08E-04	9	7.11%	516	4.99E-03	17	7.39%	535	5.18E-03
2	0.42%	30	2.94E-04	10	4.39%	318	3.08E-03	18	8.17%	592	5.74E-03
3	0.41%	30	2.87E-04	11	4.67%	338	3.28E-03	19	5.70%	413	4.00E-03
4	0.27%	19	1.87E-04	12	5.89%	427	4.14E-03	20	4.27%	310	3.00E-03
5	0.50%	36	3.51E-04	13	6.15%	446	4.32E-03	21	3.26%	236	2.29E-03
6	0.91%	66	6.36E-04	14	6.03%	437	4.24E-03	22	3.30%	239	2.32E-03
7	3.79%	275	2.66E-03	15	7.01%	508	4.92E-03	23	2.46%	178	1.72E-03
8	7.76%	563	5.45E-03	16	7.13%	517	5.01E-03	24	1.86%	135	1.31E-03
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WBE

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	8.08E-04	9	7.11%	516	4.99E-03	17	7.39%	535	5.18E-03
2	0.42%	30	2.94E-04	10	4.39%	318	3.08E-03	18	8.17%	592	5.74E-03
3	0.41%	30	2.87E-04	11	4.67%	338	3.28E-03	19	5.70%	413	4.00E-03
4	0.27%	19	1.87E-04	12	5.89%	427	4.14E-03	20	4.27%	310	3.00E-03
5	0.50%	36	3.51E-04	13	6.15%	446	4.32E-03	21	3.26%	236	2.29E-03
6	0.91%	66	6.36E-04	14	6.03%	437	4.24E-03	22	3.30%	239	2.32E-03
7	3.79%	275	2.66E-03	15	7.01%	508	4.92E-03	23	2.46%	178	1.72E-03
8	7.76%	563	5.45E-03	16	7.13%	517	5.01E-03	24	1.86%	135	1.31E-03
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-East Leg - Project + Existing + Background Traffic
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

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_EBE	Eastbound N 1st Street - West Leg	SW	2	1743	1.08	13.3	44	1.3	35	7,250
TEVAP_WBE	Westbound N 1st Street - West Leg	NW	2	1743	1.08	13.3	44	1.3	35	7,250
										14,500

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.04053			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EBE

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	1.02E-03	9	7.11%	516	6.29E-03	17	7.39%	535	6.53E-03
2	0.42%	30	3.70E-04	10	4.39%	318	3.88E-03	18	8.17%	592	7.22E-03
3	0.41%	30	3.62E-04	11	4.67%	338	4.13E-03	19	5.70%	413	5.03E-03
4	0.27%	19	2.36E-04	12	5.89%	427	5.21E-03	20	4.27%	310	3.78E-03
5	0.50%	36	4.41E-04	13	6.15%	446	5.44E-03	21	3.26%	236	2.88E-03
6	0.91%	66	8.01E-04	14	6.03%	437	5.33E-03	22	3.30%	239	2.92E-03
7	3.79%	275	3.35E-03	15	7.01%	508	6.20E-03	23	2.46%	178	2.17E-03
8	7.76%	563	6.86E-03	16	7.13%	517	6.31E-03	24	1.86%	135	1.65E-03
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WBE

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	1.02E-03	9	7.11%	516	6.29E-03	17	7.39%	535	6.53E-03
2	0.42%	30	3.70E-04	10	4.39%	318	3.88E-03	18	8.17%	592	7.22E-03
3	0.41%	30	3.62E-04	11	4.67%	338	4.13E-03	19	5.70%	413	5.03E-03
4	0.27%	19	2.36E-04	12	5.89%	427	5.21E-03	20	4.27%	310	3.78E-03
5	0.50%	36	4.41E-04	13	6.15%	446	5.44E-03	21	3.26%	236	2.88E-03
6	0.91%	66	8.01E-04	14	6.03%	437	5.33E-03	22	3.30%	239	2.92E-03
7	3.79%	275	3.35E-03	15	7.01%	508	6.20E-03	23	2.46%	178	2.17E-03
8	7.76%	563	6.86E-03	16	7.13%	517	6.31E-03	24	1.86%	135	1.65E-03
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-East Leg - Project + Existing + Background Traffic
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

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_EBE	Eastbound N 1st Street - West Leg	SW	2	1743	1.08	13.3	44	1.3	35	7,250
FUG_WBE	Westbound N 1st Street - West Leg	NW	2	1743	1.08	13.3	44	1.3	35	7,250
										14,500

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EBE

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	8.48E-04	9	7.11%	516	5.24E-03	17	7.39%	535	5.44E-03
2	0.42%	30	3.09E-04	10	4.39%	318	3.24E-03	18	8.17%	592	6.02E-03
3	0.41%	30	3.02E-04	11	4.67%	338	3.44E-03	19	5.70%	413	4.20E-03
4	0.27%	19	1.97E-04	12	5.89%	427	4.34E-03	20	4.27%	310	3.15E-03
5	0.50%	36	3.68E-04	13	6.15%	446	4.53E-03	21	3.26%	236	2.40E-03
6	0.91%	66	6.68E-04	14	6.03%	437	4.45E-03	22	3.30%	239	2.43E-03
7	3.79%	275	2.80E-03	15	7.01%	508	5.17E-03	23	2.46%	178	1.81E-03
8	7.76%	563	5.72E-03	16	7.13%	517	5.26E-03	24	1.86%	135	1.37E-03
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WBE

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	8.48E-04	9	7.11%	516	5.24E-03	17	7.39%	535	5.44E-03
2	0.42%	30	3.09E-04	10	4.39%	318	3.24E-03	18	8.17%	592	6.02E-03
3	0.41%	30	3.02E-04	11	4.67%	338	3.44E-03	19	5.70%	413	4.20E-03
4	0.27%	19	1.97E-04	12	5.89%	427	4.34E-03	20	4.27%	310	3.15E-03
5	0.50%	36	3.68E-04	13	6.15%	446	4.53E-03	21	3.26%	236	2.40E-03
6	0.91%	66	6.68E-04	14	6.03%	437	4.45E-03	22	3.30%	239	2.43E-03
7	3.79%	275	2.80E-03	15	7.01%	508	5.17E-03	23	2.46%	178	1.81E-03
8	7.76%	563	5.72E-03	16	7.13%	517	5.26E-03	24	1.86%	135	1.37E-03
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-West Leg - Project + Existing + Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

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_EBW	Eastbound N 1st Street - West Leg	SE	1	1323	0.82	9.7	31.7	3.4	35	7,250
DPM_WBW	Westbound N 1st Street - West Leg	NW	1	1323	0.82	9.7	31.7	3.4	35	7,250
										14,500

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00066			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_EBW

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	283	4.29E-05	9	6.44%	467	7.06E-05	17	5.52%	400	6.05E-05
2	2.59%	188	2.84E-05	10	7.25%	525	7.94E-05	18	3.34%	242	3.66E-05
3	2.82%	204	3.09E-05	11	6.33%	459	6.93E-05	19	2.42%	175	2.65E-05
4	3.39%	246	3.72E-05	12	6.90%	500	7.56E-05	20	0.92%	67	1.01E-05
5	2.19%	158	2.39E-05	13	6.27%	454	6.87E-05	21	2.99%	217	3.28E-05
6	3.39%	246	3.72E-05	14	6.15%	446	6.74E-05	22	4.14%	300	4.54E-05
7	6.10%	442	6.68E-05	15	5.12%	371	5.61E-05	23	2.47%	179	2.71E-05
8	4.66%	338	5.10E-05	16	3.85%	279	4.22E-05	24	0.86%	63	9.45E-06
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WBW

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	283	4.29E-05	9	6.44%	467	7.06E-05	17	5.52%	400	6.05E-05
2	2.59%	188	2.84E-05	10	7.25%	525	7.94E-05	18	3.34%	242	3.66E-05
3	2.82%	204	3.09E-05	11	6.33%	459	6.93E-05	19	2.42%	175	2.65E-05
4	3.39%	246	3.72E-05	12	6.90%	500	7.56E-05	20	0.92%	67	1.01E-05
5	2.19%	158	2.39E-05	13	6.27%	454	6.87E-05	21	2.99%	217	3.28E-05
6	3.39%	246	3.72E-05	14	6.15%	446	6.74E-05	22	4.14%	300	4.54E-05
7	6.10%	442	6.68E-05	15	5.12%	371	5.61E-05	23	2.47%	179	2.71E-05
8	4.66%	338	5.10E-05	16	3.85%	279	4.22E-05	24	0.86%	63	9.45E-06
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-West Leg - Project + Existing + Background Traffic
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

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
PM25_EBW	Eastbound N 1st Street - West Leg	SE	1	1323	0.82	9.7	32	1.3	35	7,250
PM25_WBW	Westbound N 1st Street - West Leg	NW	1	1323	0.82	9.7	32	1.3	35	7,250
										14,500

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001861			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM25_EBW

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	3.55E-05	9	7.11%	516	2.19E-04	17	7.39%	535	2.28E-04
2	0.42%	30	1.29E-05	10	4.39%	318	1.35E-04	18	8.17%	592	2.52E-04
3	0.41%	30	1.26E-05	11	4.67%	338	1.44E-04	19	5.70%	413	1.75E-04
4	0.27%	19	8.22E-06	12	5.89%	427	1.82E-04	20	4.27%	310	1.32E-04
5	0.50%	36	1.54E-05	13	6.15%	446	1.89E-04	21	3.26%	236	1.00E-04
6	0.91%	66	2.79E-05	14	6.03%	437	1.86E-04	22	3.30%	239	1.02E-04
7	3.79%	275	1.17E-04	15	7.01%	508	2.16E-04	23	2.46%	178	7.57E-05
8	7.76%	563	2.39E-04	16	7.13%	517	2.20E-04	24	1.86%	135	5.74E-05
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM25_WBW

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	3.55E-05	9	7.11%	516	2.19E-04	17	7.39%	535	2.28E-04
2	0.42%	30	1.29E-05	10	4.39%	318	1.35E-04	18	8.17%	592	2.52E-04
3	0.41%	30	1.26E-05	11	4.67%	338	1.44E-04	19	5.70%	413	1.75E-04
4	0.27%	19	8.22E-06	12	5.89%	427	1.82E-04	20	4.27%	310	1.32E-04
5	0.50%	36	1.54E-05	13	6.15%	446	1.89E-04	21	3.26%	236	1.00E-04
6	0.91%	66	2.79E-05	14	6.03%	437	1.86E-04	22	3.30%	239	1.02E-04
7	3.79%	275	1.17E-04	15	7.01%	508	2.16E-04	23	2.46%	178	7.57E-05
8	7.76%	563	2.39E-04	16	7.13%	517	2.20E-04	24	1.86%	135	5.74E-05
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-West Leg - Project + Existing + Background Traffic
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

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_EBW	Eastbound N 1st Street - West Leg	SE	1	1323	0.82	9.7	32	1.3	35	7,250
TEXH_WBW	Westbound N 1st Street - West Leg	NW	1	1323	0.82	9.7	32	1.3	35	7,250
										14,500

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
All Vehicles TOG Emissions per Vehicle (g/VMT)	0.03451			
Diesel Vehicles TOG Emissions per Vehicle (g/VMT)	0.00233			
Gasoline Vehicles Emissions per Vehicle (g/VMT)	0.03219			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EBW

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	6.13E-04	9	7.11%	516	3.79E-03	17	7.39%	535	3.94E-03
2	0.42%	30	2.23E-04	10	4.39%	318	2.34E-03	18	8.17%	592	4.35E-03
3	0.41%	30	2.18E-04	11	4.67%	338	2.49E-03	19	5.70%	413	3.03E-03
4	0.27%	19	1.42E-04	12	5.89%	427	3.14E-03	20	4.27%	310	2.28E-03
5	0.50%	36	2.66E-04	13	6.15%	446	3.28E-03	21	3.26%	236	1.74E-03
6	0.91%	66	4.83E-04	14	6.03%	437	3.22E-03	22	3.30%	239	1.76E-03
7	3.79%	275	2.02E-03	15	7.01%	508	3.73E-03	23	2.46%	178	1.31E-03
8	7.76%	563	4.14E-03	16	7.13%	517	3.80E-03	24	1.86%	135	9.93E-04
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WBW

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	6.13E-04	9	7.11%	516	3.79E-03	17	7.39%	535	3.94E-03
2	0.42%	30	2.23E-04	10	4.39%	318	2.34E-03	18	8.17%	592	4.35E-03
3	0.41%	30	2.18E-04	11	4.67%	338	2.49E-03	19	5.70%	413	3.03E-03
4	0.27%	19	1.42E-04	12	5.89%	427	3.14E-03	20	4.27%	310	2.28E-03
5	0.50%	36	2.66E-04	13	6.15%	446	3.28E-03	21	3.26%	236	1.74E-03
6	0.91%	66	4.83E-04	14	6.03%	437	3.22E-03	22	3.30%	239	1.76E-03
7	3.79%	275	2.02E-03	15	7.01%	508	3.73E-03	23	2.46%	178	1.31E-03
8	7.76%	563	4.14E-03	16	7.13%	517	3.80E-03	24	1.86%	135	9.93E-04
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-West Leg - Project + Existing + Background Traffic
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

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_EBW	Eastbound N 1st Street - West Leg	SE	1	1323	0.82	9.7	32	1.3	35	7,250
TEVAP_WBW	Westbound N 1st Street - West Leg	NW	1	1323	0.82	9.7	32	1.3	35	7,250
										14,500

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.04053			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EBW

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	7.72E-04	9	7.11%	516	4.77E-03	17	7.39%	535	4.96E-03
2	0.42%	30	2.81E-04	10	4.39%	318	2.95E-03	18	8.17%	592	5.48E-03
3	0.41%	30	2.74E-04	11	4.67%	338	3.13E-03	19	5.70%	413	3.82E-03
4	0.27%	19	1.79E-04	12	5.89%	427	3.95E-03	20	4.27%	310	2.87E-03
5	0.50%	36	3.35E-04	13	6.15%	446	4.13E-03	21	3.26%	236	2.19E-03
6	0.91%	66	6.08E-04	14	6.03%	437	4.05E-03	22	3.30%	239	2.21E-03
7	3.79%	275	2.55E-03	15	7.01%	508	4.70E-03	23	2.46%	178	1.65E-03
8	7.76%	563	5.21E-03	16	7.13%	517	4.79E-03	24	1.86%	135	1.25E-03
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WBW

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	7.72E-04	9	7.11%	516	4.77E-03	17	7.39%	535	4.96E-03
2	0.42%	30	2.81E-04	10	4.39%	318	2.95E-03	18	8.17%	592	5.48E-03
3	0.41%	30	2.74E-04	11	4.67%	338	3.13E-03	19	5.70%	413	3.82E-03
4	0.27%	19	1.79E-04	12	5.89%	427	3.95E-03	20	4.27%	310	2.87E-03
5	0.50%	36	3.35E-04	13	6.15%	446	4.13E-03	21	3.26%	236	2.19E-03
6	0.91%	66	6.08E-04	14	6.03%	437	4.05E-03	22	3.30%	239	2.21E-03
7	3.79%	275	2.55E-03	15	7.01%	508	4.70E-03	23	2.46%	178	1.65E-03
8	7.76%	563	5.21E-03	16	7.13%	517	4.79E-03	24	1.86%	135	1.25E-03
								Total		7,250	

Second Harvest Food Bank - Roadway Modeling
N 1st Street Traffic-West Leg - Project + Existing + Background Traffic
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

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_EBW	Eastbound N 1st Street - West Leg	SE	1	1323	0.82	9.7	32	1.3	35	7,250
FUG_WBW	Westbound N 1st Street - West Leg	NW	1	1323	0.82	9.7	32	1.3	35	7,250
										14,500

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EBW

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	83	6.44E-04	9	7.11%	516	3.98E-03	17	7.39%	535	4.13E-03
2	0.42%	30	2.34E-04	10	4.39%	318	2.46E-03	18	8.17%	592	4.57E-03
3	0.41%	30	2.29E-04	11	4.67%	338	2.61E-03	19	5.70%	413	3.19E-03
4	0.27%	19	1.49E-04	12	5.89%	427	3.30E-03	20	4.27%	310	2.39E-03
5	0.50%	36	2.79E-04	13	6.15%	446	3.44E-03	21	3.26%	236	1.82E-03
6	0.91%	66	5.07E-04	14	6.03%	437	3.38E-03	22	3.30%	239	1.85E-03
7	3.79%	275	2.12E-03	15	7.01%	508	3.92E-03	23	2.46%	178	1.37E-03
8	7.76%	563	4.34E-03	16	7.13%	517	3.99E-03	24	1.86%	135	1.04E-03
								Total		7,250	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WBW

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	83	6.44E-04	9	7.11%	516	3.98E-03	17	7.39%	535	4.13E-03
2	0.42%	30	2.34E-04	10	4.39%	318	2.46E-03	18	8.17%	592	4.57E-03
3	0.41%	30	2.29E-04	11	4.67%	338	2.61E-03	19	5.70%	413	3.19E-03
4	0.27%	19	1.49E-04	12	5.89%	427	3.30E-03	20	4.27%	310	2.39E-03
5	0.50%	36	2.79E-04	13	6.15%	446	3.44E-03	21	3.26%	236	1.82E-03
6	0.91%	66	5.07E-04	14	6.03%	437	3.38E-03	22	3.30%	239	1.85E-03
7	3.79%	275	2.12E-03	15	7.01%	508	3.92E-03	23	2.46%	178	1.37E-03
8	7.76%	563	4.34E-03	16	7.13%	517	3.99E-03	24	1.86%	135	1.04E-03
								Total		7,250	

Second Harvest Food Bank, San Jose CA - N. 1st Street Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations - Project Traffic
at Residential MEI (1.5 m receptor heights)

Emission Year	2022
Receptor Information	Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	Residential MEI receptor
Meteorological Conditions	
BAQMD San Jose Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Maximum Residential Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00864	0.39341	0.49483

Maximum Residential PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.43524	0.41245	0.02279

Second Harvest Food Bank, San Jose CA - N. 1st Street Cancer Risk & PM2.5
Impacts at Project Residential MEI- 1.5 meter receptor height (1st floor)
30 Year Residential Exposure - Project Traffic

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

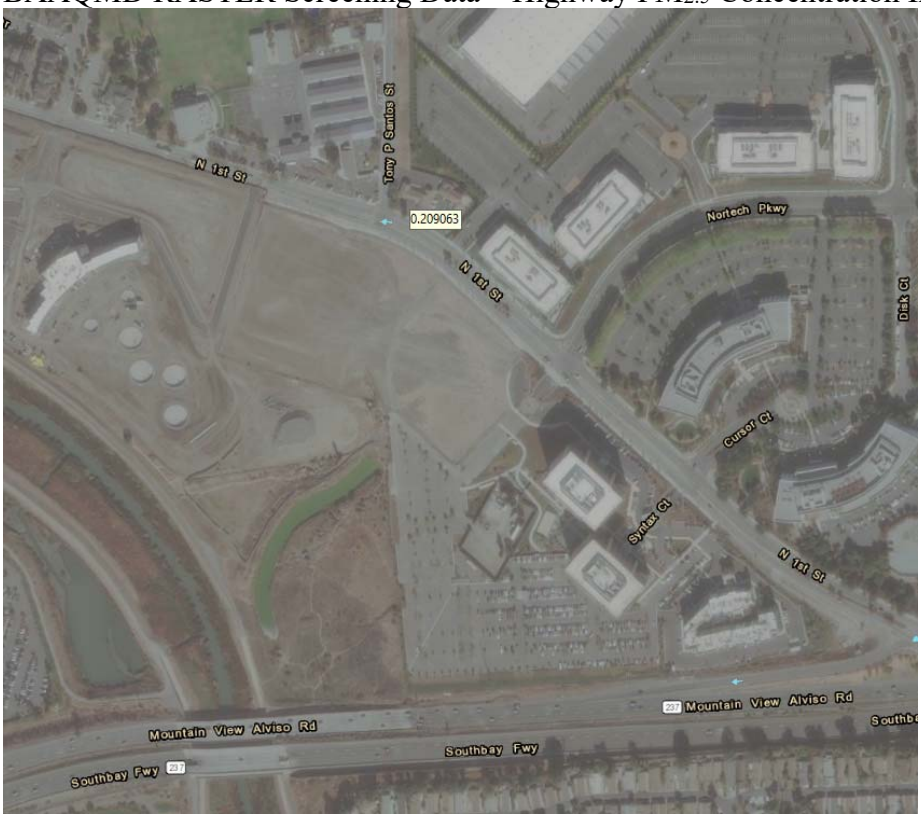
Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2022	10	0.0086	0.3934	0.4948	0.117	0.031	0.0023	0.15
1	1	0 - 1	2022	10	0.0086	0.3934	0.4948	1.419	0.369	0.0273	1.82
2	1	1 - 2	2023	10	0.0086	0.3934	0.4948	1.419	0.369	0.0273	1.82
3	1	2 - 3	2024	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
4	1	3 - 4	2025	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
5	1	4 - 5	2026	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
6	1	5 - 6	2027	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
7	1	6 - 7	2028	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
8	1	7 - 8	2029	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
9	1	8 - 9	2030	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
10	1	9 - 10	2031	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
11	1	10 - 11	2032	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
12	1	11 - 12	2033	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
13	1	12 - 13	2034	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
14	1	13 - 14	2035	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
15	1	14 - 15	2036	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
16	1	15 - 16	2037	3	0.0086	0.3934	0.4948	0.223	0.058	0.0043	0.29
17	1	16-17	2038	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
18	1	17-18	2039	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
19	1	18-19	2040	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
20	1	19-20	2041	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
21	1	20-21	2042	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
22	1	21-22	2043	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
23	1	22-23	2044	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
24	1	23-24	2045	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
25	1	24-25	2046	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
26	1	25-26	2047	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
27	1	26-27	2048	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
28	1	27-28	2049	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
29	1	28-29	2050	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
30	1	29-30	2051	1	0.0086	0.3934	0.4948	0.025	0.006	0.0005	0.03
Total Increased Cancer Risk								6.42	1.672	0.124	**8.22**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00172	0.41	0.44

* Third trimester of pregnancy

BAAQMD RASTER Screening Data – Highway Cancer Risk Impacts at MEI

BAAQMD RASTER Screening Data – Highway $PM_{2.5}$ Concentration Impacts at MEI

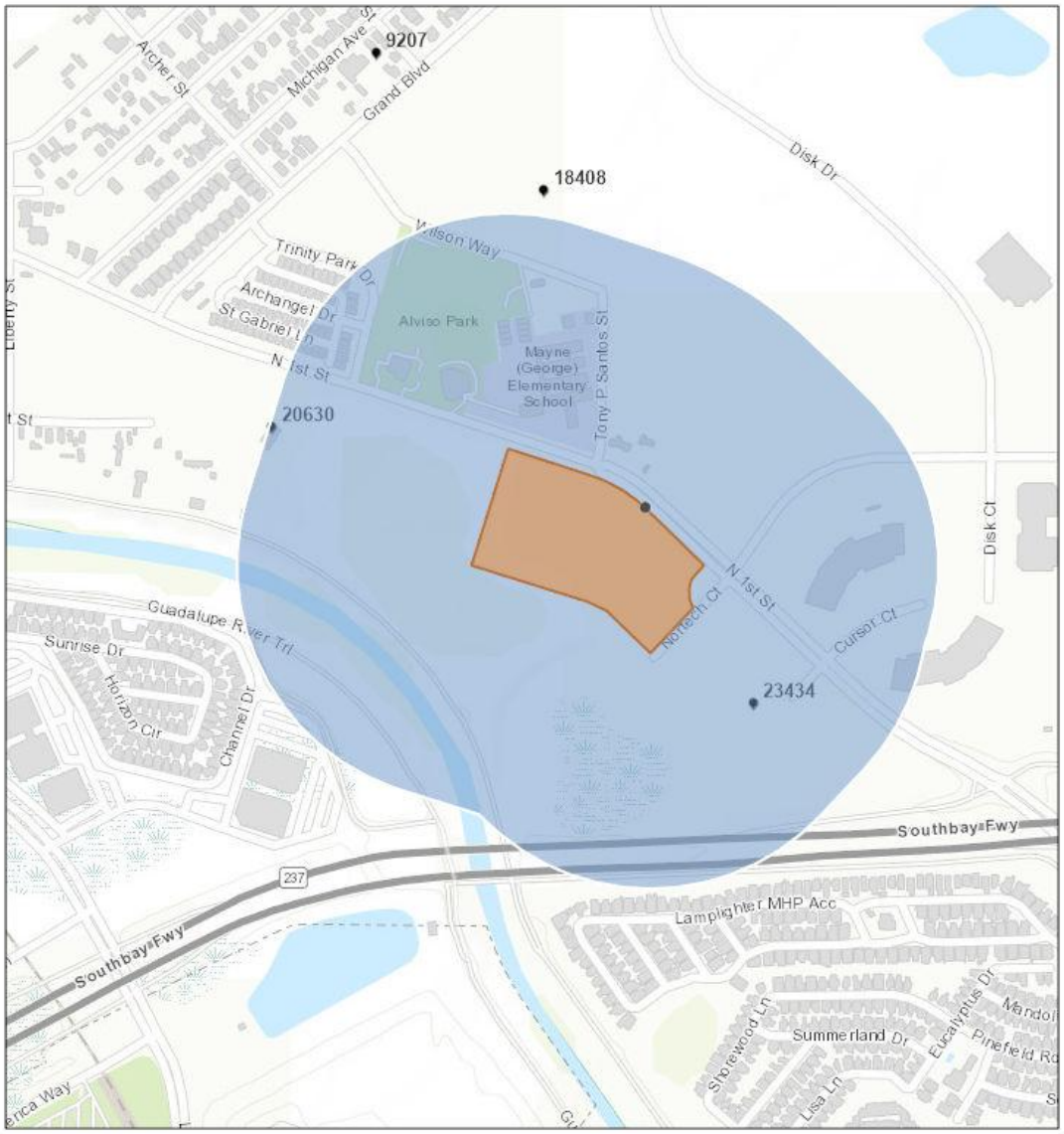


Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 6,420,802.45 ft²

Dec 14 2021 15:33:34 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	2	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	20630	Verizon Wireless-Alviso	4701 N 1st Street	San Jose	CA
2	23434	South Bay Development, LLC	4353 N 1st Street	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95134	Santa Clara	1.200	0.000	0.000	Generators	1
2	95134	Santa Clara	0.310	0.000	0.000	Generators	1

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

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