CAMPBELL UNION HIGH SCHOOL DISTRICT SITE RESIDENTIAL DEVELOPMENT AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT

San Jose, California

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Introduction

The purpose of this report is to address air quality and greenhouse gas (GHG) emissions impacts associated with the proposed residential development on the Campbell Union High School District (CUHSD) site in San Jose, California. The air quality impacts and GHG emissions associated with the project would be from the demolition of the existing uses, construction of infrastructure, and construction and operation of single-family homes with accessory dwelling units (ADUs). Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential construction community risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources (i.e., local roadways) affecting the new residential units were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to replace a section of the existing CUHSD facilities with 40 single-family homes and 21 accessory dwelling units (ADUs). The ADUs would be located above the garages on the lots that have detached garages. The 6.03-acre project site is located at 3235 Union Avenue in San Jose, California and would replace a portion of the existing CUHSD maintenance yard. The maintenance yard would continue its current function but in a smaller area.

Setting

The project is 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 except for 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 (or cumulative) emissions and localized emissions. High particulate matter levels

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

aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

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

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the site are children that may be living in the single-family housing developments adjacent to the north and south of project site. A Special Place Schools and daycare is approximately 370 feet to the northeast of the site and ATLC Preschool and 7 Magic Flowers Bilingual Montessori School are approximately 700 feet to the east of the site. Two assisted living facilities are also located within the residential neighborhoods surrounding the site. Once constructed, the project would introduce new sensitive receptors (i.e., residents) to the area.

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

Regulatory Agencies

CARB has adopted and implemented several regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[3] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[4] The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

City San José Envision 2040 General Plan

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

Applicable Goals – Air Pollutant Emission Reduction

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

Applicable Policies – Air Pollutant Emission Reduction

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

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

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

Applicable Goals – Toxic Air Contaminants

[3] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[4] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.

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

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

Applicable Goals – Construction Air Emissions

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

Applicable Policies – Construction Air Emissions

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

Applicable Actions – Construction Air Emissions

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

Significance Thresholds

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

Table 1. Air Quality Significance Thresholds

Criteria Air Pollutant	**Construction Thresholds**	**Operational Thresholds**	
	Average Daily Emissions (lbs./day)	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita *(660 metric tons annually or 2.8 metric tons per capita for 2030)**		
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases. *BAAQMD does not have a recommended post-2020 GHG threshold.			

IMPACTS AND MITIGATION MEASURES

Impact: 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), has prepared 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*.[5] 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 impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

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

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

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

Construction Period Emissions

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

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

emissions from construction traffic, which includes worker travel, vendor trucks and haul trucks.[6] The model output from CalEEMod along with construction inputs are included as *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

Land Use Inputs

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

- 40 single family dwelling units and 143,079 sf entered as "Residential Single Family Housing" on 6.03-acres, and
- 21 accessory dwelling units and 9,702 sf of residential space entered as "Residential Apartments Low Rise."

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 modified and approved by the applicant.

CalEEMod defaults were used for construction equipment, equipment quantities, average hours of equipment use per day, and work schedule for each phase with an assumed construction start date of January 2021. The default construction schedule produced was approximately 15 months, or 320 construction workdays. Construction was estimated to be complete by April 2022, with the first full year of operation assumed to be 2023.[7]

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 estimated for demolition material to be exported, soil material imported and/or exported to the site, and cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for demolition were estimated using CalEEMod defaults for trips per square-foot of building demolished. The square feet for each of the existing structures on site was estimated using Google Earth. Likewise, the number of concrete and asphalt total round haul trips were estimated using the project plans provided by the applicant to estimate material volumes and an assumed 10 cubic yards (CY) per material delivery for the project. Concrete/asphalt deliveries were converted to total one-way trips by assuming two trips per delivery. Excavation on the site was assumed to be balanced, therefor, no soil import/export trips were included.

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

[7] In November 2020, the applicant provided a revised construction schedule that increased the length of the project and reduced the total equipment hours. Thus, the use of the default construction schedule overestimated total emissions and emissions rates.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model. However, CalEEMod has not been updated to include EMFAC2017. The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The construction traffic vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes and emissions associated with vehicle starts were also included. EMFAC2017 emission rates from calendar year 2021 for Santa Clara County were used. Table 2 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 2. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	71.5% LDA 6.4% LDT1 22.1% LDT2	38.1% MHDT 61.9% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo) 7.3 (Cement/Asphalt)	5 Minute Truck Idle Time
Demolition	300	-	63	13,904 sf Existing Building Demo
Site Preparation	180	-	-	
Grading	400	-	-	0 cy Soil Import/Export[3]
Trenching	100	-	-	
Building Construction	6,900	1,610	687	344 Cement Truck Deliveries
Architectural Coating	120	-	-	
Paving	300	-	99	494 cy Asphalt

Notes:
[1] Based on 2021 EMFAC2017 vehicle fleet mix for Santa Clara County.
[2] Demolition hauling trips estimated by CalEEMod based on existing structure sizes.
[3] In November 2020 the client provided updated trip estimates that included soil import/export trips. However, the total number of trips estimated for the project remained the same.

Summary of Computed Construction Period Emissions

Annual emissions were predicted using CalEEMod and EMFAC2017. Average daily emissions were computed by dividing the total construction emissions by the number of construction days (320 construction workdays). Table 3 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust estimated during construction of the project. As indicated in Table 3, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions - Unmitigated

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	1.4 tons	3.2 tons	0.17 tons	0.16 tons
Average daily emissions (pounds)[1]	8.8 lbs./day	20.2 lbs./day	1.1 lbs./day	1.0 lbs./day
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Notes: [1]Assumes 320 workdays.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

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

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

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

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

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

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

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

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

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

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

Effectiveness of Mitigation Measure AQ-1

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

Operational Period Emissions

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

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 full year of operation would be 2023 if construction begins in January of 2021. Emissions associated with build-out later than 2023 would be lower than those estimated for 2023.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate for Single-Family Homes (Institute of Transportation Engineers Land Use Code 210) and ADU/Multifamily Housing Low-Rise (Code 220) were provided by the traffic consultant.[8] Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

[8] Hexagon Transportation Consultants, Inc., *CUHSD Site Residential Development Transportation Analysis*, June 9, 2020.

EMFAC2017 Adjustment

As previously described, the vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission model for on-road and off-road mobile sources. Since the release of CalEEMod Version 2016.3.2, a new emission model has been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part One.[9,10] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant emissions and GHG emissions (i.e., CO_2) would increase for light-duty vehicles. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. On-road emission rates for Santa Clara County, calendar year 2023 were used. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support documents.[11]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO_2 per megawatt of electricity delivered in the year 2017.[12] This intensity factor was used in the model and it was assumed that all powered was supplied by PG&E. However, the project could use electricity supplied by San Jose Clean Energy (SJCE) that will be 100-percent carbon free by 2021 before the project becomes operational.[13]

Other Inputs

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

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

[10] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

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

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

[13] Kerrie Romanow and Rosalynn Hughey, 2019. *Building reach Code for New Construction Memorandum*. August. Web: https://sanjose.legistar.com/LegislationDetail.aspx?ID=4090015&GUID=278596A7-1A2B-4248-B794-7A34E2279E85

Existing Uses

A CalEEMod model run was developed to estimate emissions from the existing land uses and building located on the site as if it was operating in 2023. Inputs for this modeling scenario were estimated using Google Maps and Google Earth and included 13,900 sf entered as "Unrefrigerated Warehouse-No Rail." Land use inputs along with the other operational inputs were applied to the modeling in the same manner described above for the proposed project.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 4 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emissions (*tons/year*)	0.92 tons	0.37 tons	0.47 tons	0.13 tons
2023 Existing Site Operational Emissions (*tons/year*)	0.07 tons	0.02 tons	0.03 tons	0.01 tons
Net Annual Emissions (*tons/year*)	0.85 tons	0.35 tons	0.44 tons	0.12 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2023 Project Operational Emissions (*lbs./day*)[1]	4.7 lbs.	1.9 lbs.	2.4 lbs.	0.7 lbs.
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs during construction and operation with the potential to adversely affect existing sensitive receptors in the project vicinity or by introducing a new sensitive receptor, such as residents, in proximity to an existing source of TACs.

Project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. A construction community health risk assessment was prepared to address project construction impacts on the surrounding off-site sensitive receptors. Operation of the project is not expected to be a source of TAC or localized air pollutant emissions, as the project would not generate substantial truck traffic or include stationary sources of emissions, such as generators powered by diesel engines. Emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized.

The project would introduce residents that are sensitive receptors. There are two nearby roadways (Camden Avenue and Union Avenue) and two stationary sources that are existing sources of TACs in the vicinity of the project. The impact of the existing roadway and stationary sources of TAC upon the existing sensitive receptors and new incoming sensitive receptors was assessed.

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

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 3) that construction exhaust air pollutant emissions would not contribute substantially to existing or projected air quality violations, construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. 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 $PM_{2.5}$.[14]

Construction Period Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and EMFAC2017 was used to estimate exhaust emissions from on-road vehicles. Total DPM emissions from the construction site was estimated to be 0.164 tons (327 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of a half mile was used to represent vehicle travel while at or near the construction site. It was assumed emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were estimated to be 0.084 tons (169 pounds) using the same methods and assumptions used to estimate site DPM emissions.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residents, school children, elderly) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling ambient impacts of these types of emission activities for CEQA projects.[15] The modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 19.7 feet (6 meters) was used. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 6.6 feet (2 meters) was used. Emissions from the construction equipment and on-site vehicle travel were distributed

[14] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[15] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m. when most of the construction activity would occur.

The modeling used a five-year data set (2013-2017) of hourly meteorological data from San Jose Airport that was prepared for use with the AERMOD model by BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during two construction periods (2021-2022 and 2022-2023) 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 at the nearby single- residences. There are no multi-family residences located near the project site.

Project Construction Community Risk Impacts

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEIs). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

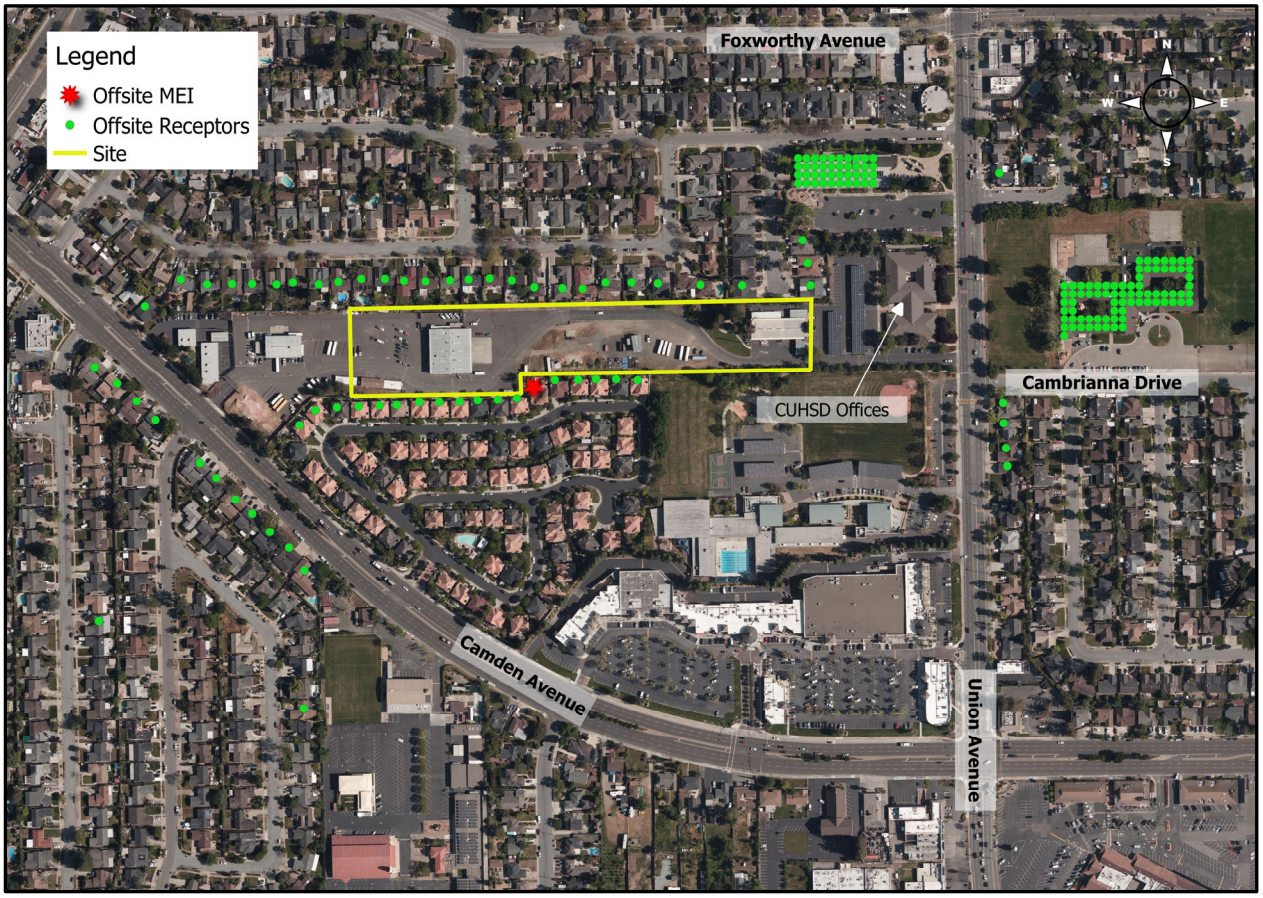
Results of this assessment indicated that the construction MEI was located at a single-family residence adjacent to the southern boundary of the project site (seen in Figure 1). The unmitigated maximum increased cancer risks and maximum $PM_{2.5}$ concentration from construction during 2021-2022 exceed their respective BAAQMD single-source thresholds of greater than 10.0 per million for cancer risk and greater than 0.3 $\mu g/m^3$ for $PM_{2.5}$ concentration. However, with the incorporation of *Mitigation Measure AQ-1 and AQ-2,* the mitigated increased project cancer risk and $PM_{2.5}$ concentration would not exceed their single-source thresholds. Both the unmitigated and mitigated non-cancer hazards from construction activities would be below the single-source significance threshold of 1.0. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the off-site residential MEI.

Table 5. Construction Risk Impacts at the Off-site Residential MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**51.9 (infant)**	**0.54**	0.05
	Mitigated*	4.1 (infant)	0.14	<0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*

* Mitigation Measures include construction equipment engines with Tier 4 Interim emissions limits.

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



Combined Impact of All TAC Sources on the Off-Site Construction MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e. influence area). These sources include railroads, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on Camden Avenue and Union Avenue exceeds the average daily traffic (ADT) threshold of 10,000 vehicles. All other roadways within the area are below the 10,000 ADT threshold. Two stationary sources of TACs are located within the 1,000-foot influence area according to BAAQMD's stationary source website map. Figure 2 shows the existing TAC sources affecting the project site. Community risk impacts from these sources upon the MEI are reported in Table 6. Details of the modeling and community risk calculations are included in *Attachment 5.*

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

Local Roadways – Camden Avenue and Union Avenue

The project site and construction MEI are near both Camden Avenue and Union Avenue, with the construction MEI located approximately 680 feet northeast of Camden Avenue and approximately 1,160 feet west of Union Avenue. A refined analysis of the impacts of TACs and $PM_{2.5}$ from these two local roadways on the construction MEI is necessary to evaluate potential cancer risks and $PM_{2.5}$ concentrations associated with them. A review of the a.m. and p.m. traffic information provided by the project's traffic consultant[16] indicates that Camden Avenue had an estimated weekday traffic volume of over 30,000 vehicles per day and Union Avenue was estimated to have approximately 14,600 vehicles per day based on 2019 intersection counts. These traffic volume estimates were increased one percent per year to obtain estimates for the analysis years of 2021, 2022, and 2023. California Department of Transportation (Caltrans) data for State Route 17 (SR17) closest to the project site were used to obtain hourly traffic volume distributions. The truck percentage provided by the project's traffic consultant was used (3.1 percent trucks), of which 1.3 percent are considered medium duty trucks and 1.8 percent are diesel heavy duty trucks.

[16] Hexagon Transportation Consultants, Inc., *CUHSD Site Residential Development Transportation Analysis*, June 9, 2020.

Modeling Local Roadway Emissions

Analysis of Camden Avenue and Union Avenue involved developing emissions estimates of DPM, organic TACs (as TOG), and $PM_{2.5}$ emissions for 2021, 2022, and 2023 traffic volume estimates using the Caltrans version of the CARB's EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and fugitive road dust for $PM_{2.5}$ that includes tire and brake wear emissions. In general, vehicle fleet emissions are projected to decrease in the future as reflected in the CT-EMFAC2017 emissions estimates. Inputs to the emissions model include region (i.e., Santa Clara County), type of road (i.e., major/collector), traffic mix assigned by CT-EMFAC2017 for the county, truck traffic percentage (3.1), year of analysis (i.e., 2021, 2022, and 2023), and season (i.e., annual).

Full operation of the residential development is assumed to occur in 2023 or later with construction occurring in 2021 and 2022. In order to estimate TAC and $PM_{2.5}$ emissions over a 30-year exposure period used for calculating increased cancer risks to the construction MEI from traffic on Camden Avenue and Union Avenue, the CT-EMFAC2017 model was used to develop vehicle emission factors for the years 2021, 2022, and 2023 using the mix of vehicles in Santa Clara County. 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 produced by CT-EMFAC2017. Year 2023 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years), since, as discussed above, overall vehicle emissions, in particular diesel truck emissions will decrease in the future. Traffic volumes were grown from 2019 levels to future years assuming an increase of one percent per year. Hourly traffic distributions specific for both roadways were obtained by averaging 2019 hourly traffic volumes from SR17 using Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.[17] The fraction of traffic volume each hour was calculated and applied to the traffic estimates for each roadway to obtain hourly traffic emission rates.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 35 mph was assumed for all vehicles. Traffic speeds during the peak a.m. and p.m. periods were assumed to be 5 miles per hour slower. For both the two-hour period during the peak a.m. period and the two-hour peak p.m. period, an average travel speed of 30 mph was used.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ emissions for 2021, 2022, and 2023 traffic along the applicable segments of Camden Avenue and Union Avenue within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the construction MEI location were developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the receptors were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

[17] https://dot.ca.gov/programs/traffic-operations/mpr/pems-source

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the U.S. EPA AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis. Roadway traffic on Camden Avenue and Union Avenue within approximately 1,000 feet of the project site was evaluated with the model. Emissions from vehicle traffic were modeled using a series of area sources along a line (line area sources), with line segments used to represent eastbound and westbound travel lanes. The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San Jose Airport in San Jose, California prepared by the BAAQMD for use with the AERMOD model. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and heights. Figure 2 shows the roadway links used for the modeling and receptor locations where concentrations were calculated.

Computed Cancer and Non-Cancer Health Impacts of Local Roadways

The maximum increased cancer risk associated with Camden Avenue at the construction MEI receptor would be 1.2 in one million, the maximum $PM_{2.5}$ concentration at the construction MEI receptors would be 0.06 $\mu g/m^3$, and the HI at the construction MEI location would be less than 0.01. Likewise, the maximum increased cancer risk associated with Union Avenue at the construction MEI receptor would be 0.1 in one million, the maximum $PM_{2.5}$ concentration at the construction MEI receptors would be less than 0.01 μg/m3, and the HI at the construction MEI location would be less than 0.01.The risk impacts from Camden Avenue and Union Avenue on the construction MEI are shown in Table 6. Details of the emission calculations, dispersion modeling and cancer risk calculations for the receptor with the maximum cancer risk from local roadway traffic are provided in *Attachment 5.*

Stationary Sources

Permitted stationary sources of air pollution near the project site are identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website,[18] which provides the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. The two stationary sources within the 1,000-foot influence area of the project site have established risk values available on the website, so a stationary source information request was not required to be submitted to BAAQMD. The provided risk values were adjusted for distance using the appropriate BAAQMD *Distance Multiplier Tool for Diesel Internal Combustion Engines, Gasoline Dispensing Facilities (GDFs), or Generic Sources*.

Plant #16517 was identified as a diesel generator and Plant #110687 was identified as a GDF. Community risk impacts from the stationary sources upon the construction MEI are reported in Table 6.

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

Combined Community Health Risk at Off-Site Construction MEI

Table 6 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e. the MEI). Without mitigation, the project's community risk from project construction activities would exceed the single-source maximum cancer risk and $PM_{2.5}$ concentration significance thresholds but would not exceed the HI significance threshold. With the incorporation of *Mitigation Measure AQ-1 and AQ-2*, the project does not exceed single-source thresholds. The cumulative annual cancer risk, $PM_{2.5}$ concentration, and hazard risk value would not exceed cumulative significance thresholds for either the unmitigated or mitigated condition.

Table 6. Impacts from Combined Sources at Off-Site Construction MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction Impacts				
Project Construction	Unmitigated	**51.9 (infant)**	**0.54**	0.05
	Mitigated*	4.1 (infant)	0.14	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Single Source Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*
Cumulative Impacts				
Camden Avenue		1.2	0.06	<0.01
Union Avenue		0.1	<0.01	<0.01
Plant #16517 (Generator)		0.1	--	--
Plant #110687 (GDF)		0.4	<0.01	--
Cumulative Total	Unmitigated	53.7	<0.62	<0.07
	Mitigated*	5.9	<0.22	<0.03
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Cumulative Source Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated*	*No*	*No*	*No*

* Mitigation Measures include construction equipment engines with Tier 4 Interim emissions limits.

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions.**

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

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 interim engines. Where Tier 4 equipment is not available, exceptions could be made for equipment that includes CARB-certified Level 3 Diesel Particulate Filters or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

- Alternatively, the project shall develop a plan demonstrating that the off-road equipment used onsite to construct the project would achieve a fleet-wide average 81-percent reduction in DPM exhaust emissions or greater.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 Interim engines standards. With the implementation of *Mitigation Measure AQ-2*, the project cancer risk levels and annual $PM_{2.5}$ concentrations would be substantially reduced such that they would not exceed the BAAQMD single-source significance thresholds. The computed maximum increased residential cancer risk from construction, assuming infant exposure, would be 4.1 in one million or less and the maximum annual $PM_{2.5}$ concentration would be reduced to 0.14 $\mu g/m^3$. A plan that reduces exhaust emissions by 81 percent would reduce project-caused increases to cancer risk to 9.9 chances per million and reduce PM2.5 concentrations to 0.15 $\mu g/m^3$.

Non-CEQA Impact: Exposure of Project Residents to Existing TACs Sources

Operational Community Health Risk Impacts – New Single Family Housing

In addition to evaluating health impact from project construction, a health risk assessment was completed to assess the impact existing TAC sources would have on the new proposed sensitive receptors (residents) that the project could introduce. The same existing TAC sources identified above in Table 6 were used in this health risk assessment.[19]

Local Roadways – Camden Avenue and Union Avenue

The analysis of impacts of local roadways on the new sensitive receptors introduced by the project was conducted in the same manner as described above for the construction MEI. TAC and $PM_{2.5}$ concentrations were calculated at receptor locations placed throughout the site where residential units are proposed using a discrete receptors for each dwelling unit and ADU. Receptor heights for single family units were established based on the breathing height of an average adult (5 feet or 1.5 meters high), while the heights for the ADU receptors were 10 feet (3.05 meters) higher to account for them being located above the detached garages. Figure 3 shows the roadway links used for the modeling and receptor locations at the project site where concentrations were calculated.

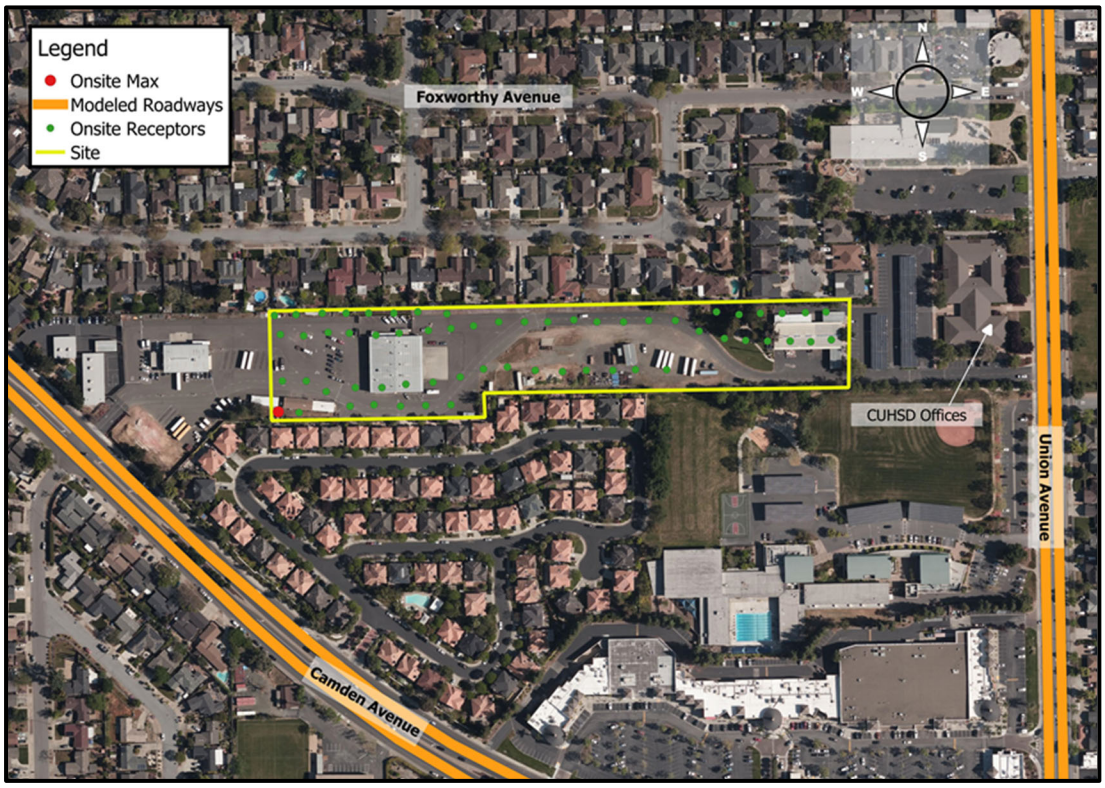
Computed Cancer and Non-Cancer Health Impacts

The calculation of risk impacts from Camden Avenue and Union Avenue include third trimester fetus, infants, and children sensitivity factors as the project will be homes for families. The highest concentrations of TACs, and thus highest cancer risk for Camden Avenue and Union Avenue, occurred at the ADU in the southwestern corner of the project site, as shown in Figure 3. The maximum increased cancer risk was computed as 1.4 in one million, below the single-source significance threshold. The maximum total $PM_{2.5}$ concentration was estimated to be 0.13 $\mu g/m^3$, occurring at the same receptor. Maximum predicted annual DPM concentration from Camden

[19] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Avenue traffic at this receptor was 0.0012 µg/m^3, while the DPM concentration from Union Avenue traffic was 0.00003 µg/m^3. The combined concentration of DPM is lower than the REL and results in an HI less than 0.01. Therefore, cancer risk, $PM_{2.5}$ concentration, and HI are all below their respective single-source significance thresholds. Table 7 shows the health risk assessment results from the roadway sources.

Figure 3. Project Site and Onsite Residential Receptors, Roadway Segments Evaluated, and Location of Maximum TAC Impacts



Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for the construction MEI. Table 7 shows the health risk assessment results from the stationary sources.

Cumulative Community Health Risk at Project Site

Community risk impacts from the applicable TAC sources upon the project site are reported in Table 7. The TAC sources are compared against the BAAQMD single-source threshold and then combined and compared against the BAAQMD cumulative-source threshold. As shown, the cancer risk, $PM_{2.5}$ concentrations, and HI from the existing nearby TAC sources do not exceed their single-source or cumulative-source thresholds.

Table 7. Impacts from Combined Sources to Project Site Occupants

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)	Maximum Hazard Index
Camden Avenue*	1.4	0.13	<0.01
Union Avenue*	<0.1	<0.01	<0.01
Plant #16517 (Generator)	0.2	--	--
Plant #110687 (GDF)	<0.1	<0.01	--
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	*No*	*No*	*No*
Cumulative Total	<1.8	<0.15	<0.02
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

*Receptor at ADU

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

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

GREENHOUSE GAS EMISSIONS

Setting

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

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

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

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

Recent Regulatory Actions for GHG Emissions

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

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

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

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

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

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

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

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.[20] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

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

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

and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

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

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

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

Executive Order B-55-18 – Carbon Neutrality

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

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

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan

planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

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

Senate Bill 100 – Current Renewable Portfolio Standards

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

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

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[21] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[22]

[21] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.
[22] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[23] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[24] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[25] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Climate Smart San José

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

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San Jose Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San Jose by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The California Energy Commission (CEC) updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and combat climate change. The 2019 CAL Green standards include substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a "reach code" that requires development projects to exceed the minimum Building Energy Efficiency requirements.[26] The City's reach code applies only to new residential and non-residential construction in San José. It incentivizes all-electric

[23] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf

[24] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

[25] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

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

construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

BAAQMD Significance Thresholds

For quantified emissions, the BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[27] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold.

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

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

CalEEMod Modeling

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

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. According to City of San Jose demographic data, there are an average of 3.19 persons per household.[28] However, it is assumed the ADUs will have an average persons per household of 1.0 given their size and their relationship to the single-family units. Given the 40 single family residential units and 21 ADUs being proposed as part of the project, it is estimated the total residents living at the development will be approximately 149.

[27] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.
[28] State of California, Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019.* Accessed: June 23, 2020.

Construction Emissions

GHG emissions associated with construction were computed to be 459 MT of CO_2e for the construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As shown in Table 8, the net annual emissions resulting from operation of the proposed project are predicted to be 534 MT of CO_2e in 2023 and 481 MT of CO_{2e} in 2030. The service population emission for the years 2023 and 2030 are predicted to be 3.9 and 3.5 MT/CO_{2e}/year/service population, respectively.

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. As shown in Table 8, the project would not exceed the 660 MT CO_2e/year bright-line threshold in 2023 or in 2030 but would exceed the per capita threshold of 2.6 MT of CO_2e/year/service population in 2023 and in 2030.

Table 8. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing Land Uses		Proposed Project	
	2023	**2030**	**2023**	**2030**
Area	<1	<1	5	5
Energy Consumption	7	7	114	114
Mobile	23	20	421	366
Solid Waste Generation	7	7	29	29
Water Usage	4	4	5	5
Total (MT CO_2e/yr)	41	38	575	519
Net Emissions			534 MT CO_{2e}/year	481 MT CO_{2e}/year
Bright-Line Significance Threshold			***660 MT CO_2e/year***	
Service Population Emissions (MT CO2e/year/service population)			**3.9**	**3.5**
Per Capita Significance Threshold			***2.6 MT of CO2e/year/service population in 2030***	
Exceed both thresholds?			*No*	*No*

It is noted the impact of new development on GHG emissions was addressed in the *Envisions San José 2040 General Plan* Draft Program EIR. The City of San José concluded that the build-out of the 2040 General Plan would have significant and unavoidable GHG emissions beyond 2020.[29]

[29] City of San Jose, 2011. "3.15.6 Mitigation and Avoidance Measures for Greenhouse Gas Emission Impacts", *Draft Program Environmental Impact Report for the Envisions San José 2040 General Plan*. June. Web: https://www.sanjoseca.gov/home/showdocument?id=22041

Therefore, this project would not contribute or result in a new GHG impact that has not already been identified.

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

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems. The project would also be subject to local policies that may affect emissions of greenhouse gases.

Supporting Documentation

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

Attachment 2 includes the CalEEMod modeling assumptions and output for project construction and operational criteria air pollutant and GHG emissions. The operational outputs for existing and 2030 uses are also included in this attachment.

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

Attachment 4 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

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

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 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults,

[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.

a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

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

Where:

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

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

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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

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

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		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*

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 Output

CUHSD Residential, San Jose - Santa Clara County, Annual

CUHSD Residential, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	21.00	Dwelling Unit	0.00	9,702.00	60
Single Family Housing	40.00	Dwelling Unit	6.03	143,079.00	114

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor - Published in 2020

Land Use - Based on Arch Plans dated 6-29-20

Construction Phase - Default construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default construction equip & hours

Off-road Equipment - Default Equipment and hours

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Trenching added

Trips and VMT - Default Trips. Concrete and Asphalt trip lengths = vendor lengths. Concrete and asphalt haul trips based on 10 CY deliveries, 2 trips per delivery

Demolition - Estimated using Google Earth

Grading - Assume balanced site; no soil import or export. Residential development is 6.01 acres

Vehicle Trips - Trip rates based on Hexagon traffic study June 2020 and default weekday/sat weekday/sun relationships

Vehicle Emission Factors - EMFAC2017 EFs for Santa Clara Co 2023

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood burning hearths

Energy Use -

Water And Wastewater - Assume WWTP for wastewater

Construction Off-road Equipment Mitigation - Typical Construction Mitigation Strategy

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					
2021	0.2968	2.8518	2.4259	4.1100e-003	0.1606	0.1484	0.3090	0.0841	0.1387	0.2228	0.0000	355.7002	355.7002	0.0936	0.0000	358.0409
2022	1.1056	0.2815	0.3276	5.3000e-004	0.0000	0.0146	0.0146	0	0.0137	0.0137	0.0000	45.7533	45.7533	0.0122	0.0000	46.0582
Maximum	**1.1056**	**2.8518**	**2.4259**	**4.1100e-003**	**0.1606**	**0.1484**	**0.3090**	**0.0841**	**0.1387**	**0.2228**	**0.0000**	**355.7002**	**355.7002**	**0.0936**	**0.0000**	**358.0409**

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					
2021	0.0768	1.5712	2.6681	4.1100e-003	0.0723	0.011	0.0832	0.0379	0.0110	0.0488	0.0000	355.6997	355.6997	0.0936	0.0000	358.0405
2022	1.0847	0.2201	0.3700	5.3000e-004	0.0000	1.26E-03	1.2600e-003	0	1.2600e-003	1.2600e-003	0.0000	45.7533	45.7533	0.0122	0.0000	46.0582
Maximum	**1.0847**	**1.5712**	**2.6681**	**4.1100e-003**	**0.0723**	**0.0110**	**0.0832**	**0.0379**	**0.0110**	**0.0488**	**0.0000**	**355.6997**	**355.6997**	**0.0936**	**0.0000**	**358.0405**

	ROG	NOx	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	**17.18**	**42.83**	**-10.34**	**0.00**	**55.00**	**92.50**	**73.89**	**55.00**	**91.98**	**78.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	1.2362	0.5179
2	**4-4-2021**	**7-3-2021**	0.6379	0.3801
3	**7-4-2021**	**10-3-2021**	0.6352	0.3761
4	**10-4-2021**	**1-3-2022**	0.6331	0.3761
5	**1-4-2022**	**4-3-2022**	1.3686	1.2926
		Highest	1.3686	1.2926

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	0.7183	8.8800e-003	0.4546	5.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0174
Energy	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	112.9958	112.9958	6.8700e-003	2.4800e-003	113.9054

Mobile	0.1943	0.3003	1.5436	4.3100e-003	0.4536	3.4900e-003	0.4571	0.1214	3.2600e-003	0.1246	0.0000	420.7576	420.7576	0.0191	0.0000	421.2350
Waste						0.0000	0.0000		0.0000	0.0000	11.6801	0.0000	11.6801	0.6903	0.0000	28.9370
Water						0.0000	0.0000		0.0000	0.0000	1.4062	2.8838	4.2900	5.2400e-003	3.1400e-003	5.3567
Total	**0.9200**	**0.3726**	**2.0252**	**4.7600e-003**	**0.4536**	**0.0114**	**0.4650**	**0.1214**	**0.0112**	**0.1325**	**13.0863**	**541.6116**	**554.6979**	**0.7223**	**5.7000e-003**	**574.4515**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7183	8.8800e-003	0.4546	5.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0174
Energy	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	112.9958	112.9958	6.8700e-003	2.4800e-003	113.9054
Mobile	0.1943	0.3003	1.5436	4.3100e-003	0.4536	3.4900e-003	0.4571	0.1214	3.2600e-003	0.1246	0.0000	420.7576	420.7576	0.0191	0.0000	421.2350
Waste						0.0000	0.0000		0.0000	0.0000	11.6801	0.0000	11.6801	0.6903	0.0000	28.9370
Water						0.0000	0.0000		0.0000	0.0000	1.4062	2.8838	4.2900	5.2400e-003	3.1400e-003	5.3567
Total	**0.9200**	**0.3726**	**2.0252**	**4.7600e-003**	**0.4536**	**0.0114**	**0.4650**	**0.1214**	**0.0112**	**0.1325**	**13.0863**	**541.6116**	**554.6979**	**0.7223**	**5.7000e-003**	**574.4515**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	

2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/12/2021	5	20	
4	Trenching	Trenching	3/13/2021	4/9/2021	5	20	
5	Building Construction	Building Construction	3/13/2021	1/28/2022	5	230	
6	Paving	Paving	1/29/2022	2/25/2022	5	20	
7	Architectural Coating	Architectural Coating	2/26/2022	3/25/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.01

Acres of Paving: 0

Residential Indoor: 309,382; Residential Outdoor: 103,127; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	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
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	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
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8400e-003	0.0000	6.8400e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.8400e-003**	**0.0155**	**0.0224**	**1.0400e-003**	**0.0144**	**0.0155**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0800e-003	0.0000	3.0800e-003	4.7000e-004	0.0000	4.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**3.0800e-003**	**6.2000e-004**	**3.7000e-003**	**4.7000e-004**	**6.2000e-004**	**1.0900e-003**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	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	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**3.4800e-003**	**0.0608**	**0.1148**	**1.9000e-004**	**0.0407**	**3.1000e-004**	**0.0410**	**0.0223**	**3.1000e-004**	**0.0227**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

Mitigated Construction Off-Site

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

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0634	0.0000	0.0634	0.0335	0.0000	0.0335	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.4640	0.3088	6.2000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	54.4950	54.4950	0.0176	0.0000	54.9356
Total	**0.0419**	**0.4640**	**0.3088**	**6.2000e-004**	**0.0634**	**0.0199**	**0.0833**	**0.0335**	**0.0183**	**0.0517**	**0.0000**	**54.4950**	**54.4950**	**0.0176**	**0.0000**	**54.9356**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0285	0.0000	0.0285	0.0151	0.0000	0.0151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0101	0.1927	0.3672	6.2000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	54.4949	54.4949	0.0176	0.0000	54.9355
Total	**0.0101**	**0.1927**	**0.3672**	**6.2000e-004**	**0.0285**	**1.0200e-003**	**0.0296**	**0.0151**	**1.0200e-003**	**0.0161**	**0.0000**	**54.4949**	**54.4949**	**0.0176**	**0.0000**	**54.9355**

Mitigated Construction Off-Site

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

3.5 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262

Total	**4.1600e-003**	**0.0405**	**0.0553**	**8.0000e-005**		**2.1600e-003**	**2.1600e-003**		**1.9900e-003**	**1.9900e-003**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3262**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261
Total	**1.3300e-003**	**0.0363**	**0.0626**	**8.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3261**

Mitigated Construction Off-Site

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

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1996	1.8304	1.7404	2.8300e-003		0.1007	0.1007		0.0946	0.0946	0.0000	243.2191	243.2191	0.0587	0.0000	244.6861
Total	**0.1996**	**1.8304**	**1.7404**	**2.8300e-003**		**0.1007**	**0.1007**		**0.0946**	**0.0946**	**0.0000**	**243.2191**	**243.2191**	**0.0587**	**0.0000**	**244.6861**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0560	1.1458	1.8767	2.8300e-003		8.8800e-003	8.8800e-003		8.8800e-003	8.8800e-003	0.0000	243.2189	243.2189	0.0587	0.0000	244.6858
Total	**0.0560**	**1.1458**	**1.8767**	**2.8300e-003**		**8.8800e-003**	**8.8800e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**243.2189**	**243.2189**	**0.0587**	**0.0000**	**244.6858**

Mitigated Construction Off-Site

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

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0171	0.1562	0.1636	2.7000e-004		8.0900e-003	8.0900e-003		7.6100e-003	7.6100e-003	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**0.0171**	**0.1562**	**0.1636**	**2.7000e-004**		**8.0900e-003**	**8.0900e-003**		**7.6100e-003**	**7.6100e-003**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

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	5.3300e-003	0.1091	0.1787	2.7000e-004		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**5.3300e-003**	**0.1091**	**0.1787**	**2.7000e-004**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

Mitigated Construction Off-Site

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

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
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**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

Mitigated Construction Off-Site

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

3.8 Architectural Coating - 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					
Archit. Coating	1.0755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.0775**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0755					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	1.7000e-004	0.0000	2.5574
Total	**1.0760**	**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**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1943	0.3003	1.5436	4.3100e-003	0.4536	3.4900e-003	0.4571	0.1214	3.2600e-003	0.1246	0.0000	420.7576	420.7576	0.0191	0.0000	421.2350
Unmitigated	0.1943	0.3003	1.5436	4.3100e-003	0.4536	3.4900e-003	0.4571	0.1214	3.2600e-003	0.1246	0.0000	420.7576	420.7576	0.0191	0.0000	421.2350

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	153.72	166.95	141.54	355,379	355,379
Single Family Housing	377.60	392.80	341.60	865,245	865,245
Total	531.32	559.75	483.14	1,220,624	1,220,624

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

Single Family Housing	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	39.5256	39.5256	5.4600e-003	1.1300e-003	39.9986
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	39.5256	39.5256	5.4600e-003	1.1300e-003	39.9986
NaturalGas Mitigated	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4702	73.4702	1.4100e-003	1.3500e-003	73.9068
NaturalGas Unmitigated	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4702	73.4702	1.4100e-003	1.3500e-003	73.9068

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	214176	1.1500e-003	9.8700e-003	4.2000e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4292	11.4292	2.2000e-004	2.1000e-004	11.4972
Single Family Housing	1.1626e+006	6.2700e-003	0.0536	0.0228	3.4000e-004		4.3300e-003	4.3300e-003		4.3300e-003	4.3300e-003	0.0000	62.0410	62.0410	1.1900e-003	1.1400e-003	62.4096

Total		**7.4200e-003**	**0.0634**	**0.0270**	**4.0000e-004**		**5.1300e-003**	**5.1300e-003**		**5.1300e-003**	**5.1300e-003**	**0.0000**	**73.4702**	**73.4702**	**1.4100e-003**	**1.3500e-003**	**73.9068**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	214176	1.1500e-003	9.8700e-003	4.2000e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4292	11.4292	2.2000e-004	2.1000e-004	11.4972
Single Family Housing	1.1626e+006	6.2700e-003	0.0536	0.0228	3.4000e-004		4.3300e-003	4.3300e-003		4.3300e-003	4.3300e-003	0.0000	62.0410	62.0410	1.1900e-003	1.1400e-003	62.4096
Total		**7.4200e-003**	**0.0634**	**0.0270**	**4.0000e-004**		**5.1300e-003**	**5.1300e-003**		**5.1300e-003**	**5.1300e-003**	**0.0000**	**73.4702**	**73.4702**	**1.4100e-003**	**1.3500e-003**	**73.9068**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	91324.8	8.6991	1.2000e-003	2.5000e-004	8.8032
Single Family Housing	323623	30.8265	4.2600e-003	8.8000e-004	31.1954
Total		**39.5256**	**5.4600e-003**	**1.1300e-003**	**39.9986**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	91324.8	8.6991	1.2000e-003	2.5000e-004	8.8032
Single Family Housing	323623	30.8265	4.2600e-003	8.8000e-004	31.1954
Total		**39.5256**	**5.4600e-003**	**1.1300e-003**	**39.9986**

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	0.7183	8.8800e-003	0.4546	5.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0174
Unmitigated	0.7183	8.8800e-003	0.4546	5.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0174

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	0.1076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3000e-004	3.6600e-003	1.5600e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2346	4.2346	8.0000e-005	8.0000e-005	4.2597
Landscaping	0.0137	5.2200e-003	0.4530	2.0000e-005		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	0.7399	0.7399	7.1000e-004	0.0000	0.7576
Total	**0.7183**	**8.8800e-003**	**0.4546**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**4.9744**	**4.9744**	**7.9000e-004**	**8.0000e-005**	**5.0174**

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	0.1076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3000e-004	3.6600e-003	1.5600e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2346	4.2346	8.0000e-005	8.0000e-005	4.2597
Landscaping	0.0137	5.2200e-003	0.4530	2.0000e-005		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	0.7399	0.7399	7.1000e-004	0.0000	0.7576
Total	**0.7183**	**8.8800e-003**	**0.4546**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**4.9744**	**4.9744**	**7.9000e-004**	**8.0000e-005**	**5.0174**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	4.2900	5.2400e-003	3.1400e-003	5.3567
Unmitigated	4.2900	5.2400e-003	3.1400e-003	5.3567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.36823 / 0.862583	1.4769	1.8000e-003	1.0800e-003	1.8441
Single Family Housing	2.60616 / 1.64301	2.8131	3.4300e-003	2.0600e-003	3.5126
Total		**4.2900**	**5.2300e-003**	**3.1400e-003**	**5.3567**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.36823 / 0.862583	1.4769	1.8000e-003	1.0800e-003	1.8441
Single Family Housing	2.60616 / 1.64301	2.8131	3.4300e-003	2.0600e-003	3.5126
Total		**4.2900**	**5.2300e-003**	**3.1400e-003**	**5.3567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.6801	0.6903	0.0000	28.9370
Unmitigated	11.6801	0.6903	0.0000	28.9370

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.66	1.9609	0.1159	0.0000	4.8580
Single Family Housing	47.88	9.7192	0.5744	0.0000	24.0789
Total		**11.6801**	**0.6903**	**0.0000**	**28.9370**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.66	1.9609	0.1159	0.0000	4.8580
Single Family Housing	47.88	9.7192	0.5744	0.0000	24.0789
Total		**11.6801**	**0.6903**	**0.0000**	**28.9370**

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

CUHSD Residential, San Jose - Santa Clara County, Annual

CUHSD Residential, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	21.00	Dwelling Unit	0.00	9,702.00	60
Single Family Housing	40.00	Dwelling Unit	6.03	143,079.00	114

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor - Published in 2020

Land Use - Based on Arch Plans dated 6-29-20

Construction Phase - Default construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default construction equip & hours

Off-road Equipment - Default Equipment and hours

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Trenching added

Trips and VMT - Default Trips. Concrete and Asphalt trip lengths = vendor lengths. Concrete and asphalt haul trips based on 10 CY deliveries, 2 trips per delivery

Demolition - Estimated using Google Earth

Grading - Assume balanced site; no soil import or export. Residential development is 6.01 acres

Vehicle Trips - Trip rates based on Hexagon traffic study June 2020 and default weekday/sat weekday/sun relationships

Vehicle Emission Factors - EMFAC2017 EFs for Santa Clara Co 2030

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood burning hearths

Energy Use -

Water And Wastewater - Assume WWTP for wastewater

Construction Off-road Equipment Mitigation - Typical Construction Mitigation Strategy

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7182	8.8600e-003	0.4533	5.0000e-005		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0172
Energy	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	112.9958	112.9958	6.8700e-003	2.4800e-003	113.9054
Mobile	0.1366	0.2375	1.1697	3.7800e-003	0.4537	2.7400e-003	0.4565	0.1214	2.5700e-003	0.1240	0.0000	365.7065	365.7065	0.0138	0.0000	366.0521
Waste						0.0000	0.0000		0.0000	0.0000	11.6801	0.0000	11.6801	0.6903	0.0000	28.937
Water						0.0000	0.0000		0.0000	0.0000	1.4062	2.8838	4.2900	5.2400e-003	3.1400e-003	5.3567
Total	**0.8622**	**0.3098**	**1.6500**	**4.2300e-003**	**0.4537**	**0.0107**	**0.4644**	**0.1214**	**0.0105**	**0.1319**	**13.0863**	**486.5606**	**499.6468**	**0.7170**	**5.7000e-003**	**519.2683**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7182	8.8600e-003	0.4533	5.0000e-005		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0172
Energy	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	112.9958	112.9958	6.8700e-003	2.4800e-003	113.9054
Mobile	0.1366	0.2375	1.1697	3.7800e-003	0.4537	2.7400e-003	0.4565	0.1214	2.5700e-003	0.1240	0.0000	365.7065	365.7065	0.0138	0.0000	366.0521
Waste						0.0000	0.0000		0.0000	0.0000	11.6801	0.0000	11.6801	0.6903	0.0000	28.9370
Water						0.0000	0.0000		0.0000	0.0000	1.4062	2.8838	4.2900	5.2400e-003	3.1400e-003	5.3567
Total	**0.8622**	**0.3098**	**1.6500**	**4.2300e-003**	**0.4537**	**0.0107**	**0.4644**	**0.1214**	**0.0105**	**0.1319**	**13.0863**	**486.5606**	**499.6468**	**0.7170**	**5.7000e-003**	**519.2683**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/12/2021	5	20	
4	Trenching	Trenching	3/13/2021	4/9/2021	5	20	
5	Building Construction	Building Construction	3/13/2021	1/28/2022	5	230	
6	Paving	Paving	1/29/2022	2/25/2022	5	20	

7	Architectural Coating	Architectural Coating	2/26/2022	3/25/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.01

Acres of Paving: 0

Residential Indoor: 309,382; Residential Outdoor: 103,127; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	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
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	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
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8400e-003	0.0000	6.8400e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.8400e-003**	**0.0155**	**0.0224**	**1.0400e-003**	**0.0144**	**0.0155**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0800e-003	0.0000	3.0800e-003	4.7000e-004	0.0000	4.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**3.0800e-003**	**6.2000e-004**	**3.7000e-003**	**4.7000e-004**	**6.2000e-004**	**1.0900e-003**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-Site

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

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	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	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**3.4800e-003**	**0.0608**	**0.1148**	**1.9000e-004**	**0.0407**	**3.1000e-004**	**0.0410**	**0.0223**	**3.1000e-004**	**0.0227**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

Mitigated Construction Off-Site

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

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0634	0.0000	0.0634	0.0335	0.0000	0.0335	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.4640	0.3088	6.2000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	54.4950	54.4950	0.0176	0.0000	54.9356
Total	**0.0419**	**0.4640**	**0.3088**	**6.2000e-004**	**0.0634**	**0.0199**	**0.0833**	**0.0335**	**0.0183**	**0.0517**	**0.0000**	**54.4950**	**54.4950**	**0.0176**	**0.0000**	**54.9356**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

Fugitive Dust					0.0285	0.0000	0.0285	0.0151	0.0000	0.0151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0101	0.1927	0.3672	6.2000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	54.4949	54.4949	0.0176	0.0000	54.9355
Total	**0.0101**	**0.1927**	**0.3672**	**6.2000e-004**	**0.0285**	**1.0200e-003**	**0.0296**	**0.0151**	**1.0200e-003**	**0.0161**	**0.0000**	**54.4949**	**54.4949**	**0.0176**	**0.0000**	**54.9355**

Mitigated Construction Off-Site

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

3.5 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262
Total	**4.1600e-003**	**0.0405**	**0.0553**	**8.0000e-005**		**2.1600e-003**	**2.1600e-003**		**1.9900e-003**	**1.9900e-003**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3262**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261
Total	**1.3300e-003**	**0.0363**	**0.0626**	**8.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3261**

Mitigated Construction Off-Site

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

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

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1996	1.8304	1.7404	2.8300e-003		0.1007	0.1007		0.0946	0.0946	0.0000	243.2191	243.2191	0.0587	0.0000	244.6861
Total	**0.1996**	**1.8304**	**1.7404**	**2.8300e-003**		**0.1007**	**0.1007**		**0.0946**	**0.0946**	**0.0000**	**243.2191**	**243.2191**	**0.0587**	**0.0000**	**244.6861**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0560	1.1458	1.8767	2.8300e-003		8.8800e-003	8.8800e-003		8.8800e-003	8.8800e-003	0.0000	243.2189	243.2189	0.0587	0.0000	244.6858
Total	**0.0560**	**1.1458**	**1.8767**	**2.8300e-003**		**8.8800e-003**	**8.8800e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**243.2189**	**243.2189**	**0.0587**	**0.0000**	**244.6858**

Mitigated Construction Off-Site

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

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0171	0.1562	0.1636	2.7000e-004		8.0900e-003	8.0900e-003		7.6100e-003	7.6100e-003	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**0.0171**	**0.1562**	**0.1636**	**2.7000e-004**		**8.0900e-003**	**8.0900e-003**		**7.6100e-003**	**7.6100e-003**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

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	5.3300e-003	0.1091	0.1787	2.7000e-004		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**5.3300e-003**	**0.1091**	**0.1787**	**2.7000e-004**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

Mitigated Construction Off-Site

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

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
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**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

Mitigated Construction Off-Site

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

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

3.8 Architectural Coating - 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					
Archit. Coating	1.0755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.0775**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0755					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	1.7000e-004	0.0000	2.5574
Total	**1.0760**	**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**	**1.7000e-004**	**0.0000**	**2.5574**

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1366	0.2375	1.1697	3.7800e-003	0.4537	2.7400e-003	0.4565	0.1214	2.5700e-003	0.1240	0.0000	365.7065	365.7065	0.0138	0.0000	366.0521
Unmitigated	0.1366	0.2375	1.1697	3.7800e-003	0.4537	2.7400e-003	0.4565	0.1214	2.5700e-003	0.1240	0.0000	365.7065	365.7065	0.0138	0.0000	366.0521

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	153.72	166.95	141.54	355,379	355,379
Single Family Housing	377.60	392.80	341.60	865,245	865,245
Total	531.32	559.75	483.14	1,220,624	1,220,624

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Single Family Housing	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	39.5256	39.5256	5.4600e-003	1.1300e-003	39.9986
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	39.5256	39.5256	5.4600e-003	1.1300e-003	39.9986
NaturalGas Mitigated	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4702	73.4702	1.4100e-003	1.3500e-003	73.9068
NaturalGas Unmitigated	7.4200e-003	0.0634	0.0270	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4702	73.4702	1.4100e-003	1.3500e-003	73.9068

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	214176	1.1500e-003	9.8700e-003	4.2000e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4292	11.4292	2.2000e-004	2.1000e-004	11.4972
Single Family Housing	1.1626e+006	6.2700e-003	0.0536	0.0228	3.4000e-004		4.3300e-003	4.3300e-003		4.3300e-003	4.3300e-003	0.0000	62.0410	62.0410	1.1900e-003	1.1400e-003	62.4096
Total		**7.4200e-003**	**0.0634**	**0.0270**	**4.0000e-004**		**5.1300e-003**	**5.1300e-003**		**5.1300e-003**	**5.1300e-003**	**0.0000**	**73.4702**	**73.4702**	**1.4100e-003**	**1.3500e-003**	**73.9068**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	214176	1.1500e-003	9.8700e-003	4.2000e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.4292	11.4292	2.2000e-004	2.1000e-004	11.4972
Single Family Housing	1.1626e+006	6.2700e-003	0.0536	0.0228	3.4000e-004		4.3300e-003	4.3300e-003		4.3300e-003	4.3300e-003	0.0000	62.0410	62.0410	1.1900e-003	1.1400e-003	62.4096
Total		**7.4200e-003**	**0.0634**	**0.0270**	**4.0000e-004**		**5.1300e-003**	**5.1300e-003**		**5.1300e-003**	**5.1300e-003**	**0.0000**	**73.4702**	**73.4702**	**1.4100e-003**	**1.3500e-003**	**73.9068**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	91324.8	8.6991	1.2000e-003	2.5000e-004	8.8032
Single Family Housing	323623	30.8265	4.2600e-003	8.8000e-004	31.1954
Total		**39.5256**	**5.4600e-003**	**1.1300e-003**	**39.9986**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	91324.8	8.6991	1.2000e-003	2.5000e-004	8.8032

Single Family Housing	323623	30.8265	4.2600e-003	8.8000e-004	31.1954
Total		**39.5256**	**5.4600e-003**	**1.1300e-003**	**39.9986**

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	0.7182	8.8600e-003	0.4533	5.0000e-005		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0172
Unmitigated	0.7182	8.8600e-003	0.4533	5.0000e-005		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003	0.0000	4.9744	4.9744	7.9000e-004	8.0000e-005	5.0172

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	0.1076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3000e-004	3.6600e-003	1.5600e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2346	4.2346	8.0000e-005	8.0000e-005	4.2597

Landscaping	0.0135	5.2100e-003	0.4517	2.0000e-005		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	0.7399	0.7399	7.0000e-004	0.0000	0.7575
Total	**0.7182**	**8.8700e-003**	**0.4533**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**4.9744**	**4.9744**	**7.8000e-004**	**8.0000e-005**	**5.0172**

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	0.1076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.3000e-004	3.6600e-003	1.5600e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	4.2346	4.2346	8.0000e-005	8.0000e-005	4.2597
Landscaping	0.0135	5.2100e-003	0.4517	2.0000e-005		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	0.7399	0.7399	7.0000e-004	0.0000	0.7575
Total	**0.7182**	**8.8700e-003**	**0.4533**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**4.9744**	**4.9744**	**7.8000e-004**	**8.0000e-005**	**5.0172**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.2900	5.2400e-003	3.1400e-003	5.3567
Unmitigated	4.2900	5.2400e-003	3.1400e-003	5.3567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.36823 / 0.862583	1.4769	1.8000e-003	1.0800e-003	1.8441
Single Family Housing	2.60616 / 1.64301	2.8131	3.4300e-003	2.0600e-003	3.5126
Total		**4.2900**	**5.2300e-003**	**3.1400e-003**	**5.3567**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.36823 / 0.862583	1.4769	1.8000e-003	1.0800e-003	1.8441
Single Family Housing	2.60616 / 1.64301	2.8131	3.4300e-003	2.0600e-003	3.5126
Total		**4.2900**	**5.2300e-003**	**3.1400e-003**	**5.3567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.6801	0.6903	0.0000	28.9370
Unmitigated	11.6801	0.6903	0.0000	28.9370

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.66	1.9609	0.1159	0.0000	4.8580
Single Family Housing	47.88	9.7192	0.5744	0.0000	24.0789
Total		**11.6801**	**0.6903**	**0.0000**	**28.9370**

Mitigated

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

Apartments Low Rise	9.66	1.9609	0.1159	0.0000	4.8580
Single Family Housing	47.88	9.7192	0.5744	0.0000	24.0789
Total		**11.6801**	**0.6903**	**0.0000**	**28.9370**

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

CUHSD Residential, San Jose - Santa Clara County, Annual

CUHSD Residential, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	13.90	1000sqft	0.32	13,900.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor - Published in 2020

Land Use - Based on Google Maps - Buildings being demolished are not office or admin buildings

Construction Phase - Default construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default construction equip & hours

Off-road Equipment - Default Equipment and hours

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Trenching added

Trips and VMT - Default Trips. Concrete and Asphalt trip lengths = vendor lengths. Concrete and asphalt haul trips based on 10 CY deliveries, 2 trips per delivery

Demolition - Estimated using Google Earth

Grading - Assume balanced site; no soil import or export. Residential development is 6.01 acres

Vehicle Trips -

Vehicle Emission Factors - EMFAC2017 EFs for Santa Clara Co 2023

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood burning hearths

Energy Use -

Water And Wastewater - Assume WWTP for wastewater

Construction Off-road Equipment Mitigation - Typical Construction Mitigation Strategy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.61	0.59
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.18	0.18
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0110e-003	5.2520e-003
tblFleetMix	MCY	5.2800e-003	5.1320e-003
tblFleetMix	MDV	0.11	0.11
tblFleetMix	MH	7.2000e-004	7.5900e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.1680e-003	1.6220e-003
tblFleetMix	SBUS	6.2900e-004	9.2300e-004
tblFleetMix	UBUS	1.5290e-003	1.2610e-003
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	VendorTripNumber	2.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	6.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	1.00	0.00
tblVehicleEF	HHD	0.34	0.02
tblVehicleEF	HHD	0.05	0.05
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	1.61	6.34
tblVehicleEF	HHD	0.91	0.40
tblVehicleEF	HHD	3.69	5.9190e-003
tblVehicleEF	HHD	4,386.48	1,065.38
tblVehicleEF	HHD	1,557.95	1,436.68
tblVehicleEF	HHD	11.75	0.05
tblVehicleEF	HHD	13.99	5.44
tblVehicleEF	HHD	1.98	2.68
tblVehicleEF	HHD	19.39	2.32
tblVehicleEF	HHD	8.0650e-003	2.6700e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.1860e-003	0.02
tblVehicleEF	HHD	1.0500e-004	1.0000e-006
tblVehicleEF	HHD	7.7170e-003	2.5550e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8320e-003	8.8780e-003
tblVehicleEF	HHD	5.9180e-003	0.02
tblVehicleEF	HHD	9.7000e-005	1.0000e-006
tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.42	0.43

tblVehicleEF	HHD	6.1000e-005	1.0000e-006
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.1700e-004	5.9400e-004
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	HHD	0.04	9.9140e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7800e-004	0.00
tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.48	0.49
tblVehicleEF	HHD	6.1000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.1700e-004	5.9400e-004
tblVehicleEF	HHD	0.10	3.0000e-006
tblVehicleEF	LDA	3.3580e-003	1.9580e-003
tblVehicleEF	LDA	4.7330e-003	0.05
tblVehicleEF	LDA	0.50	0.56
tblVehicleEF	LDA	1.08	2.16
tblVehicleEF	LDA	234.26	245.28
tblVehicleEF	LDA	55.12	52.02
tblVehicleEF	LDA	0.04	0.03
tblVehicleEF	LDA	0.06	0.18
tblVehicleEF	LDA	1.6260e-003	1.3560e-003
tblVehicleEF	LDA	2.2310e-003	1.7440e-003
tblVehicleEF	LDA	1.4980e-003	1.2490e-003
tblVehicleEF	LDA	2.0520e-003	1.6040e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	8.4470e-003	7.4590e-003

tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.21
tblVehicleEF	LDA	2.3450e-003	9.3000e-005
tblVehicleEF	LDA	5.6900e-004	0.00
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDT1	7.8390e-003	4.1630e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.00	0.95
tblVehicleEF	LDT1	2.29	2.35
tblVehicleEF	LDT1	292.52	292.91
tblVehicleEF	LDT1	68.20	62.87
tblVehicleEF	LDT1	0.10	0.08
tblVehicleEF	LDT1	0.13	0.23
tblVehicleEF	LDT1	2.1830e-003	1.7660e-003
tblVehicleEF	LDT1	2.9190e-003	2.2440e-003
tblVehicleEF	LDT1	2.0100e-003	1.6250e-003
tblVehicleEF	LDT1	2.6840e-003	2.0630e-003
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.15	0.31
tblVehicleEF	LDT1	2.9360e-003	2.6160e-003
tblVehicleEF	LDT1	7.2200e-004	0.00

tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.16	0.34
tblVehicleEF	LDT2	4.9930e-003	3.2450e-003
tblVehicleEF	LDT2	6.4640e-003	0.07
tblVehicleEF	LDT2	0.68	0.79
tblVehicleEF	LDT2	1.42	2.79
tblVehicleEF	LDT2	332.30	316.76
tblVehicleEF	LDT2	77.35	68.58
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.6420e-003	1.3890e-003
tblVehicleEF	LDT2	2.2820e-003	1.7450e-003
tblVehicleEF	LDT2	1.5110e-003	1.2790e-003
tblVehicleEF	LDT2	2.0990e-003	1.6050e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.3280e-003	0.01
tblVehicleEF	LDT2	7.9700e-004	9.3000e-005
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LHD1	5.3570e-003	5.1620e-003
tblVehicleEF	LHD1	0.02	8.5450e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	1.02	0.77
tblVehicleEF	LHD1	2.58	1.08
tblVehicleEF	LHD1	8.98	8.94
tblVehicleEF	LHD1	687.79	794.16
tblVehicleEF	LHD1	32.26	11.83
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.10	0.73
tblVehicleEF	LHD1	0.99	0.32
tblVehicleEF	LHD1	8.6000e-004	8.2500e-004
tblVehicleEF	LHD1	0.01	9.7470e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.5500e-004	2.5800e-004
tblVehicleEF	LHD1	8.2300e-004	7.9000e-004
tblVehicleEF	LHD1	2.5220e-003	2.4370e-003
tblVehicleEF	LHD1	0.01	9.7200e-003
tblVehicleEF	LHD1	8.7800e-004	2.3700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005

tblVehicleEF	LHD1	6.7510e-003	7.7550e-003
tblVehicleEF	LHD1	3.7100e-004	1.1700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.15	0.11
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.29	0.08
tblVehicleEF	LHD2	3.3720e-003	3.1550e-003
tblVehicleEF	LHD2	7.5730e-003	7.0600e-003
tblVehicleEF	LHD2	6.7190e-003	8.4310e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.55	0.62
tblVehicleEF	LHD2	1.16	0.63
tblVehicleEF	LHD2	13.98	14.00
tblVehicleEF	LHD2	705.76	768.73
tblVehicleEF	LHD2	24.06	7.83
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.69	0.88
tblVehicleEF	LHD2	0.44	0.18
tblVehicleEF	LHD2	1.2420e-003	1.4230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.1600e-004	1.3300e-004
tblVehicleEF	LHD2	1.1880e-003	1.3610e-003
tblVehicleEF	LHD2	2.6910e-003	2.6880e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8300e-004	1.2300e-004
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003

tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.3600e-004	1.3400e-004
tblVehicleEF	LHD2	6.8630e-003	7.4240e-003
tblVehicleEF	LHD2	2.6100e-004	7.8000e-005
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.10	0.05
tblVehicleEF	MCY	0.45	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	18.74	18.87
tblVehicleEF	MCY	10.18	9.03
tblVehicleEF	MCY	169.68	210.17
tblVehicleEF	MCY	45.14	61.04
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0080e-003	1.9690e-003
tblVehicleEF	MCY	3.7340e-003	3.0390e-003
tblVehicleEF	MCY	1.8770e-003	1.8400e-003
tblVehicleEF	MCY	3.5160e-003	2.8590e-003
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69

tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.20	2.21
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.20	1.94
tblVehicleEF	MCY	2.0680e-003	2.0800e-003
tblVehicleEF	MCY	6.8300e-004	6.0400e-004
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.73	2.74
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.39	2.11
tblVehicleEF	MDV	9.4310e-003	3.9100e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.06	0.87
tblVehicleEF	MDV	2.68	3.13
tblVehicleEF	MDV	444.47	383.41
tblVehicleEF	MDV	101.69	82.02
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.23	0.32
tblVehicleEF	MDV	1.8000e-003	1.5110e-003
tblVehicleEF	MDV	2.4830e-003	1.9090e-003
tblVehicleEF	MDV	1.6590e-003	1.3930e-003
tblVehicleEF	MDV	2.2840e-003	1.7560e-003
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.20	0.38

tblVehicleEF	MDV	4.4500e-003	3.7430e-003
tblVehicleEF	MDV	1.0640e-003	8.0200e-004
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.96	1.11
tblVehicleEF	MH	5.58	2.13
tblVehicleEF	MH	1,212.08	1,532.75
tblVehicleEF	MH	58.85	18.68
tblVehicleEF	MH	1.29	1.36
tblVehicleEF	MH	0.81	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.1290e-003	2.7400e-004
tblVehicleEF	MH	3.2190e-003	3.2750e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0380e-003	2.5200e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.32	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.8600e-004	1.8500e-004

tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.12	0.09
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.35	0.11
tblVehicleEF	MHD	0.02	3.5450e-003
tblVehicleEF	MHD	4.5180e-003	1.9320e-003
tblVehicleEF	MHD	0.05	9.4870e-003
tblVehicleEF	MHD	0.38	0.39
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	5.92	1.14
tblVehicleEF	MHD	132.71	73.35
tblVehicleEF	MHD	1,189.79	1,095.06
tblVehicleEF	MHD	61.47	9.38
tblVehicleEF	MHD	0.36	0.43
tblVehicleEF	MHD	1.11	1.44
tblVehicleEF	MHD	10.17	1.70
tblVehicleEF	MHD	1.2300e-004	4.2700e-004
tblVehicleEF	MHD	3.1090e-003	6.9550e-003
tblVehicleEF	MHD	9.0500e-004	1.1900e-004
tblVehicleEF	MHD	1.1800e-004	4.0900e-004
tblVehicleEF	MHD	2.9680e-003	6.6480e-003
tblVehicleEF	MHD	8.3200e-004	1.1000e-004
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11

tblVehicleEF	MHD	0.35	0.05
tblVehicleEF	MHD	1.2790e-003	6.9600e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.1800e-004	9.3000e-005
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.38	0.06
tblVehicleEF	OBUS	0.01	7.0630e-003
tblVehicleEF	OBUS	6.3660e-003	4.0130e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.24	0.57
tblVehicleEF	OBUS	0.44	0.47
tblVehicleEF	OBUS	5.01	1.90
tblVehicleEF	OBUS	99.56	91.93
tblVehicleEF	OBUS	1,293.67	1,341.74
tblVehicleEF	OBUS	66.88	15.48
tblVehicleEF	OBUS	0.21	0.37
tblVehicleEF	OBUS	0.88	1.44
tblVehicleEF	OBUS	2.72	1.09
tblVehicleEF	OBUS	1.9000e-005	1.2000e-004
tblVehicleEF	OBUS	2.6550e-003	7.0290e-003
tblVehicleEF	OBUS	8.0900e-004	1.4200e-004
tblVehicleEF	OBUS	1.8000e-005	1.1500e-004
tblVehicleEF	OBUS	2.5210e-003	6.7120e-003
tblVehicleEF	OBUS	7.4400e-004	1.3000e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003

tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.31	0.09
tblVehicleEF	OBUS	9.6200e-004	8.7300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5700e-004	1.5300e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.34	0.10
tblVehicleEF	SBUS	0.83	0.05
tblVehicleEF	SBUS	0.02	6.3560e-003
tblVehicleEF	SBUS	0.08	4.7830e-003
tblVehicleEF	SBUS	8.17	2.18
tblVehicleEF	SBUS	1.05	0.52
tblVehicleEF	SBUS	9.75	0.70
tblVehicleEF	SBUS	1,109.35	347.39
tblVehicleEF	SBUS	1,051.90	1,060.99
tblVehicleEF	SBUS	56.07	3.98
tblVehicleEF	SBUS	8.47	3.53
tblVehicleEF	SBUS	3.71	4.87
tblVehicleEF	SBUS	12.10	0.81
tblVehicleEF	SBUS	8.0590e-003	3.9050e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	9.0100e-004	4.6000e-005
tblVehicleEF	SBUS	7.7100e-003	3.7360e-003
tblVehicleEF	SBUS	2.6280e-003	2.7270e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.2900e-004	4.2000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	0.97	0.24
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	SBUS	0.01	3.3060e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.2900e-004	3.9000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	1.40	0.35
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.14	0.10
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.53	0.03
tblVehicleEF	UBUS	0.27	1.35
tblVehicleEF	UBUS	0.04	1.4170e-003
tblVehicleEF	UBUS	4.81	10.12
tblVehicleEF	UBUS	7.98	0.14
tblVehicleEF	UBUS	2,067.88	1,597.13
tblVehicleEF	UBUS	103.85	1.39
tblVehicleEF	UBUS	9.47	0.73

tblVehicleEF	UBUS	14.57	0.01
tblVehicleEF	UBUS	0.59	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.21	5.3280e-003
tblVehicleEF	UBUS	1.1460e-003	1.5000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.20	5.0960e-003
tblVehicleEF	UBUS	1.0540e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.58	0.02
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.58	5.8830e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.1810e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.90	1.38
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.63	6.4410e-003
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1187	0.4673	0.4329	6.8000e-004	1.0200e-003	0.0261	0.0271	4.4000e-004	0.0241	0.0246	0.0000	59.7006	59.7006	0.0182	0.0000	60.1560
Maximum	**0.1187**	**0.4673**	**0.4329**	**6.8000e-004**	**1.0200e-003**	**0.0261**	**0.0271**	**4.4000e-004**	**0.0241**	**0.0246**	**0.0000**	**59.7006**	**59.7006**	**0.0182**	**0.0000**	**60.1560**

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					
2021	0.1187	0.4673	0.4329	6.8000e-004	4.6000e-004	0.0261	0.0266	2.0000e-004	0.0241	0.0243	0.0000	59.7005	59.7005	0.0182	0.0000	60.1559
Maximum	**0.1187**	**0.4673**	**0.4329**	**6.8000e-004**	**4.6000e-004**	**0.0261**	**0.0266**	**2.0000e-004**	**0.0241**	**0.0243**	**0.0000**	**59.7005**	**59.7005**	**0.0182**	**0.0000**	**60.1559**

	ROG	NOx	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**	**54.90**	**0.00**	**2.07**	**54.55**	**0.00**	**1.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	0.2777	0.2777
2	**4-4-2021**	**7-3-2021**	0.3051	0.3051
		Highest	0.3051	0.3051

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	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Energy	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	7.2477	7.2477	6.9000e-004	1.8000e-004	7.3190
Mobile	8.9700e-003	0.0157	0.0801	2.4000e-004	0.0253	1.9000e-004	0.0255	6.7800e-003	1.8000e-004	6.9600e-003	0.0000	23.3192	23.3192	9.4000e-004	0.0000	23.3428
Waste						0.0000	0.0000		0.0000	0.0000	2.6531	0.0000	2.6531	0.1568	0.0000	6.5729
Water						0.0000	0.0000		0.0000	0.0000	1.1373	1.6568	2.7940	4.1400e-003	2.5200e-003	3.6487
Total	**0.0708**	**0.0181**	**0.0822**	**2.5000e-004**	**0.0253**	**3.7000e-004**	**0.0257**	**6.7800e-003**	**3.6000e-004**	**7.1400e-003**	**3.7903**	**32.2239**	**36.0143**	**0.1626**	**2.7000e-003**	**40.8836**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Energy	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	7.2477	7.2477	6.9000e-004	1.8000e-004	7.3190
Mobile	8.9700e-003	0.0157	0.0801	2.4000e-004	0.0253	1.9000e-004	0.0255	6.7800e-003	1.8000e-004	6.9600e-003	0.0000	23.3192	23.3192	9.4000e-004	0.0000	23.3428
Waste						0.0000	0.0000		0.0000	0.0000	2.6531	0.0000	2.6531	0.1568	0.0000	6.5729
Water						0.0000	0.0000		0.0000	0.0000	1.1373	1.6568	2.7940	4.1400e-003	2.5200e-003	3.6487
Total	**0.0708**	**0.0181**	**0.0822**	**2.5000e-004**	**0.0253**	**3.7000e-004**	**0.0257**	**6.7800e-003**	**3.6000e-004**	**7.1400e-003**	**3.7903**	**32.2239**	**36.0143**	**0.1626**	**2.7000e-003**	**40.8836**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/15/2021	5	10	
2	Site Preparation	Site Preparation	1/16/2021	1/18/2021	5	1	
3	Grading	Grading	1/19/2021	1/20/2021	5	2	
4	Building Construction	Building Construction	1/21/2021	6/9/2021	5	100	
5	Paving	Paving	6/10/2021	6/16/2021	5	5	
6	Architectural Coating	Architectural Coating	6/17/2021	6/23/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 20,850; Non-Residential Outdoor: 6,950; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

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

Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**0.0000**	**2.0400e-003**	**2.0400e-003**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					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	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**0.0000**	**2.0400e-003**	**2.0400e-003**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.2000e-004**	**1.5000e-004**	**2.7000e-004**	**1.0000e-005**	**1.4000e-004**	**1.5000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

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

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

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.5000e-004**	**4.1000e-004**	**1.1600e-003**	**4.1000e-004**	**3.9000e-004**	**8.0000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**3.4000e-004**	**4.1000e-004**	**7.5000e-004**	**1.9000e-004**	**3.9000e-004**	**5.8000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

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

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Mitigated Construction Off-Site

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

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

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0730**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0730**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.9700e-003	0.0157	0.0801	2.4000e-004	0.0253	1.9000e-004	0.0255	6.7800e-003	1.8000e-004	6.9600e-003	0.0000	23.3192	23.3192	9.4000e-004	0.0000	23.3428
Unmitigated	8.9700e-003	0.0157	0.0801	2.4000e-004	0.0253	1.9000e-004	0.0255	6.7800e-003	1.8000e-004	6.9600e-003	0.0000	23.3192	23.3192	9.4000e-004	0.0000	23.3428

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	23.35	23.35	23.35	68,176	68,176
Total	23.35	23.35	23.35	68,176	68,176

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
Unrefrigerated 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
Unrefrigerated Warehouse-No Rail	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	4.6739	4.6739	6.5000e-004	1.3000e-004	4.7298
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.6739	4.6739	6.5000e-004	1.3000e-004	4.7298
NaturalGas Mitigated	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
NaturalGas Unmitigated	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892

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					
Unrefrigerated Warehouse-No Rail	48233	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
Total		**2.6000e-004**	**2.3600e-003**	**1.9900e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5739**	**2.5739**	**5.0000e-005**	**5.0000e-005**	**2.5892**

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					
Unrefrigerated Warehouse-No Rail	48233	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
Total		**2.6000e-004**	**2.3600e-003**	**1.9900e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5739**	**2.5739**	**5.0000e-005**	**5.0000e-005**	**2.5892**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	49067	4.6739	6.5000e-004	1.3000e-004	4.7298
Total		**4.6739**	**6.5000e-004**	**1.3000e-004**	**4.7298**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	49067	4.6739	6.5000e-004	1.3000e-004	4.7298
Total		**4.6739**	**6.5000e-004**	**1.3000e-004**	**4.7298**

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	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Unmitigated	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004

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	7.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Total	**0.0616**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.0000**	**2.6000e-004**

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	7.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Total	**0.0616**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.0000**	**2.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7940	4.1400e-003	2.5200e-003	3.6487
Unmitigated	2.7940	4.1400e-003	2.5200e-003	3.6487

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	3.21438 / 0	2.7940	4.1400e-003	2.5200e-003	3.6487
Total		**2.7940**	**4.1400e-003**	**2.5200e-003**	**3.6487**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	3.21438 / 0	2.7940	4.1400e-003	2.5200e-003	3.6487
Total		**2.7940**	**4.1400e-003**	**2.5200e-003**	**3.6487**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	2.6531	0.1568	0.0000	6.5729
Unmitigated	2.6531	0.1568	0.0000	6.5729

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	13.07	2.6531	0.1568	0.0000	6.5729
Total		**2.6531**	**0.1568**	**0.0000**	**6.5729**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	13.07	2.6531	0.1568	0.0000	6.5729
Total		**2.6531**	**0.1568**	**0.0000**	**6.5729**

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

CUHSD Residential, San Jose - Santa Clara County, Annual

CUHSD Residential, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	13.90	1000sqft	0.32	13,900.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Intensity Factor - Published in 2020

Land Use - Based on Google Maps and buildings to be demolished

Construction Phase - Default construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default construction equip & hours

Off-road Equipment - Default Equipment and hours

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Trenching added

Trips and VMT - Default Trips. Concrete and Asphalt trip lengths = vendor lengths. Concrete and asphalt haul trips based on 10 CY deliveries, 2 trips per delivery

Demolition - Estimated using Google Earth

Grading - Assume balanced site; no soil import or export. Residential development is 6.01 acres

Vehicle Trips - Default Trip rates

Vehicle Emission Factors - EMFAC2017 EFs for Santa Clara Co 2030

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood burning hearths

Energy Use -

Water And Wastewater - Assume WWTP for wastewater

Construction Off-road Equipment Mitigation - Typical Construction Mitigation Strategy

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.60E-04
Energy	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	7.2477	7.2477	6.9000e-004	1.8000e-004	7.319
Mobile	6.3100e-003	0.0124	0.0604	2.1000e-004	0.0253	1.5000e-004	0.0255	6.7800e-003	1.4000e-004	6.9200e-003	0.0000	20.2669	20.2669	7.0000e-004	0.0000	20.2843
Waste						0.0000	0.0000		0.0000	0.0000	2.6531	0.0000	2.6531	0.1568	0.0000	6.5729
Water						0.0000	0.0000		0.0000	0.0000	1.1373	1.6568	2.7940	4.1400e-003	2.5200e-003	3.6487
Total	**0.0681**	**0.0148**	**0.0625**	**2.2000e-004**	**0.0253**	**3.3000e-004**	**0.0257**	**6.7800e-003**	**3.2000e-004**	**7.1000e-003**	**3.7903**	**29.1717**	**32.9620**	**0.1623**	**2.7000e-003**	**37.8252**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Energy	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	7.2477	7.2477	6.9000e-004	1.8000e-004	7.3190
Mobile	6.3100e-003	0.0124	0.0604	2.1000e-004	0.0253	1.5000e-004	0.0255	6.7800e-003	1.4000e-004	6.9200e-003	0.0000	20.2669	20.2669	7.0000e-004	0.0000	20.2843
Waste						0.0000	0.0000		0.0000	0.0000	2.6531	0.0000	2.6531	0.1568	0.0000	6.5729
Water						0.0000	0.0000		0.0000	0.0000	1.1373	1.6568	2.7940	4.1400e-003	2.5200e-003	3.6487
Total	**0.0681**	**0.0148**	**0.0625**	**2.2000e-004**	**0.0253**	**3.3000e-004**	**0.0257**	**6.7800e-003**	**3.2000e-004**	**7.1000e-003**	**3.7903**	**29.1717**	**32.9620**	**0.1623**	**2.7000e-003**	**37.8252**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/15/2021	5	10	
2	Site Preparation	Site Preparation	1/16/2021	1/18/2021	5	1	
3	Grading	Grading	1/19/2021	1/20/2021	5	2	
4	Building Construction	Building Construction	1/21/2021	6/9/2021	5	100	
5	Paving	Paving	6/10/2021	6/16/2021	5	5	
6	Architectural Coating	Architectural Coating	6/17/2021	6/23/2021	5	5	

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: 20,850; Non-Residential Outdoor: 6,950; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	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
Demolition	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Building Construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**0.0000**	**2.0400e-003**	**2.0400e-003**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					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	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**	**0.0000**	**2.0400e-003**	**2.0400e-003**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

Fugitive Dust					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	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

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

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.5000e-004**	**4.1000e-004**	**1.1600e-003**	**4.1000e-004**	**3.9000e-004**	**8.0000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**3.4000e-004**	**4.1000e-004**	**7.5000e-004**	**1.9000e-004**	**3.9000e-004**	**5.8000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Mitigated Construction Off-Site

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

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

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

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0730**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0730**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Mitigated Construction Off-Site

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

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.3100e-003	0.0124	0.0604	2.1000e-004	0.0253	1.5000e-004	0.0255	6.7800e-003	1.4000e-004	6.9200e-003	0.0000	20.2669	20.2669	7.0000e-004	0.0000	20.2843
Unmitigated	6.3100e-003	0.0124	0.0604	2.1000e-004	0.0253	1.5000e-004	0.0255	6.7800e-003	1.4000e-004	6.9200e-003	0.0000	20.2669	20.2669	7.0000e-004	0.0000	20.2843

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	23.35	23.35	23.35	68,176	68,176
Total	23.35	23.35	23.35	68,176	68,176

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated 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
Unrefrigerated Warehouse-No Rail	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	4.6739	4.6739	6.5000e-004	1.3000e-004	4.7298
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.6739	4.6739	6.5000e-004	1.3000e-004	4.7298
NaturalGas Mitigated	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
NaturalGas Unmitigated	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892

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					
Unrefrigerated Warehouse-No Rail	48233	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
Total		**2.6000e-004**	**2.3600e-003**	**1.9900e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5739**	**2.5739**	**5.0000e-005**	**5.0000e-005**	**2.5892**

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					
Unrefrigerated Warehouse-No Rail	48233	2.6000e-004	2.3600e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5739	2.5739	5.0000e-005	5.0000e-005	2.5892
Total		**2.6000e-004**	**2.3600e-003**	**1.9900e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5739**	**2.5739**	**5.0000e-005**	**5.0000e-005**	**2.5892**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	49067	4.6739	6.5000e-004	1.3000e-004	4.7298
Total		**4.6739**	**6.5000e-004**	**1.3000e-004**	**4.7298**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	49067	4.6739	6.5000e-004	1.3000e-004	4.7298
Total		**4.6739**	**6.5000e-004**	**1.3000e-004**	**4.7298**

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	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Unmitigated	0.0616	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004

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	7.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Total	**0.0616**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.0000**	**2.6000e-004**

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	7.2500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5000e-004	2.5000e-004	0.0000	0.0000	2.6000e-004
Total	**0.0616**	**0.0000**	**1.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.5000e-004**	**2.5000e-004**	**0.0000**	**0.0000**	**2.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7940	4.1400e-003	2.5200e-003	3.6487
Unmitigated	2.7940	4.1400e-003	2.5200e-003	3.6487

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	3.21438 / 0	2.7940	4.1400e-003	2.5200e-003	3.6487
Total		**2.7940**	**4.1400e-003**	**2.5200e-003**	**3.6487**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Unrefrigerated Warehouse-No Rail	3.21438 / 0	2.7940	4.1400e-003	2.5200e-003	3.6487
Total		**2.7940**	**4.1400e-003**	**2.5200e-003**	**3.6487**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6531	0.1568	0.0000	6.5729
Unmitigated	2.6531	0.1568	0.0000	6.5729

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	13.07	2.6531	0.1568	0.0000	6.5729
Total		**2.6531**	**0.1568**	**0.0000**	**6.5729**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	13.07	2.6531	0.1568	0.0000	6.5729
Total		**2.6531**	**0.1568**	**0.0000**	**6.5729**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2017 Calculations

CalEEMod EMFAC2017 Emission Factors Input - 2021

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005524	0.003418	0.003371	0.025006868	0.007456	0	0	0.04658	0
A	CH4_RUNEX	0.002606	0.005621	0.004015	0.005342	0.01023	0.008122	0.010515	0.055229878	0.008276	1.38043	0.33122	0.006825	0.014283
A	CH4_STREX	0.056352	0.076285	0.076252	0.093048	0.017619	0.0101	0.009554	4.87953E-07	0.018189	0.002665	0.25818	0.004389	0.024795
A	CO_IDLEX	0	0	0	0	0.188633	0.141247	0.370014	5.63023888	0.566001	0	0	1.985496	0
A	CO_RUNEX	0.663915	1.191968	0.917992	1.098725	0.919664	0.710707	0.758144	0.676437328	0.765418	10.36298	19.56337	0.559511	1.624735
A	CO_STREX	2.291562	2.519228	2.968595	3.49272	1.175307	0.706579	1.203259	0.005916179	1.969399	0.139137	8.976601	0.656121	2.369845
A	CO2_NBIO_IDLEX	0	0	0	0	9.076836	14.19094	77.12898	1088.786144	98.57106	0	0	347.4308	0
A	CO2_NBIO_RUNEX	257.8613	306.5726	336.1902	407.5275	823.3117	796.106	1160.405	1552.030837	1386.545	1606.736	210.3906	1081.244	1583.822
A	CO2_NBIO_STREX	54.62846	65.84771	72.71964	87.46048	12.41848	8.353413	9.108976	0.055723126	15.71543	1.641923	61.75755	3.66946	19.77033
A	NOX_IDLEX	0	0	0	0	0.061824	0.106702	0.668719	5.966077574	0.614224	0	0	3.690076	0
A	NOX_RUNEX	0.043596	0.105385	0.086774	0.11598	0.929977	1.130638	2.890357	4.11760691	2.068826	0.732642	1.15497	5.298321	1.509217
A	NOX_STREX	0.202639	0.270109	0.321727	0.398458	0.356269	0.205746	1.169875	1.857963365	0.952266	0.018447	0.270443	0.728237	0.248775
A	PM10_IDLEX	0	0	0	0	0.000789	0.001393	0.002134	0.008566391	0.002149	0	0	0.004504	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060849587	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009669	0.010704	0.012	0.035473073	0.012	0.033326	0.004	0.010974	0.01306
A	PM10_RUNEX	0.001492	0.002063	0.00149	0.001681	0.01155	0.016958	0.074904	0.060618813	0.032499	0.005278	0.001893	0.034029	0.027049
A	PM10_STREX	0.001897	0.002574	0.00186	0.002132	0.000283	0.000151	0.000123	1.05485E-06	0.000135	1.65E-06	0.003213	4E-05	0.00031
A	PM25_IDLEX	0	0	0	0	0.000755	0.001333	0.002041	0.008195813	0.002056	0	0	0.004309	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026078394	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002417	0.002676	0.003	0.008868268	0.003	0.008332	0.001	0.002744	0.003265
A	PM25_RUNEX	0.001375	0.001899	0.001372	0.001551	0.010999	0.016197	0.071658	0.057996444	0.031082	0.005049	0.001772	0.032545	0.025828
A	PM25_STREX	0.001744	0.002367	0.00171	0.001961	0.00026	0.000138	0.000113	9.69899E-07	0.000124	1.52E-06	0.00303	3.68E-05	0.000285
A	ROG_DIURN	0.045235	0.099095	0.065066	0.076124	0.002274	0.001262	0.000488	4.16173E-06	0.001087	0.000175	1.822873	0.000466	0.867943
A	ROG_HTSK	0.104203	0.18781	0.131305	0.150451	0.084499	0.049022	0.021813	0.000184922	0.015779	0.002693	0.716612	0.00449	0.072064
A	ROG_IDLEX	0	0	0	0	0.022758	0.016904	0.021035	0.434467644	0.055863	0	0	0.220514	0
A	ROG_RESTL	0.039039	0.076992	0.060343	0.071587	0.001132	0.000619	0.000237	2.29522E-06	0.000472	0.00011	1.002545	0.000186	0.29353
A	ROG_RUNEX	0.010367	0.024789	0.016591	0.024181	0.102748	0.119666	0.190153	0.139003529	0.100767	0.020124	2.253066	0.092414	0.087528
A	ROG_RUNLS	0.220694	0.676526	0.439793	0.476426	0.582266	0.339878	0.127797	0.001141817	0.172828	0.018688	2.132348	0.031591	1.757553
A	ROG_STREX	0.257971	0.382078	0.361335	0.470245	0.089513	0.051131	0.052961	2.55505E-06	0.093878	0.01143	1.967635	0.025041	0.107136
A	SO2_IDLEX	0	0	0	0	8.82E-05	0.000136	0.000731	0.010137722	0.000936	0	0	0.003304	0
A	SO2_RUNEX	8.95E-05	0.002582	0.011055	0.004019	0.008045	0.007692	0.011055	0.014245597	0.01335	0.011284	0.002082	0.010315	0.015552
A	SO2_STREX	0	0	9.01E-05	0.000864	0.000123	8.27E-05	9.01E-05	5.51426E-07	0.000156	1.62E-05	0.000611	3.63E-05	0.000196
A	TOG_DIURN	0.045235	0.099095	0.065066	0.076124	0.002274	0.001262	0.000488	4.16173E-06	0.001087	0.000175	1.822873	0.000466	0.867943
A	TOG_HTSK	0.104203	0.18781	0.131305	0.150451	0.084499	0.049022	0.021813	0.000184922	0.015779	0.002693	0.716612	0.00449	0.072064
A	TOG_IDLEX	0	0	0	0	0.032226	0.022942	0.027614	0.499465093	0.070633	0	0	0.314403	0
A	TOG_RESTL	0.039039	0.076992	0.060343	0.071587	0.001132	0.000619	0.000237	2.29522E-06	0.000472	0.00011	1.002545	0.000186	0.29353
A	TOG_RUNEX	0.015076	0.036112	0.024165	0.034227	0.12807	0.140988	0.219957	0.207392348	0.121759	1.409294	2.774349	0.11039	0.118213
A	TOG_RUNLS	0.220694	0.676526	0.439793	0.476426	0.582266	0.339878	0.127797	0.001141817	0.172828	0.018688	2.132348	0.031591	1.757553
A	TOG_STREX	0.282444	0.418324	0.395615	0.514815	0.098006	0.055982	0.057985	2.79746E-06	0.102785	0.012515	2.14098	0.027416	0.1173

CalEEMod EMFAC2017 Fleet Mix Input 2021

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.58738	0.052309	0.181462	0.107871	0.021097	0.005111	0.013283	0.021557	0.001702	0.001287	0.005243	0.000926	0.000772

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	15	0	300	0	63	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3240	0	1260
Site Preparation	18	0	180	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1944	0	0
Grading	20	0	400	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	4320	0	0
Trenching	5	0	100	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1080	0	0
Building Construction	30	7	6900	1610	687	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	74520	11753	5015.1
Architectural Coating	6	0	120	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1296	0	0
Paving	15	0	300	0	99	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	3240	0	722.7

Number of Days Per Year				
2021	1/4/21	12/31/21	362	
2022	1/1/22	3/25/22	84	
2023				
			446	**320** ***Total Workdays***

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
						Grams					
Hauling	1342.72	35456.80	9518.66878	108.295	2092.34	1105.52	3197.9	314.83	657.36	972.19	11785228.14
Vendor	2434.74	51817.64	14896.6	163.735	3514.15	2124.67	5638.8	528.77	1270.22	1798.98	17623769.49
Worker	7788.21	7052.05	87943.8	239.636	26802.36	4164.39	30966.8	4032.90	1732.01	5764.91	25436991.14
Total (g)	11565.67	94326.49822	112359.09	511.6659526	32408.8492	7394.579944	39803.4291	4876.502092	3659.58456	8536.086652	54845988.77
Total (lbs)	25.50	207.95	247.71	1.13	71.45	16.3	87.75	10.75	8.07	18.82	120914.7076
Total (tons)	0.0127	0.104	0.124	0.001	0.036	0.0082	0.0439	0.0054	0.004	0.009	60.46
Total (MT)											54.85

YEAR						*Tons*					
2021 - 2022	0.0103	0.0844	0.1005	0.0005	0.0290	0.0066	0.0356	0.0044	0.0033	0.0076	44.5163
2022 -2023	0.0024	0.0196	0.0233	0.0001	0.0067	0.0015	0.0083	0.0010	0.0008	0.0018	10.3297

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
						Grams					
Hauling	429.00	8390.53	5072.24329	14.655	126.93	73.90	200.8	19.10	46.41	65.51	1583263.836
Vendor	912.30	15470.45	9326.0	27.512	313.95	201.87	515.8	47.24	125.01	172.25	2956691.545
Worker	8564.04	2774.97	30024.8	14.370	1584.70	265.75	1850.5	238.45	120.36	358.81	2103865.775
Total (g)	9905.34	26635.95541	44423.0117	56.53611716	2025.5755	541.51469	2567.09019	304.784755	291.7846137	596.5693687	6643821.156
Total (lbs)	21.84	58.72	97.94	0.12	4.47	1.2	5.66	0.67	0.64	1.32	14647.11842
Total (tons)	0.0109	0.029	0.049	0.000	0.002	0.0006	0.0028	0.0003	0.000	0.001	7.32
Total (MT)											6.64

YEAR											
						Tons					
	2021	0.0071	0.0190	0.0318	0.0000	0.0014	0.0004	0.0018	0.0002	0.0002	0.0004	4.3101
	2022	0.0038	0.0103	0.0172	0.0000	0.0008	0.0002	0.0010	0.0001	0.0001	0.0002	2.3337
							0.000387248		0.000217958		
							0.00020967		0.00011801		

CalEEMod EMFAC2017 Emission Factors Input - 2023

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

CalEEMod EMFAC2017 Fleet Mix Input - 2023

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

CalEEMod EMFAC2017 Emission Factors Input - 2030

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

CalEEMod EMFAC2017 Fleet Mix Input - 2030

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

Attachment 4: Construction Health Risk Calculations

CUHSD Residential Development, San Jose, CA

DPM Emissions and Modeling Emission Rates - Without Design Feature Controls

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 ($g/s/m^2$)
2021-2022	Construction	0.1488	DPM_CONST	297.6	0.09059	1.14E-02	24519.8	4.65E-07
2022-2023	Construction	0.0148	DPM_CONST	29.6	0.0090	0.0011	24520	4.633E-08

Construction Hours

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

days/yr = 365

hours/year = 3285

DPM Emissions and Modeling Emission Rates - With AQ-1 and AQ-2 Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2021-2022	Construction	0.01139	DPM_CONST	22.8	0.00693	8.74E-04	24519.8	3.56E-08
2022-2023	Construction	0.0015	DPM_CONST	3	0.0009	0.0001	24520	4.598E-09

Construction Hours

0.015492535

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

days/yr = 365

hours/year = 3285

CUHSD Residential Development, San Jose, CA

PM2.5 Fugitive Dust Emissions for Modeling - Without Design Feature Controls

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 $g/s/m^2$
2021-2022	Construction	FUG25_CONST	0.0843	168.6	0.05134	6.47E-03	24519.8	2.64E-07
2022-2023	Construction	FUG25_CONST	0.0001	0.2	0.0001	0.0000	24520	3.692E-10

Construction Hours

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

days/yr = 365

hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling - With AQ-1 and AQ-2 Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2021-2022	Construction	FUG25_CONST	0.0381	76.2	0.02321	2.92E-03	24519.8	1.19E-07
2022-2023		***FUG25_CONST***	0.0001	0.2	0.0001	0.0000	24520	3.692E-10

Construction Hours

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

days/yr = 365

hours/year = 3285

CUHSD Residential Development, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI (SF-Home) - 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 Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)		Maximum	
							Modeled						
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor		Year	Annual	Age Sensitivity Factor		HI	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021-2022	0.2673	10	3.64							
1	1	0 - 1	2021-2022	0.2673	10	43.91	2021-2022	0.2673	1	0.77	0.053	0.2719	0.5393
2	1	1 - 2	2022-2023	0.0266	10	4.37	2022-2023	0.0266	1	0.08	0.005	0.0004	0.027
3	1	2 - 3	2023	0.0000	3	0.00	2023	0.0000	1	0.00			
4	1	3 - 4	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
5	1	4 - 5	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
6	1	5 - 6	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
7	1	6 - 7	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
8	1	7 - 8	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
9	1	8 - 9	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
10	1	9 - 10	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
11	1	10 - 11	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
12	1	11 - 12	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
13	1	12 - 13	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
14	1	13 - 14	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
15	1	14 - 15	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
16	1	15 - 16	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
17	1	16-17	2037	0.0000	1	0.00	2037	0.0000	1	0.00			
18	1	17-18	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
19	1	18-19	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
20	1	19-20	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
21	1	20-21	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
22	1	21-22	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
23	1	22-23	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
24	1	23-24	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
25	1	24-25	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
26	1	25-26	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
27	1	26-27	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
28	1	27-28	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
29	1	28-29	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
30	1	29-30	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
Total Increased Cancer Risk						**51.9**				**0.84**			

* Third trimester of pregnancy

CUHSD Residential Development, San Jose, CA - Construction Impacts - Mitigated
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI (SF-Home) - 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	Adult - Exposure Information			Adult		Maximum	
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Fugitive	Total
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**HI**	**PM2.5**	**PM2.5**
0	0.25	-0.25 - 0*	2021-2022	0.0205	10	0.28							
1	1	0 - 1	2021-2022	0.0205	10	3.36	2021-2022	0.0205	1	0.06	0.004	0.1229	0.1434
2	1	1 - 2	2022-2023	0.0026	10	0.43	2022-2023	0.0026	1	0.01	0.001	0.0004	0.003
3	1	2 - 3	2023	0.0000	3	0.00	2023	0.0000	1	0.00			
4	1	3 - 4	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
5	1	4 - 5	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
6	1	5 - 6	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
7	1	6 - 7	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
8	1	7 - 8	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
9	1	8 - 9	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
10	1	9 - 10	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
11	1	10 - 11	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
12	1	11 - 12	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
13	1	12 - 13	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
14	1	13 - 14	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
15	1	14 - 15	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
16	1	15 - 16	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
17	1	16-17	2037	0.0000	1	0.00	2037	0.0000	1	0.00			
18	1	17-18	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
19	1	18-19	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
20	1	19-20	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
21	1	20-21	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
22	1	21-22	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
23	1	22-23	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
24	1	23-24	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
25	1	24-25	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
26	1	25-26	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
27	1	26-27	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
28	1	27-28	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
29	1	28-29	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
30	1	29-30	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
Total Increased Cancer Risk						**4.1**				**0.07**			

* Third trimester of pregnancy

CUHSD Residential Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Construction MEI Receptor

Emissions Years	2021 and 2022
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Camden Ave Construction MEI Maximum Concentrations - Floor 1

Meteorolgical Data Years	2021 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00186	0.06819	0.07446

Meteorolgical Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.06088	0.05689	0.00399

Camden Ave. Construction MEI Maximum Concentrations -Floor 1

Meteorolgical Data Years	2022 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.0011	0.06167	0.07218

Meteorolgical Data Years	2022 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.06095	0.05772	0.00323

CUHSD Residential Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Construction MEI Receptor

Emissions Years	2021 and 2022
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Union Ave Construction MEI Maximum Concentrations - Floor 1

Meteorolgical Data Years	2021 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00021	0.00765	0.00834

Meteorolgical Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.00678	0.00633	0.00045

Union Ave. Construction MEI Maximum Concentrations -Floor 1

Meteorolgical Data Years	2022 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00012	0.00683	0.00798

Meteorolgical Data Years	2022 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.00669	0.00633	0.00036

CUHSD Residential Development, San Jose, CA - Camden Ave Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Camden Ave. on Construction MEI
Impacts at Off-Site SF Home - 1.5 meter receptor height

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*	2021	10	0.0019	0.0682	0.0745	0.025	0.005	0.0003	0.03
1	1	0 - 1	2021	10	0.0019	0.0682	0.0745	0.305	0.064	0.0041	0.37
2	1	1 - 2	2022	10	0.0011	0.0617	0.0722	0.181	0.058	0.0040	0.24
3	1	2 - 3	2023	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
4	1	3 - 4	2024	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
5	1	4 - 5	2025	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
6	1	5 - 6	2026	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
7	1	6 - 7	2027	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
8	1	7 - 8	2028	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
9	1	8 - 9	2029	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
10	1	9 - 10	2030	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
11	1	10 - 11	2031	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
12	1	11 - 12	2032	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
13	1	12 - 13	2033	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
14	1	13 - 14	2034	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
15	1	14 - 15	2035	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
16	1	15 - 16	2036	3	0.0011	0.0617	0.0722	0.028	0.009	0.0006	0.04
17	1	16-17	2037	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
18	1	17-18	2038	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
19	1	18-19	2039	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
20	1	19-20	2040	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
21	1	20-21	2041	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
22	1	21-22	2042	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
23	1	22-23	2043	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
24	1	23-24	2044	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
25	1	24-25	2045	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
26	1	25-26	2046	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
27	1	26-27	2047	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
28	1	27-28	2048	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
29	1	28-29	2049	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
30	1	29-30	2050	1	0.0011	0.0617	0.0722	0.003	0.001	0.0001	0.004
Total Increased Cancer Risk								0.95	0.269	0.018	**1.2**

Maximum Hazard Index	Maximum Total PM2.5 (µg/m3)
0.0004	0.061
0.0004	0.061

* Third trimester of pregnancy

CUHSD Residential Development, San Jose, CA - Union Ave Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Camden Ave. on Construction MEI
Impacts at Off-Site SF Home - 1.5 meter receptor height

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*	2021	10	0.0002	0.0077	0.0083	0.003	0.001	0.0000	0.00
1	1	0 - 1	2021	10	0.0002	0.0077	0.0083	0.034	0.007	0.0005	0.04
2	1	1 - 2	2022	10	0.0001	0.0068	0.0080	0.020	0.006	0.0004	0.03
3	1	2 - 3	2023	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
4	1	3 - 4	2024	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
5	1	4 - 5	2025	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
6	1	5 - 6	2026	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
7	1	6 - 7	2027	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
8	1	7 - 8	2028	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
9	1	8 - 9	2029	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
10	1	9 - 10	2030	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
11	1	10 - 11	2031	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
12	1	11 - 12	2032	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
13	1	12 - 13	2033	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
14	1	13 - 14	2034	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
15	1	14 - 15	2035	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
16	1	15 - 16	2036	3	0.0001	0.0068	0.0080	0.003	0.001	0.0001	0.00
17	1	16-17	2037	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
18	1	17-18	2038	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
19	1	18-19	2039	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
20	1	19-20	2040	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
21	1	20-21	2041	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
22	1	21-22	2042	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
23	1	22-23	2043	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
24	1	23-24	2044	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
25	1	24-25	2045	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
26	1	25-26	2046	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
27	1	26-27	2047	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
28	1	27-28	2048	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
29	1	28-29	2049	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
30	1	29-30	2050	1	0.0001	0.0068	0.0080	0.000	0.000	0.0000	0.000
Total Increased Cancer Risk								0.11	0.030	0.002	**0.1**

Maximum Hazard Index	Maximum Total PM2.5 (µg/m3)
0.0000	0.007
0.0000	0.007

* Third trimester of pregnancy

Attachment 5: Operational Community Risk

CUHSD Residential Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Onsite MEI Receptor

Emissions Years	2023
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5, 4.55 for ADUs
Receptor Distances =	Onsite MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Camden Ave Onsite MEI Maximum Concentrations

Meteorolgical Data Years	2023 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00121	0.11661	0.1457

Meteorolgical Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.12705	0.12144	0.00561

CUHSD Residential Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Onsite MEI Receptor

Emissions Years	2023
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5 for single family homes, 4.55 ADUs
Receptor Distances =	Onsite MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Union Ave Onsite MEI Maximum Concentrations

Meteorolgical Data Years	2023 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00003	0.00309	0.00385

Meteorolgical Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.00335	0.0032	0.00015

CUHSD Residential Development, San Jose, CA - Camden Ave Impacts in 2023
Maximum DPM Cancer Risk and PM2.5 Calculations From Camden Ave. on Onsite MEI
Impacts at Onsite MEI

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

Roadway 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*	2023	10	0.0012	0.1166	0.1457	0.016	0.009	0.0007	0.03
1	1	0 - 1	2023	10	0.0012	0.1166	0.1457	0.199	0.109	0.0080	0.32
2	1	1 - 2	2024	10	0.0012	0.1166	0.1457	0.199	0.109	0.0080	0.32
3	1	2 - 3	2025	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
4	1	3 - 4	2026	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
5	1	4 - 5	2027	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
6	1	5 - 6	2028	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
7	1	6 - 7	2029	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
8	1	7 - 8	2030	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
9	1	8 - 9	2031	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
10	1	9 - 10	2032	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
11	1	10 - 11	2033	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
12	1	11 - 12	2034	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
13	1	12 - 13	2035	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
14	1	13 - 14	2036	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
15	1	14 - 15	2037	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
16	1	15 - 16	2038	3	0.0012	0.1166	0.1457	0.031	0.017	0.0013	0.05
17	1	16-17	2039	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
18	1	17-18	2040	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
19	1	18-19	2041	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
20	1	19-20	2042	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
21	1	20-21	2043	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
22	1	21-22	2044	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
23	1	22-23	2045	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
24	1	23-24	2046	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
25	1	24-25	2047	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
26	1	25-26	2048	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
27	1	26-27	2049	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
28	1	27-28	2050	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
29	1	28-29	2051	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
30	1	29-30	2052	1	0.0012	0.1166	0.1457	0.003	0.002	0.0001	0.006
Total Increased Cancer Risk								0.90	0.496	0.036	**1.43**

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0002	0.127

* Third trimester of pregnancy

CUHSD Residential Development, San Jose, CA - Union Ave Impacts in 2023
Maximum DPM Cancer Risk and PM2.5 Calculations From Union Ave. on Onsite MEI
Impacts at Onsite Residence

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

Roadway 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*	2021	10	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.00
1	1	0 - 1	2021	10	0.0000	0.0031	0.0039	0.005	0.003	0.0002	0.01
2	1	1 - 2	2022	10	0.0000	0.0031	0.0039	0.005	0.003	0.0002	0.01
3	1	2 - 3	2023	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
4	1	3 - 4	2024	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
5	1	4 - 5	2025	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
6	1	5 - 6	2026	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
7	1	6 - 7	2027	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
8	1	7 - 8	2028	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
9	1	8 - 9	2029	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
10	1	9 - 10	2030	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
11	1	10 - 11	2031	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
12	1	11 - 12	2032	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
13	1	12 - 13	2033	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
14	1	13 - 14	2034	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
15	1	14 - 15	2035	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
16	1	15 - 16	2036	3	0.0000	0.0031	0.0039	0.001	0.000	0.0000	0.00
17	1	16-17	2037	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
18	1	17-18	2038	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
19	1	18-19	2039	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
20	1	19-20	2040	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
21	1	20-21	2041	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
22	1	21-22	2042	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
23	1	22-23	2043	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
24	1	23-24	2044	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
25	1	24-25	2045	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
26	1	25-26	2046	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
27	1	26-27	2047	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
28	1	27-28	2048	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
29	1	28-29	2049	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
30	1	29-30	2050	1	0.0000	0.0031	0.0039	0.000	0.000	0.0000	0.000
Total Increased Cancer Risk								0.02	0.013	0.001	**0.04**

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0000	0.003

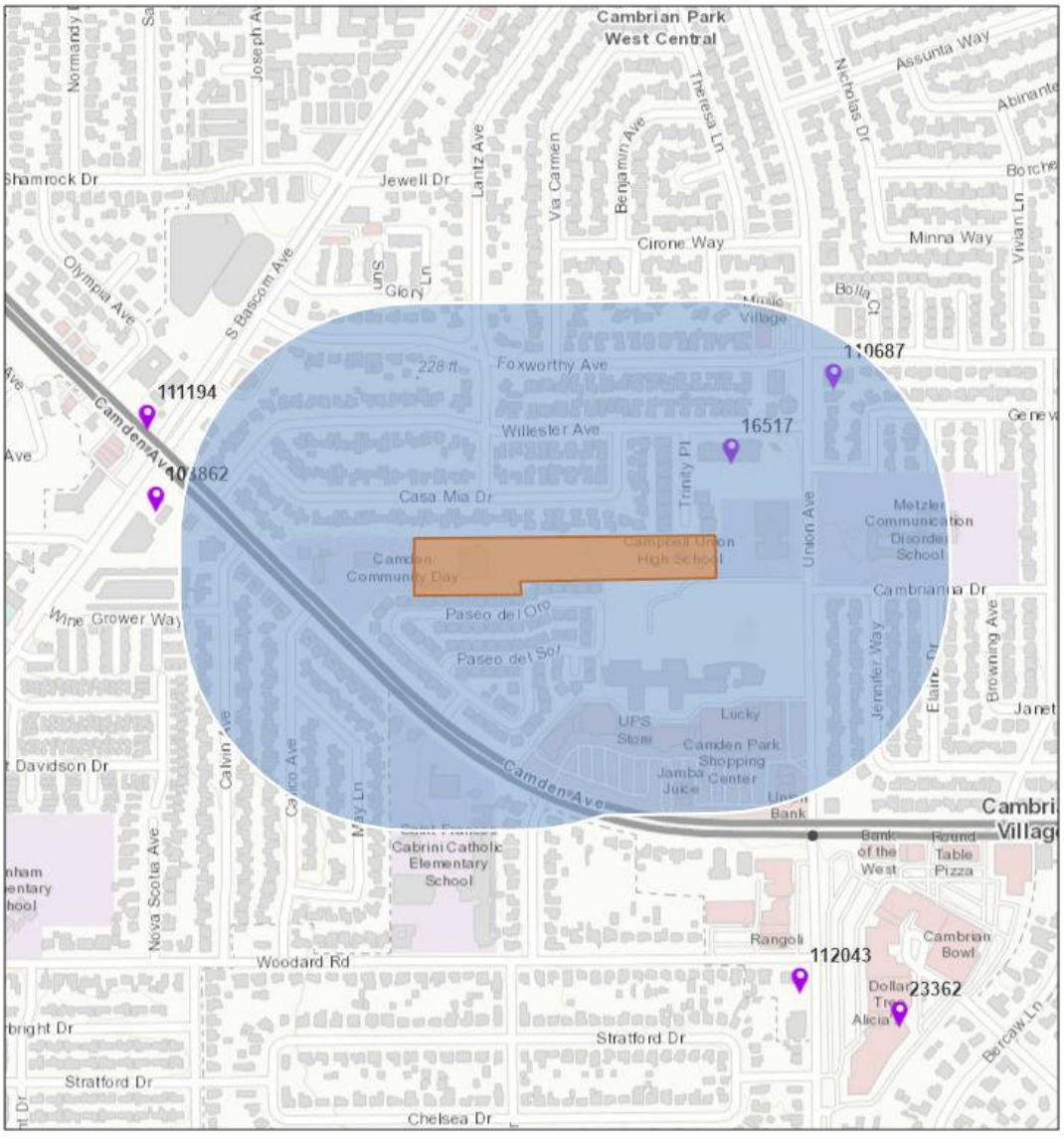
* Third trimester of pregnancy

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 6,407,626.66 ft²

Jul 16 2020 13:35:53 Pacific Daylight 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	16517	Verizon Wireless Camden & Union	3151 Union Avenue	San Jose	CA
2	110687	Mobil SS#63060	3010 Union Ave	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95124	Santa Clara	2.680	0.000	0.000	Generators	1
2	95124	Santa Clara	24.730	0.110	0.000	Gas Dispensing Facility	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.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

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

Table A: Requester Contact Information

Date of Request	**7/16/2020**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	CUHSD
Address	3235 Union Ave
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	40du
Comments:	

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

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a [illegible] of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Table B address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in blue section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
875	16517	Verizon Wireless Camden & Union	3151 Union Avenue	2.68	--	--		Generators		2018 Dataset
1000	110687	Mobil SS#63060	3010 Union Ave	24.73	0.11	--		Gas Dispensing Facility		2018 Dataset

Construction MEI

Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
0.1	0.1	#VALUE!	#VALUE!
0.01	0.4	0.002	#VALUE!

Project Site

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
335	16517	0.2	0.6	#VALUE!	#VALUE!
740	110687	0.02	0.6	0.003	#VALUE!

Footnotes:

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

Date last updated:
03/13/2018