# *500 RAILROAD AVENUE AIR QUALITY ASSESSMENT*

## *South San Francisco, California*

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**Prepared for:**

**Amber Sharpe**
**Project Manager**
**David J Powers & Associates Inc.**
**1871 The Alameda Suite 200**
**San José, CA 95126**

**Prepared by:**

**Zachary Palm**

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality

**429 East Cotati Avenue**
**Cotati, CA 94931**
**(707) 794-0400**

**I&R Project#: 24-025**

## Introduction

The purpose of this report is to address the potential air quality and health risk impacts associated with the proposed residential development located at 500 Railroad Avenue in South San Francisco, California. Air quality impacts would be associated with construction of the new buildings and infrastructure. Air pollutant emissions were estimated using appropriate computer models. In addition, the potential health risks associated with construction of the project and the impact of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

## Project Description

The 2.0-acre project site is currently undeveloped. The proposed project would develop 70 single-family attached (townhouse) units and construct a new five-foot sidewalk along the project frontage Railroad Avenue. Each townhouse would include a two-car tandem parking garage and private deck/patio areas. Construction is expected to begin in January 2025 and will be completed by December 2026.

## Setting

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

### Air Pollutants of Concern

High ozone concentrations in the air basin 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 ozone concentrations. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern inland valleys downwind of existing air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant in the air basin. 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 concentrations aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

[1] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, April 2023.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they 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 from diesel exhaust exposure a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015 and incorporated into BAAQMD's CEQA guidance.[2]

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, people over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are the single- and multi-family residences across Railroad Avenue from the project site. There are also children located at the Da Hao Preschool to the northeast. There are additional sensitive receptors located at further distances from the site. This project would introduce new sensitive receptors (i.e., residents) to the area.

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

## Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide ambient air quality standards (NAAQS) and emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards.

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

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The current standards limit the amount of sulfur allowed in diesel fuel to 15 parts per million by weight (ppmw). Ultra-low sulfur diesel (ULSD), as it is referred to, is required for use by all vehicles in the U.S.

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

State Regulations

The California Air Resources Board (CARB) has set statewide ambient air quality standards (CAAQS) and emission standards for on-road and off-road mobile sources that are more stringent than those adopted by the EPA. 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 regulation to reduce emissions of DPM and $NO_X$ from on-road heavy-duty diesel fueled vehicles.[4] 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 have been phased in over the compliance period and depend on the model year of the vehicle.

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[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.
[4] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.

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

To address the issue of diesel emissions in the state, CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*[5]. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road emission standards for new diesel engines, as well as adoption of regulations for ULSD fuel in California.

Bay Area Air Quality Management District (BAAQMD)

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

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

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[6] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to develop

[5] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.
[6] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program.

emission reduction activities in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is not within the San José CARE area.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[7] The BAAQMD has identified several overburdened areas within its boundaries. The project site is within an overburdened area as the Project site is scored at the 83rd percentile on CalEnviroScreen.[8]

*BAAQMD CEQA Air Quality Guidelines*

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. In 2023, the BAAQMD revised the *California Environmental Quality Act* (*CEQA) Air Quality Guidelines* that include significance thresholds to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The current BAAQMD guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They include assessment methodologies for criteria air pollutants, air toxics, odors, and GHG emissions, as shown in Table 1.[9] Air quality impacts and health risks are considered potentially significant if they exceed these thresholds.

The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and consider impacts from dust (i.e., fugitive $PM_{10}$ and $PM_{2.5}$) to be less than significant if BMPs are implemented (listed below). BAAQMD strongly encourages enhanced BMPs for construction sites near schools, residential areas, other sensitive land uses, or if air quality impacts were found to be significant.

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[7] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.
[8] OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[9] Bay Area Air Quality Management District, 2023. *2022 CEQA Guidelines*. April.

**Table 1. BAAQMD CEQA Significance Thresholds**

<table>
<tr><th rowspan="2">Criteria Air Pollutant</th><th colspan="2">Construction Thresholds</th><th colspan="2">Operational Thresholds</th></tr>
<tr><th colspan="2">Average Daily Emissions (lbs./day)</th><th>Average Daily Emissions (lbs./day)</th><th>Annual Average Emissions (tons/year)</th></tr>
<tr><td>ROG</td><td colspan="2">54</td><td>54</td><td>10</td></tr>
<tr><td>$NO_X$</td><td colspan="2">54</td><td>54</td><td>10</td></tr>
<tr><td>$PM_{10}$</td><td colspan="2">82 (Exhaust)</td><td>82</td><td>15</td></tr>
<tr><td>$PM_{2.5}$</td><td colspan="2">54 (Exhaust)</td><td>54</td><td>10</td></tr>
<tr><td>CO</td><td colspan="2">Not Applicable</td><td colspan="2">9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)</td></tr>
<tr><td>Fugitive Dust</td><td colspan="2">Construction Dust Ordinance or other Best Management Practices (BMPs)*</td><td colspan="2">Not Applicable</td></tr>
<tr><th>Health Risks and Hazards</th><th colspan="2">Single Sources/ Individual Project</th><th colspan="2">Combined Sources (Cumulative from all sources within 1000-foot zone of influence)</th></tr>
<tr><td>Excess Cancer Risk</td><td>>10.0 in a million</td><td rowspan="3">OR Compliance with Qualified Community Risk Reduction Plan</td><td>>100 in a million</td><td rowspan="3">OR Compliance with Qualified Community Risk Reduction Plan</td></tr>
<tr><td>Hazard Index</td><td>>1.0</td><td>>10.0</td></tr>
<tr><td>Incremental annual $PM_{2.5}$</td><td>>0.3 µg/m$^3$</td><td>>0.8 µg/m$^3$</td></tr>
<tr><td colspan="5">Note: ROG = reactive organic gases, $NO_X$ = 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.<br>* BAAQMD strongly recommends implementing all feasible fugitive dust management practices especially when construction projects are located near sensitive communities, including schools, residential areas, or other sensitive land uses.</td></tr>
</table>

Source: Bay Area Air Quality Management District, 2022

City of South San Francisco 2040 General Plan

Adopted in October 2022, the City of South San Francisco 2040 General Plan includes guiding and implementing policies to reduce exposure of the City's sensitive population to exposure of air pollution, toxic air contaminants, and greenhouse gases.[10] It includes a goal of reaching carbon neutrality by 2045 and has set a target of a 40% reduction in communitywide emissions by 2030. The following goals and policies are applicable to the proposed project:

General Plan Air Quality Policies

*Sub-Areas Element*

*SA-22.5* **Require buffering of residential uses in Lindenville.** Ensure residential land uses are buffered from heavy industrial uses and major roadways via landscaping, street trees, and attractive fences, and walls.

*SA-22.6* **Require small block sizes for new residential neighborhoods.** Where possible, ensure the new residential neighborhood near Colma Creek is developed with small

[10] City of South San Francisco, URL: https://shapessf.com/wp-content/uploads/2022/11/SSFGPU_PDFPlan_FinalPlan_Resolution.pdf

block sizes to facilitate convenient vehicular and pedestrian connections through the neighborhood.

*SA-28.5* **Require sustainable and environmentally sensitive design**. Incorporate sustainable and environmentally sensitive design and equipment, energy conservation features, water conservation measures and drought-tolerant or equivalent landscaping, and sustainable stormwater management features.

*Community Health and Environmental Justice*

CHEJ-3.1 **Support regional efforts to improve air quality and protect human health**.

*Action CHEJ-3.1.1* Monitor air quality in Lindenville, East of 101 and downtown. Work with the Bay Area Air Quality Management District to establish and identify funding for air quality monitoring and reduction strategies. This action may include purchasing particulate matter (PM2.5) monitors to track local air quality data in Lindenville, East of 101, and Downtown.

*CHEJ-3.2* **Reduce mobile source pollution**. Reduce emissions from mobile sources of air pollution, such as diesel-based trucks and vehicles that travel to, from, or through South San Francisco.

*Action CHEJ-3.2.2* **Adopt an ordinance establishing vehicle idling restrictions**. Establish a local ordinance that exceeds the State vehicle idling restrictions where appropriate, including restrictions for bus layovers, delivery vehicles, trucks at warehouses and distribution facilities and taxis, particularly when these activities take place near sensitive land uses (schools, healthcare facilities, affordable housing, and elder and childcare centers). Manage truck idling in new residential neighborhoods in Lindenville and East of 101.

*Community Resilience Element*

*CR-6.1* **Support resilient building design**. Support resilient building design by helping residents weatherize homes to keep them cooler and more energy efficient and to improve indoor air quality.

*CP-3.1.1* **Incentivize energy efficient new construction**. Provide incentives to encourage new construction to exceed California's Building Energy Efficiency Standards outlined in Title 24, Part 6.

*City of South San Francisco Climate Action Plan*

*BNC 1.1* **Improve the energy efficiency of new construction**. Provide a combination of financial and development process incentives (e.g., Expedited permitting, FAR increases, etc.) to encourage new development to exceed Title 24 energy efficiency standard.

*TL 2.2* **TDM Program**. Implement, monitor, and enforce compliance with the City's TDM Ordinance.

*WW 2.1* **Indoor Water Efficiency Standards**. Require high-efficiency fixtures in all new construction and major renovations, comparable to CALGreen Tier 1 or 2 standards.

*Goal CP-1: A Carbon Neutral Community*

*CP-1.1* **Maintain and update the Climate Action Plan**. Maintain and regularly update the City's Climate Action Plan to reduce greenhouse gas (GHG) emissions generated within the City. Ensure the City's GHG emission target is consistent with California's GHG reduction goals in order to be a qualified plan for California Environmental Quality Act (CEQA).

*CP-1.2* **Monitor progress towards carbon neutrality goal.** Track and report progress towards achieving the City's greenhouse gas reduction goal.

*Goal CP-2: A resilient and fossil fuel free energy system*

*CP-2.1* **Maintain Peninsula Clean Energy membership.** Maintain City membership in Peninsula Clean Energy (PCE) and continue to work to maintain a high level of private property owner participation in PCE.

*Goal CP-3: Green buildings are the standard in South San Francisco for new construction and major renovations*

*CP-3.1* **Building code maintenance for new and major renovations (energy efficiency).** Regularly update South San Francisco's building codes to improve the energy performance of new construction and major remodels and to phase in requirements in predictable ways.

*CP-3.4* **Adopt Electric Vehicle charging reach code.** Adopt higher electric vehicle charging requirements than CALGreen for multifamily and nonresidential new construction.

<u>City of South San Francisco - General Plan Update, Zoning Code Amendments, and Climate Action Plan Program EIR</u>

The City's Environmental Impact Report (EIR) addressed air quality impacts associated with land use development in South San Francisco that is consistent with the General Plan Update, zoning code amendments and Climate Action Plan.[11] Air quality impacts and mitigation measures were identified in the EIR. The following mitigation measures from the EIR are applicable to the proposed project.

**MM AIR-1a**: Individual development projects facilitated by the proposed project shall incorporate the following Basic Construction Mitigation Measures recommended by the Bay Area Air Quality Management District (BAAQMD):

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout 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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 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.
- 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 [ATCM] Title 12, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- 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.
- Prior to the commencement of construction activities, individual project proponents shall 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 BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

**MM AIR-1b:** Projects that may result in additional toxic air contaminants (TACs) that are located within 1,000 feet of a sensitive receptor(s) or would place sensitive receptors within 1,000 feet of uses generating TACs, such as roadways with volumes of 10,000 average annual daily trips or greater, shall implement Bay Area Air Quality Management District (BAAQMD) Guidelines and

[11] City of South San Francisco. 2022. *General Plan Update, Zoning Code Amendments, and Climate Action Plan Draft Program EIR* See: https://shapessf.com/wp-content/uploads/2022/09/SSF-GPU-Final-EIR_Combined.pdf

California Office of Environmental Health Hazard Assessment (OEHHA) policies and procedures requiring a Health Risk Assessment (HRA) for residential development and other sensitive receptors.

**MM TRANS-1:** To reduce Vehicle Miles Traveled (VMT), the City shall implement its Transportation Demand Management (TDM) Ordinance as part of the Zoning Code Amendments and parking requirements. The City shall also update its TDM Ordinance and parking requirements every five to ten years and establish an East of 101 Area Trip Cap, to achieve the maximum feasible reductions in vehicle travel. The City shall achieve the performance standards outlined in the TDM Ordinance.

The City shall update its TDM Ordinance every 5 to 10 years to limit Total VMT and Work-Based VMT by incentivizing use of transit and active transportation and disincentivizing auto use. The TDM Ordinance shall cover all development projects generating greater than 100 daily trips, with the most stringent requirements for office/Research and Development (R&D) land uses that disproportionately account for the highest rates of VMT in the City. Development projects shall implement a combination of TDM programs, services, and infrastructure improvements, including but not limited to: establishing trip reduction programs; subsidizing transit and active transportation use; coordinating carpooling and vanpooling; encouraging telecommuting and flexible work schedules; designing site plans to prioritize pedestrian, bicycle, and transit travel; funding first/las mile shuttle services; establishing site-specific trip caps; managing parking supply; and constructing transit and active transportation capital improvements. Developments shall be subject to annual monitoring. The City shall establish an administrative fine structure for developments found to be out of compliance and apply any revenues from fines to infrastructure and services aimed at reducing VMT.

The City shall establish an East of 101 Area Trip Cap to support the monitoring of vehicle trip activity and focus efforts to reduce VMT. The area-wide trip cap shall apply to the high-density employment uses in the East of 101 Area. The City shall conduct annual traffic counts along the cordon area perimeter. Should the trip cap be reached, the City shall consider corrective actions such as: revising mode share targets for projects subject to the TDM Ordinance, identifying new funding measures for TDM services, implementing new vehicle user charges, creating new street connections, or slowing the pace of development approvals within the cordon zone.

The City shall update its parking requirements every 5 to 10 years to align with its TDM Ordinance and East of 101 Area Trip Cap. The City shall establish parking maximums for office/R&D uses to ensure that VMT reduction goals are incorporated into the design of development projects.

## AIR QUALITY IMPACTS AND MITIGATION MEASURES

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

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[12] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. General Plan consistency was evaluated in the DEIR for the *General Plan Update, Zoning Code Amendments, and Climate Action Plan*. A significant and unavoidable impact was identified because VMT would increase at a greater rate than population. Mitigation measures would ensure that certain Clean Air Plan measures are properly implemented so that some projects developed under the General Plan would not have significant air quality impacts.

MM AIR-1a would reduce construction period emissions by requiring individual projects facilitated by the General Plan to incorporate Basic Construction Mitigation Measures recommended by BAAQMD

Because the General Plan does not contain a land use diagram that identifies special overlay zones around existing and planned sources of TACs, MM AIR-1b would be required to ensure that future development would result in less than significant impacts related to exposing sensitive receptors to substantial pollutant concentrations.

To reduce Vehicle Miles Traveled (VMT), MM TRANS-1 requires the City to implement its Transportation Demand Management (TDM) Ordinance as part of the Zoning Code Amendments and parking requirements. The City shall also update its TDM Ordinance and parking requirements every five to ten years and establish an East of 101 Area Trip Cap, to achieve the maximum feasible reductions in vehicle travel. The City shall achieve the performance standards outlined in the TDM Ordinance

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

The Project is consistent with the General Plan. At the project-level, there are no consistency measures or thresholds. Therefore, the project would not conflict with the latest Clean Air planning efforts. Additionally, 1) the Project would have construction emissions below the BAAQMD thresholds (see Impact 2 below), 2) the project would be considered urban infill, and 3) the project would be located near transit with regional connections.

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

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the NAAQS and the CAAQS. The area is also considered non-attainment for $PM_{10}$ under the CAAQS, but not the NAAQS. The area has attained both State and Federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for ozone, $PM_{2.5}$ and $PM_{10}$, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. The ozone precursor pollutant thresholds are for ROG and NOx, while $PM_{10}$, and $PM_{2.5}$ have specific thresholds.

**Construction Period Emissions**

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CalEEMod model output along with construction inputs are included in *Attachment 1*.

<u>CalEEMod Inputs</u>

*Land Use Inputs*

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

**Table 2. Summary of Project Land Use Inputs**

| Project Land Uses | Size | Units | Square Feet (sf) | Acreage |
|---|---|---|---|---|
| Condo/Townhouse | 70 | Dwelling Unit | 155,104* | 2.04 |
| *Includes residential square footage as well as square footage dedicated to each garage. | | | | |

*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 quantities, average hours per day, total number of workdays, and schedule, were based on applicant provided information. According to the project applicant, the earliest possible start date would be January 2026 (included in *Attachment 1)*. The project would be built out over a period of approximately 24 months or 502 construction workdays. The earliest year of operation was assumed to be 2027.

*Construction Truck Traffic Emissions*

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the amount of cement and asphalt truck trips to and from the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The applicant provided demolition and hauling information that indicated no demolition and no soil import/export are expected to occur. The concrete haul trips were provided and the asphalt haul trips were provided and converted to daily one-way trips, assuming two trips per delivery.

Summary of Computed Construction Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 3 shows the annualized average daily construction emissions of ROG, $NO_X$, $PM_{10}$ exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 3, predicted annualized project construction emissions would not exceed the BAAQMD significance thresholds during any year of construction.

**Table 3. Construction Period Emissions - Unmitigated**

| Year | ROG | NOx | $PM_{10}$ Exhaust | $PM_{2.5}$ Exhaust |
|---|---|---|---|---|
| *Construction Emissions Per Year (Tons)* | | | | |
| 2025 | 0.27 | 0.22 | 0.01 | 0.01 |
| 2026 | 0.86 | 0.01 | <0.01 | <0.01 |
| *Average Daily Construction Emissions Per Year (pounds/day)* | | | | |
| 2025 (261 construction workdays) | 2.04 | 1.69 | 0.06 | 0.05 |
| 2026 (241 construction workdays) | 7.14 | 0.08 | <0.01 | <0.01 |
| *BAAQMD Thresholds (pounds per day)* | *54* lbs./day | *54* lbs./day | *82* lbs./day | *54* lbs./day |
| **Exceed Threshold?** | No | No | No | No |

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of $PM_{10}$ and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and considers impacts from dust (i.e., fugitive $PM_{10}$ and $PM_{2.5}$) to be less-than-significant if BMPs are implemented to reduce these emissions.

The project would be required to implement the BMPs recommended by BAAQMD (listed above), which are required by the City's General Plan EIR MM AIR-1a, during all phases of construction to reduce dust and other particulate matter emissions. The City's required BMPs are consistent with BAAQMD-recommended basic BMPs for reducing fugitive dust contained in the BAAQMD CEQA Air Quality Guidelines. For this analysis, only the basic set of BMPs are required as the

Project emissions and $PM_{2.5}$ impacts were below the BAAQMD thresholds. Enhanced BMPs would be required as mitigation if air quality impacts were found to be significant.

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

MM AIR-1b contained in the General Plan EIR addresses exposure of sensitive receptors to TACs and air pollution. Under this mitigation measure, projects that may result in TAC emissions that are located within 1,000 feet of sensitive receptors are required to prepare a Health Risk Assessment (HRA). Based on the results of the HRA, the Project may be required to identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in the HRA are to be included into the site development plan as a component of a proposed project.

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

There are sensitive receptors within 1,000 feet of the project site. Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include any stationary sources. Traffic generated by the project would consist of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions in the local area.

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

**Health Risk Methodology**

Health risk impacts were addressed by predicting increased cancer risk, the increase in annual $PM_{2.5}$ concentrations, and by computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[13] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

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

[13] BAAQMD, Appendix E of the 2022 *BAAQMD CEQA Guidelines*, April 2023

The methodology for computing health risks impacts is contained in Appendix E of the BAAQMD CEQA Guidelines. TAC and $PM_{2.5}$ emissions are calculated, a dispersion model used to estimate ambient pollutant concentrations, and cancer risks and HI calculated using DPM concentrations.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations closest to the project would be present for extended periods of time (i.e., chronic exposures). This includes the nearby residences and children at the Da Hao Preschool, as shown in Figure 1. Residential receptors were assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions, while child receptors were assumed at the Da Hao Preschool. While there are additional sensitive receptors within 1,000 feet of the project site, the receptors chosen are adequate to identify maximum impacts from the project.

**Health Risk from Project Construction**

The primary health risk impact issues associated with construction projects are cancer risks associated with diesel exhaust (i.e., DPM), which is a known TAC, and exposure to high ambient concentrations of dust (i.e., $PM_{2.5}$). DPM poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[14] This assessment included dispersion modeling to predict the offsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be estimated.

Construction Emissions

The CalEEMod model provided total uncontrolled annual $PM_{10}$ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles. Total DPM emissions were estimated to be 0.01 tons (15 pounds) and fugitive dust emissions ($PM_{2.5}$) to be less than 0.01 tons (2 pounds) from all construction stages. The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that the emissions from on-road vehicles traveling at or near the site would occur at the construction site.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[15] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

[14] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[15] BAAQMD, Appendix E of the 2022 *BAAQMD CEQA Guidelines*, April 2023

*Construction Sources*

To represent the construction equipment exhaust emissions, an area source was used with an emission release height of 20 feet (6 meters).[16] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, was based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Figure 1 shows the project construction site and receptors.

*AERMOD Inputs and Meteorological Data*

The modeling used a five-year meteorological data set (2013-2017) from the San Francisco International Airport prepared for use with the AERMOD model by the BAAQMD. Construction emissions were modeled as occurring Monday through Friday between 7:00 a.m. to 3:00 p.m., according to the construction schedule provided by the project applicant. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2025 - 2026 period were calculated at nearby sensitive receptors using the model. Receptor heights of 5 feet (1.5 meters), 15 feet (4.5 meters), and 25 feet (7.6 meters) were used to represent the breathing height on the first through third floors of nearby single- and multi-family residences.[17] Receptor heights of 3 feet (1 meter) was used to represent the breathing height of children at the nearby Da Hao Preschool.

<u>Summary of Construction Health Risk Impacts</u>

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with BAAQMD CEQA guidance for age sensitivity factors and exposure parameters. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing

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

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

TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period, while child exposures were assumed at the Da Hao Preschool.

Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated. The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation DPM reference exposure level of 5 $\mu g/m^3$.

The modeled maximum annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the construction MEI was located on the second floor (15 feet above the ground) at a multi-family residence north of the project site. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 4 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities. *Attachment 2* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Additionally, modeling was conducted to predict cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby Da Hao Preschool. Receptors were placed throughout the preschool. The maximum increased cancer risks were adjusted using child exposure parameters at the preschool. The uncontrolled cancer risk, $PM_{2.5}$ concentration, and HI at the preschool does not exceed their respective BAAQMD single-source significance thresholds, as shown in Table 4.

**Health Risks from Project Operation**

Diesel stationary equipment that could emit substantial TACs (e.g., emergency generators) are not planned for this project. Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. Based on CalEEMod defaults, this project would generate 512 daily trips with a majority of the trips being from light-duty gasoline-powered vehicles (i.e., passenger cars). The project is not anticipated to generate large amounts of truck trips that would involve diesel vehicles. In addition, projects with the potential to cause or contribute to increased cancer risk from traffic include those that have high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for mobile sources. Emissions from project traffic are considered negligible and not included within this analysis.

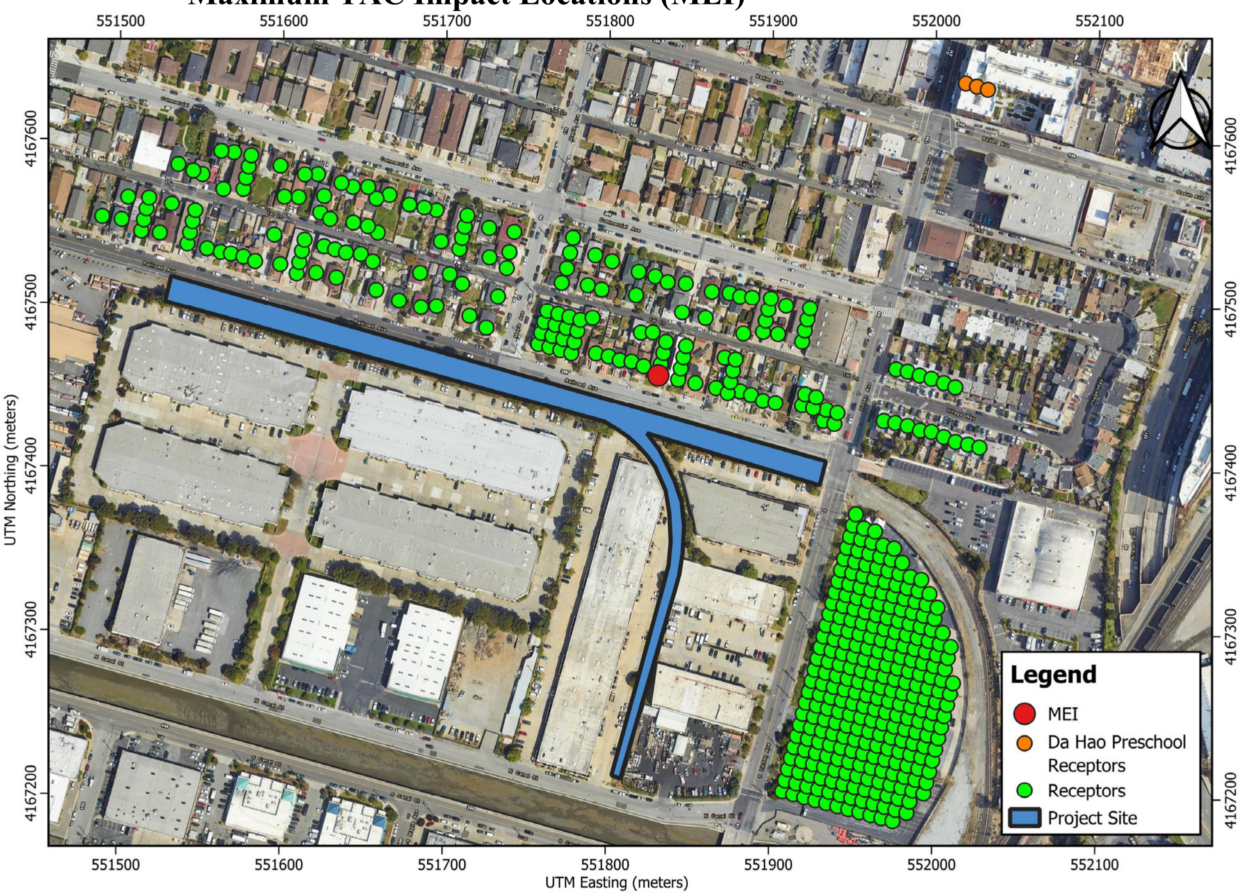
**Summary of Project-Related Health Risks at the Off-Site Project MEI**

For this project, the sensitive receptors identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to project emissions from 24 months of construction. The annual $PM_{2.5}$ concentration and HI values are based on an annual maximum risk for the entirety of the project. As shown in Table 4, none of the BAAQMD significance thresholds are exceeded by the project.

| Source | | Cancer Risk (per million) | Annual $PM_{2.5}$ ($\mu g/m^3$) | Hazard Index |
|---|---|---|---|---|
| Project Construction | Unmitigated | 1.23 (infant) | 0.01 | <0.01 |
| | ***BAAQMD Single-Source Threshold*** | ***>10.0*** | ***>0.3*** | ***>1.0*** |
| *Exceed Threshold?* | Unmitigated | *No* | *No* | *No* |
| **Da Hao Preschool** | | | | |
| Project Construction | Unmitigated | 0.03 (child) | <0.01 | <0.01 |
| | ***BAAQMD Single-Source Threshold*** | ***>10.0*** | ***>0.3*** | ***>1.0*** |
| *Exceed Threshold?* | Unmitigated | *No* | *No* | *No* |

**Table 4. Construction Risk Impacts at the Off-Site Receptors**

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

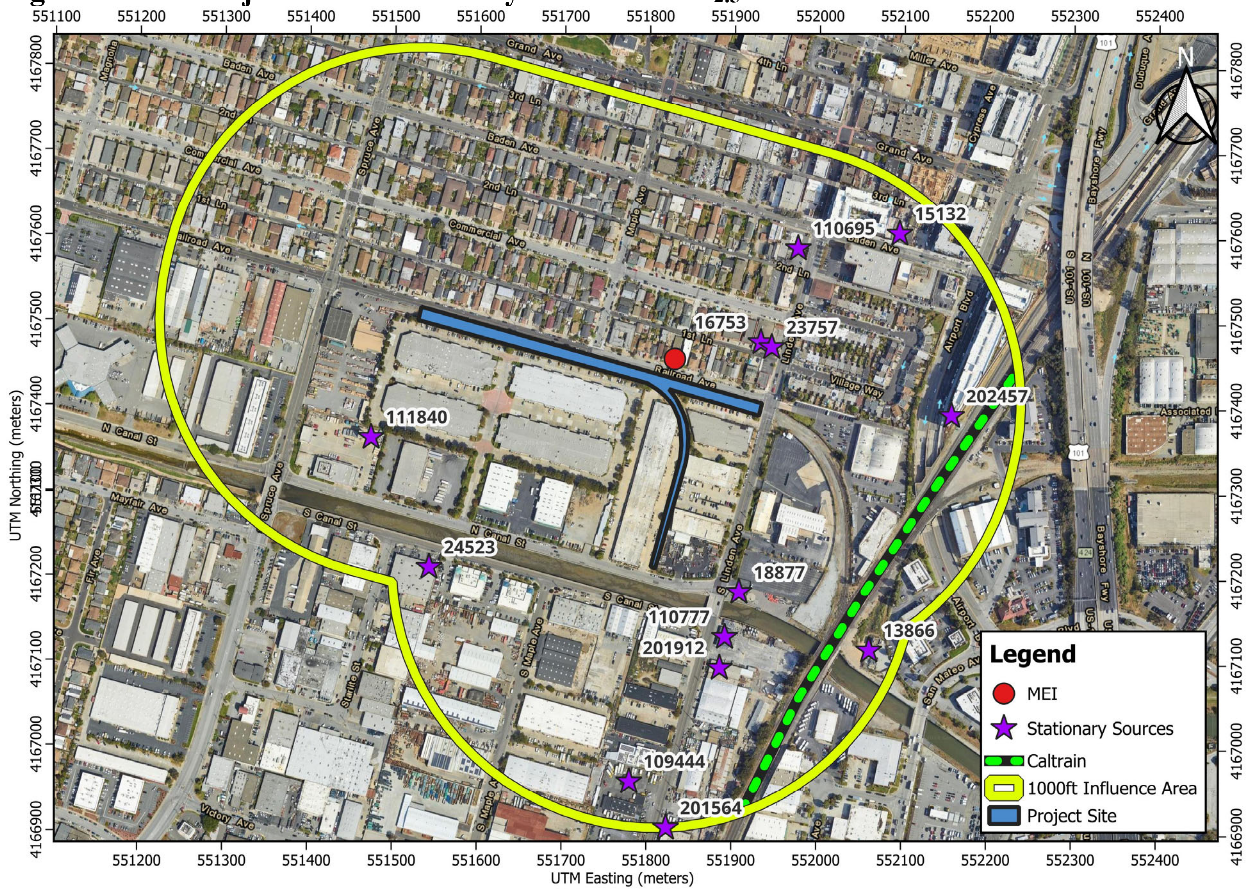



## Cumulative Health Risks of all TAC Sources at the Off-Site Project MEI

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

A review of the project area using BAAQMD's geographic information systems (GIS) screening maps identified the existing health risks from a nearby roadway, railway, and stationary sources at the MEI. Thirteen existing stationary sources, multiple nearby roadways, and one railway were identified as TAC sources with the potential to affect the project MEI. Figure 2 shows the sources affecting the MEI. Health risk impacts from these sources upon the MEI are reported in Table 5. Details of the cumulative screening, modeling, and health risk calculations are included in *Attachment 3*.

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




<u>Local Nearby Roadways</u>

The project site is located near multiple intersecting streets. Cancer risk, $PM_{2.5}$ concentrations, and HI associated with traffic on the nearby roadways were estimated using BAAQMD screening values provided via GIS data files (i.e., raster files).[18] BAAQMD raster files provide screening-level cancer risk, $PM_{2.5}$ concentrations, and HI for roadways within the Bay Area and were produced using AERMOD and 20x20-meter emissions grid. The raster file uses EMFAC2021 data for vehicle emissions and fleet mix for roadways and includes Appendix E of the Air District's CEQA Air Quality Guidance for risk assessment assumptions. These estimates represent conservative risks reflective of 2022 conditions and are meant to provide a conservative estimate of future conditions, which do not reflect the increased proportion of zero emission motor vehicles that will result in lower future emissions.[19] These screening values are considered higher than

[18] BAAQMD, *Health Risk Screening and Modeling*, 2022. Web: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/health-risk-screening-and-modeling
[19] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E, Section 9. April 2023.

values that would be obtained with refined modeling methods. These raster data are based on region-wide emissions rather than just those that occur within 1,000 feet of the project. More information regarding the assumptions used to develop the screening layers can be found in Sections 6 and 7 in Appendix E of BAAQMD's 2022 CEQA guidance.[20] Screening-level cancer risk, $PM_{2.5}$ concentration, and HI for the cumulative roadway impacts at the construction MEI are listed in Table 5.

Local Railways - Caltrain

The project site is located near the Caltrain rail lines, about 700 feet southeast of the eastern side of the project site. Rail activity on these lines currently generates TAC and $PM_{2.5}$ emissions from locomotive exhaust. These rail lines are used primarily for Caltrain passenger service; however, there is some freight service by trains using diesel-fueled locomotives. The Caltrain analysis for this project is taken from the air quality analysis and report performed by *Illingworth & Rodkin, Inc.* for a nearby project located at 7 South Linden Avenue.[21] The railway analysis in that report was based on an MEI receptor that was adjacent to the east (downwind) of the Caltrain line with an exposure period beginning in 2023. For this analysis, the rail exposure period was assumed to begin in 2025 with a 30-year exposure period per BAAQMD health risk guidance.[22] In this case, the exposure period at this project's MEI would be from 2025 – 2054, which includes the majority of the Caltrain fleet being electrified.[23]

The DPM concentration from the 7 South Linden Avenue MEI receptor for the year 2025 was assumed to occur at this project's MEI receptor for the entire exposure period. This is a conservative assumption since the MEI for this project is much further away from the railway and is upwind instead of downwind of the railway. The calculated cancer risks, annual $PM_{2.5}$ concentration, and hazard index from Caltrain at this project's MEI are listed in Table 5. *Attachment 3* includes the railway emissions and risk calculations.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2022* GIS website,[24] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for OEHHA guidance. Thirteen sources were identified using this tool, six generic sources, four gas dispensing facilities, and three emergency diesel generators. The BAAQMD GIS website provided screening risks and hazards for the generic source and diesel

[20] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E. April 2023. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?la=en

[21] City of South San Francisco, URL: https://ci-ssf-ca.legistar.com/View.ashx?M=F&ID=11706706&GUID=D1397A47-1115-4176-B21B-0C636FC88547

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

[23] Caltrain, 2021. *Caltrain Electrification Delayed to 2024*. June 3, 2021. See: *www.caltrain.com/about/MediaRelations/news/Caltrain_Electrification_Delayed_to_2024.html*

[24] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3

generators. A stationary source information request was submitted to BAAQMD in order to estimate health risk impacts from the gasoline dispensing facilities.[25]

The screening risk and hazard levels provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Generic Sources and Diesel Internal Combustion Engines* and CARB's *Gasoline Station Risk Screening Tool.* BAAQMD provided the gasoline throughputs for each gas dispensing facility near the project site.[26] The provided throughputs along with the distance between the MEI and the gas dispensing facility, and the region for each gas station was input into the CARB tool to calculate the cancer risk and hazard index. Health risk impacts from the stationary sources upon the MEI are reported in Table 5.

Nearby Land Use Development Projects

Based on the City's website,[27] the following planned or approved projects are located within 1,000 feet of the proposed project:

**7 South Linden Avenue** – This residential development is located at 7 S. Linden Avenue and is approximately 100 feet southeast of the eastern portion of the project site. The development is intending to build a five-story residential building with 588 apartments. The project was entitled in March of 2023. For this analysis, it was assumed that the 7 S. Linden Avenue project would be fully constructed and occupied prior to the start of construction of this proposed project. As a result, the risk impacts on this project's MEI from that project are not included in this analysis.

**423 Commercial Avenue** – The project located at 423 Commercial Avenue is a three-story residential project that would build four rental townhomes. The 423 Commercial Avenue project is located approximately 550 feet north of the project site. The project was entitled in December of 2019.**Error! Bookmark not defined.** For this project, it was assumed that the 423 Commercial Avenue project would be fully constructed and occupied prior to the start of construction of this proposed project. As a result, the risk impacts on this project's MEI from that project are not included in this analysis.

**428 Baden Avenue –** The project located at 428 – 432 Baden Avenue is a four-story residential project that would building 36 rental units. The 432 Baden Avenue project is located approximately 750 feet north of the project site. The project was entitled in August of 2020.**Error! Bookmark not defined.** For this project, it is assumed that the 432 Baden Avenue project would be fully constructed and occupied prior to the start of construction of this proposed project. As a result, the risk impacts on this project's MEI from that project are not included in this analysis.

**205 Baden Avenue** – The project located at 205 Baden Avenue is a repurposing of the Old Fire House to accommodate office and commercial uses. The 205 Baden Avenue project is located approximately 650 feet northeast of the project site. The project was entitled in November of

[25] Correspondence with BAAQMD CEQA, February 26, 2024.
[26] Email from BAAQMD, March 27, 2024. Subject: "RE_ Public Records Number 2024-02-0179 Stationary Source Request for 24-025 500 Railroad Ave_ SSF SSIF".
[27] South San Francisco Development and Construction Map, URL: https://construction.ssf.net/#

2022.**Error! Bookmark not defined.** For this analysis, it is assumed that the construction work at the 205 Baden Avenue project site will be completed prior to the start of construction for this project. As a result, the risk impacts on this project's MEI from that project are not included in this analysis.

Summary of Cumulative Risks at the Project MEI

Table 5 reports both the project and cumulative health risk impacts at the sensitive receptors most affected by project construction (i.e., the MEIs). None of the BAAQMD single-source or cumulative-source thresholds are exceeded by the project.

**Table 5. Cumulative Health Risk Impacts at the Project MEI**

| Source | | Cancer Risk (per million) | Annual $PM_{2.5}$ ($\mu g/m^3$) | Hazard Index |
|---|---|---|---|---|
| **Project Impacts** | | | | |
| Project Construction | Unmitigated | 1.23 (infant) | 0.01 | <0.01 |
| ***BAAQMD Single-Source Threshold*** | | ***>10.0*** | ***>0.3*** | ***>1.0*** |
| *Exceed Threshold?* | Unmitigated | *No* | *No* | *No* |
| **Cumulative Impacts** | | | | |
| Cumulative Roadways – BAAQMD Raster | | 6.80 | 0.18 | 0.02 |
| Caltrain | | 0.67 | <0.01 | <0.01 |
| NOD Auto Body Shop, Inc. (Facility ID #15132, Generic Source), MEI at 970 feet. | | 0.00 | 0.00 | 0.00 |
| City of SSF Water Quality Plant (Facility ID #13866, Generator), MEI at 1000+ feet. | | 0.83 | <0.01 | <0.01 |
| South San Francisco Water Quality (Facility ID #16753, Generator), MEI at 940 feet. | | 0.36 | <0.01 | <0.01 |
| E & S Auto Collision, Inc. (Facility ID #18877, Generic Source), MEI at 305 feet. | | 0.00 | 0.00 | <0.01 |
| Altitude Apartments (Facility ID #202457, Generator), MEI at 1000+ feet. | | 1.10 | <0.01 | <0.01 |
| Starlite/Canal Building LLC (Facility ID #24523, Generic Source), MEI at 1000+ feet. | | <0.01 | 0.00 | 0.00 |
| Transform Auto Body (Facility ID #23757, Generic Source), MEI at 185 feet. | | 0.00 | 0.00 | 0.00 |
| Bayside Collision Center (Facility ID #201564, Generic Source), MEI at 1000+ feet. | | 0.00 | 0.00 | 0.00 |
| Lindenville Auto Body Center, Inc. (Facility ID #201912, Generic Source), MEI at 1000+ feet. | | 0.00 | 0.00 | 0.00 |
| Penske Truck Leasing (Facility ID #109444, Gas Dispensing Facility), MEI at 1000+ feet. | | 0.05 | 0.00 | 0.01 |
| South City Shell (Facility ID #110695, Gas Dispensing Facility), MEI at 635 feet. | | 0.76 | 0.00 | 0.11 |
| Speedway #4874 (Facility ID #110777, Gas Dispensing Facility), MEI at 1000+ feet. | | 0.76 | 0.00 | 0.02 |
| South San Francisco Fire Dept (Facility ID #111840, Gas Dispensing Facility), MEI at 1000+ feet. | | 0.08 | 0.00 | 0.01 |
| *Combined Sources* | Unmitigated | <12.65 | <0.23 | <0.23 |
| ***BAAQMD Cumulative Source Threshold*** | | ***>100*** | ***>0.8*** | ***>10.0*** |
| ***Exceed Threshold?*** | Unmitigated | *No* | *No* | *No* |

**Non-CEQA: On-site Health Risk Assessment of TAC Sources - New Project Receptors**

South San Francisco's *General Plan Update, Zoning Code Amendments, and Climate Action Plan* addresses the exposure of sensitive receptors to substantial levels of air pollutants or TACs:

Policy CHEJ-3.5 Discourage development of sensitive uses near sources of pollution. Discourage the development of sensitive land uses (schools, healthcare facilities, and elder and childcare centers) within 500 feet of highways and stationary sources of pollution. For sensitive land uses that cannot be sited at least 500 feet away, potential design mitigation actions include:

- Locate air intake systems for heating, ventilation, and air conditioning (HVAC) systems as far away from existing air pollution sources as possible.
- Using high-efficiency particulate matter (HEPA) filters in the HVAC system and develop a maintenance plan to ensure the filtering system is properly maintained.
- For non-residential buildings, consider utilizing only fixed windows next to any existing sources of pollution.
- Plant landscape barriers between highways and residential areas to reduce noise and air pollution from residents.

The DEIR for the *General Plan Update, Zoning Code Amendments, and Climate Action Plan* identified MM AIR-1b to address potential exposure of new sensitive place sensitive receptors within 1,000 feet of uses generating TACs, such as roadways with volumes of 10,000 average annual daily trips or greater. This mitigation measure requires General Plan projects to prepare a health risk assessment that identifies potential impacts, and if necessary, identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards.

A health risk assessment was completed to determine the impact that existing air pollutant and TAC sources would have on the new proposed sensitive receptors (residents) that the project would introduce. The same TAC sources identified above were used in this health risk assessment.[28]

<u>Local Roadways – Nearby Roadways</u>

The roadway screening impacts were conducted in the same manner as described above for the cumulative analysis. Table 6 includes the health risk screening results for the nearby roadways at the project site.

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[28] 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.

Local Railways – Caltrain

The railway analysis was conducted in the same manner as described above for the cumulative analysis. However, the 30-year exposure period was adjusted to start in the year 2027 when the project buildings would first be occupied. Table 6 shows the health risk impacts for Caltrain at the project site.

Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for the cumulative analysis. Table 6 shows the health risk impacts for the stationary sources on the project sensitive receptors.

Summary of Cumulative Health Risks at the Project Site

Health risk impacts from the existing TAC sources upon the project site are reported in Table 6. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. The risks from all the sources are then combined and compared against the BAAQMD cumulative-source threshold. As shown, none of the sources exceed the single-source or cumulative-source thresholds.

**Table 6. Impacts from Combined Sources to Project Site Receptors**

| Source | Cancer Risk (per million) | Annual $PM_{2.5}$ ($\mu g/m^3$) | Hazard Index |
|---|---|---|---|
| Cumulative Roadways – BAAQMD Raster | 8.74 | 0.20 | 0.03 |
| Caltrain | 0.67 | <0.01 | <0.01 |
| NOD Auto Body Shop, Inc. (Facility ID #15132, Generic Source), MEI at 805 feet. | 0.00 | 0.00 | 0.00 |
| City of SSF Water Quality Plant (Facility ID #13866, Generator), MEI at 870 feet. | 1.04 | <0.01 | <0.01 |
| South San Francisco Water Quality (Facility ID #16753, Generator), MEI at 330 feet. | 1.96 | <0.01 | <0.01 |
| E & S Auto Collision, Inc. (Facility ID #18877, Generic Source), MEI at 190 feet. | 0.00 | 0.00 | <0.01 |
| Altitude Apartments (Facility ID #202457, Generator), MEI at 705 feet. | 2.21 | <0.01 | <0.01 |
| Starlite/Canal Building LLC (Facility ID #24523, Generic Source), MEI at 805 feet. | 0.00 | 0.00 | 0.00 |
| Transform Auto Body (Facility ID #23757, Generic Source), MEI at 380 feet. | 0.00 | 0.00 | 0.00 |
| Bayside Collision Center (Facility ID #201564, Generic Source), MEI at 1000 feet. | 0.00 | 0.00 | 0.00 |
| Lindenville Auto Body Center, Inc. (Facility ID #201912, Generic Source), MEI at 390 feet. | 0.00 | 0.00 | 0.00 |
| Penske Truck Leasing (Facility ID #109444, Gas Dispensing Facility), MEI at 820 feet. | 0.08 | 0.00 | 0.03 |
| South City Shell (Facility ID #110695, Gas Dispensing Facility), MEI at 605 feet. | 0.76 | 0.00 | 0.11 |
| Speedway #4874 (Facility ID #110777, Gas Dispensing Facility), MEI at 380 feet. | 5.47 | 0.00 | 0.32 |
| South San Francisco Fire Dept (Facility ID #111840, Gas Dispensing Facility), MEI at 500 feet. | 0.35 | 0.00 | 0.13 |
| ***BAAQMD Single-Source Threshold*** | ***>10.0*** | ***>0.3*** | ***>1.0*** |
| *Exceed Threshold?* | *No* | *No* | *No* |
| Cumulative Total | 21.28 | <0.24 | <0.67 |
| ***BAAQMD Cumulative Source Threshold*** | ***>100*** | ***>0.8*** | ***>10.0*** |
| *Exceed Threshold?* | *No* | *No* | *No* |

## Supporting Documentation

*Attachment 1* includes the CalEEMod output for project construction criteria air pollutant emissions. Also included are any modeling assumptions.

*Attachment 2* includes the construction health risk assessment. AERMOD dispersion modeling files for these assessments, which are quite voluminous, are available upon request and would be provided in digital format.

*Attachment 3* includes the cumulative health risk screening, calculations, and modeling results from sources affecting the MEI and project receptors.

## Attachment 1: CalEEMod Modeling Inputs and Outputs

# Air Quality/Noise Construction Information Data Request

**Project Name:** **The Gateway Townhouse Project (500 Railroad Avenue)**

**Complete ALL Portions in Yellow**

See Equipment Type TAB for type, horsepower and load factor

| | | | | |
|---|---|---|---|---|
| **Project Size** | 70 | **Dwelling Units** | | **total project acres disturbed** |
| | | **s.f. residential** | | |
| | 0 | **s.f. retail** | | |
| | 0 | **s.f. office/commercial** | | |
| | 0 | **s.f. other, specify:** | | |
| | | **s.f. parking garage** | | **spaces** |
| | 0 | **s.f. parking lot** | | **spaces** |
| **Construction Days (i.e, M-F)** | **Monday** | **to** | **Friday** | |
| **Construction Hours** | **7 am** | **to** | **3 pm** | |

**Pile Driving?NO**

**Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? Y/N?NO**

**IF YES (if BOTH separate values) -->**

**Kilowatts/Horsepower: _________**

**Fuel Type: ____________**

**Location in project (Plans Desired if Available):**

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

| Quantity | Description | HP | Load Factor | Hours/day | Total Work Days | Avg. Hours per day | HP Annual Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| | **Demolition** | **Start Date:** | **1/1/2025** | **Total phase:** | **22** | | | **Overall Import/Export Volumes** |
| | | **End Date:** | **2/1/2025** | | | | | |
| 0 | Concrete/Industrial Saws | 81 | 0.73 | | | 0 | 0 | **Demolition Volume** |
| 1 | Excavators | 158 | 0.38 | 5 | 15 | 3.40909091 | 4503 | Square footage of buildings to be demolished |
| 0 | Rubber-Tired Dozers | 247 | 0.4 | | | 0 | 0 | (*or* total tons to be hauled) |
| 0 | Tractors/Loaders/Backhoes | 97 | 0.37 | | | 0 | 0 | _?_ square feet *or* |
| | *Other Equipment?* | | | | | | | _?_ Hauling volume (tons) 0 |
| | | | | | | | | Any pavement demolished and hauled? _NO_ tons |
| | **Site Preparation** | **Start Date:** | **2/1/2025** | **Total phase:** | **10** | | | |
| | | **End Date:** | **2/14/2025** | | | | | |
| 0 | Graders | 187 | 0.41 | | | 0 | 0 | |
| 0 | Rubber Tired Dozers | 247 | 0.4 | | | 0 | 0 | |
| 1 | Tractors/Loaders/Backhoes | 97 | 0.37 | 6 | 10 | 6 | 2153 | |
| | *Other Equipment?* | | | | | | | |
| | **Grading / Excavation** | **Start Date:** | **2/14/2025** | **Total phase:** | **15** | | | |
| | | **End Date:** | **3/7/2025** | | | | | **Soil Hauling Volume** |
| 1 | Excavators | 158 | 0.38 | 5 | 10 | 3.33333333 | 3002 | Export volume = _0_ cubic yards? |
| 0 | Graders | 187 | 0.41 | | | 0 | 0 | Import volume = _0_ cubic yards? |
| 0 | Rubber Tired Dozers | 247 | 0.4 | | | 0 | 0 | |
| 0 | Concrete/Industrial Saws | 81 | 0.73 | | | 0 | 0 | |
| 1 | Tractors/Loaders/Backhoes | 97 | 0.37 | 6 | 10 | 4 | 2153 | |
| | *Other Equipment?* | | | | | | | |
| | **Trenching/Foundation** | **Start Date:** | **2/14/2025** | **Total phase:** | **15** | | | |
| | | **End Date:** | **3/7/2025** | | | | | |
| 1 | Tractor/Loader/Backhoe | 97 | 0.37 | 5 | 10 | 3.33333333 | 1795 | |
| 1 | Excavators | 158 | 0.38 | 5 | 10 | 3.33333333 | 3002 | |
| | *Other Equipment?* | | | | | | | |
| | **Building - Exterior** | **Start Date:** | **3/10/2025** | **Total phase:** | **180** | | | **Cement Trucks? _25_ Total Round-Trips 25** |
| | | **End Date:** | **11/28/2025** | | | | | |
| 1 | Cranes | 231 | 0.29 | 6 | 80 | 2.66666667 | 32155 | Electric? YES ___ Otherwise assumed diesel |
| 1 | Forklifts | 89 | 0.2 | 4 | 100 | 2.22222222 | 7120 | Liquid Propane (LPG)? YES) ___ Otherwise Assumed diesel |
| 0 | Generator Sets | 84 | 0.74 | | | 0 | 0 | Or temporary line power?YES |
| 1 | Tractors/Loaders/Backhoes | 97 | 0.37 | 1 | 25 | 0.13888889 | 897 | |
| 2 | Welders | 46 | 0.45 | 2 | 60 | 0.66666667 | 4968 | |
| | *Other Equipment?* | | | | | | | |
| **Building - Interior/Architectural Coating** | | **Start Date:** | **10/1/2025** | **Total phase:** | **307** | | | |
| | | **End Date:** | **12/31/2026** | | | | | |
| 1 | Air Compressors | 78 | 0.48 | 0.5 | 200 | 0.3257329 | 3744 | |
| 1 | Aerial Lift | 62 | 0.31 | 0.25 | 150 | 0.12214984 | 721 | |
| | *Other Equipment?* | | | | | | | |
| | **Paving** | **Start Date:** | **11/3/2025** | **Total phase:** | **38** | | | |
| | | **Start Date:** | **12/31/2025** | | | | | |
| 0 | Cement and Mortar Mixers | 9 | 0.56 | | | 0 | 0 | |
| 0 | Pavers | 130 | 0.42 | | | 0 | 0 | **Asphalt? 300 cubic yards or 10_ round trips?** |
| 1 | Paving Equipment | 132 | 0.36 | 4 | 5 | 0.52631579 | 950 | |
| 1 | Rollers | 80 | 0.38 | 4 | 5 | 0.52631579 | 608 | |
| 1 | Tractors/Loaders/Backhoes | 97 | 0.37 | 4 | 5 | 0.52631579 | 718 | |
| | *Other Equipment?* | | | | | | | |
| | **Additional Phases** | **Start Date:** | | **Total phase:** | | | | |
| | | **Start Date:** | | | | | | |
| | | | | | | #DIV/0! | 0 | |
| | | | | | | #DIV/0! | 0 | |
| | | | | | | #DIV/0! | 0 | |
| | | | | | | #DIV/0! | 0 | |
| | | | | | | #DIV/0! | 0 | |

**Equipment types listed in "Equipment Types" worksheet tab.**

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

**Complete one sheet for each project component**

It is assumed that water trucks would be used during grading

**Add or subtract phases and equipment, as appropriate**

**Modify horsepower or load factor, as appropriate**

| Construction Criteria Air Pollutants | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Unmitigated* | ROG | NOX | PM10 Exhaust | PM2.5 Exhaust | PM2.5 Fugitive | **CO2e** | |
| Year | Tons | | | | | MT | |
| Construction Equipment | | | | | | | |
| 2025 | 0.27 | 0.22 | 0.01 | 0.01 | 0.01 | 97.00 | |
| 2026 | 0.86 | 0.01 | 0.0002 | 0.0001 | 0.00 | 9.59 | |
| | *Total Construction Emissions* | | | | | | |
| Tons | 1.13 | 0.23 | 0.01 | 0.01 | | 106.58 | |
| Pounds/Workdays | *Average Daily Emissions* | | | | | Workdays | |
| 2025 | 2.04 | 1.69 | 0.06 | 0.05 | | | **261** |
| 2026 | 7.14 | 0.08 | 0.001 | 0.001 | | | **241** |
| **Threshold - lbs/day** | **54.0** | **54.0** | **82.0** | **54.0** | | | |
| | *Total Construction Emissions* | | | | | | |
| Pounds | 2251.08 | 461.43 | 15.04 | 13.88 | | 0.00 | |
| Average | 4.48 | 0.92 | 0.03 | 0.03 | | 0.00 | 502.00 |
| **Threshold - lbs/day** | **54.0** | **54.0** | **82.0** | **54.0** | | | |

# 24-025 500 Railroad Ave, South San Francisco BMPs T4i 2027 Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 24-025 500 Railroad Ave, South San Francisco BMPs T4i 2027 |
| Construction Start Date | 1/1/2025 |
| Operational Year | 2027 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 4.60 |
| Precipitation (days) | 37.8 |
| Location | 500 Railroad Ave, South San Francisco, CA 94080, USA |
| County | San Mateo |
| City | South San Francisco |
| Air District | Bay Area AQMD |
| Air Basin | San Francisco Bay Area |
| TAZ | 1292 |
| EDFZ | 1 |
| Electric Utility | Peninsula Clean Energy |
| Gas Utility | Pacific Gas & Electric |
| App Version | 2022.1.1.28 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 70.0 | Dwelling Unit | 2.04 | 155,104 | 0.00 | — | 202 | — |

## 1.3. User-Selected Emission Reduction Measures by Emissions Sector

| Sector | # | Measure Title |
|---|---|---|
| Construction | C-5 | Use Advanced Engine Tiers |

# 2. Emissions Summary

## 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 7.15 | 2.10 | 0.07 | 0.48 | 0.55 | 0.07 | 0.11 | 0.18 | 1,080 |
| Mit. | 7.14 | 1.71 | 0.02 | 0.48 | 0.49 | 0.02 | 0.11 | 0.13 | 1,080 |
| % Reduced | < 0.5% | 19% | 74% | — | 10% | 73% | — | 27% | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 7.50 | 2.56 | 0.09 | 0.63 | 0.71 | 0.08 | 0.15 | 0.23 | 1,300 |
| Mit. | 7.35 | 2.91 | 0.04 | 0.63 | 0.65 | 0.03 | 0.15 | 0.17 | 1,300 |
| % Reduced | 2% | -14% | 62% | — | 8% | 61% | — | 23% | — |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 4.71 | 1.21 | 0.04 | 0.26 | 0.30 | 0.04 | 0.06 | 0.10 | 586 |
| Mit. | 4.71 | 1.04 | 0.01 | 0.26 | 0.27 | 0.01 | 0.06 | 0.07 | 586 |
| % Reduced | < 0.5% | 14% | 71% | — | 10% | 69% | — | 26% | — |
| Annual (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.86 | 0.22 | 0.01 | 0.05 | 0.05 | 0.01 | 0.01 | 0.02 | 97.0 |
| Mit. | 0.86 | 0.19 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.01 | 97.0 |
| % Reduced | < 0.5% | 14% | 71% | — | 10% | 69% | — | 26% | — |

## 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — |
| 2025 | 0.31 | 2.10 | 0.07 | 0.48 | 0.55 | 0.07 | 0.11 | 0.18 | 1,080 |
| 2026 | 7.15 | 0.08 | < 0.005 | 0.08 | 0.08 | < 0.005 | 0.02 | 0.02 | 91.4 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — |
| 2025 | 7.50 | 2.56 | 0.09 | 0.63 | 0.71 | 0.08 | 0.15 | 0.23 | 1,300 |
| 2026 | 7.14 | 0.08 | < 0.005 | 0.08 | 0.08 | < 0.005 | 0.02 | 0.02 | 87.5 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| 2025 | 1.46 | 1.21 | 0.04 | 0.26 | 0.30 | 0.04 | 0.06 | 0.10 | 586 |
| 2026 | 4.71 | 0.05 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.01 | 57.9 |
| Annual | — | — | — | — | — | — | — | — | — |
| 2025 | 0.27 | 0.22 | 0.01 | 0.05 | 0.05 | 0.01 | 0.01 | 0.02 | 97.0 |
| 2026 | 0.86 | 0.01 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 9.59 |

## 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — |
| 2025 | 0.18 | 1.71 | 0.02 | 0.48 | 0.49 | 0.02 | 0.11 | 0.13 | 1,080 |
| 2026 | 7.14 | 0.09 | < 0.005 | 0.08 | 0.09 | < 0.005 | 0.02 | 0.02 | 91.4 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — |
| 2025 | 7.35 | 2.91 | 0.04 | 0.63 | 0.65 | 0.03 | 0.15 | 0.17 | 1,300 |
| 2026 | 7.14 | 0.10 | < 0.005 | 0.08 | 0.09 | < 0.005 | 0.02 | 0.02 | 87.5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Average Daily | — | — | — | — | — | — | — | — | — |
| 2025 | 1.38 | 1.04 | 0.01 | 0.26 | 0.27 | 0.01 | 0.06 | 0.07 | 586 |
| 2026 | 4.71 | 0.06 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.01 | 57.9 |
| Annual | — | — | — | — | — | — | — | — | — |
| 2025 | 0.25 | 0.19 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.01 | 97.0 |
| 2026 | 0.86 | 0.01 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 9.59 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.66 | 0.87 | 0.02 | 2.74 | 2.76 | 0.02 | 0.70 | 0.71 | 3,325 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.29 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 3,184 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.30 | 0.85 | 0.01 | 2.40 | 2.41 | 0.01 | 0.61 | 0.62 | 2,902 |
| Annual (Max) | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.97 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 480 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Mobile | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |
| Area | 4.27 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.66 | 0.87 | 0.02 | 2.74 | 2.76 | 0.02 | 0.70 | 0.71 | 3,325 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Mobile | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Area | 3.92 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.29 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 3,184 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Mobile | 1.21 | 0.83 | 0.01 | 2.40 | 2.41 | 0.01 | 0.61 | 0.62 | 2,532 |
| Area | 4.09 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.25 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.30 | 0.85 | 0.01 | 2.40 | 2.41 | 0.01 | 0.61 | 0.62 | 2,902 |
| Annual | — | — | — | — | — | — | — | — | — |
| Mobile | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |
| Area | 0.75 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 41.6 |
| Water | — | — | — | — | — | — | — | — | 2.32 |
| Waste | — | — | — | — | — | — | — | — | 16.2 |
| Refrig. | — | — | — | — | — | — | — | — | 0.18 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Total | 0.97 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 480 |

## 2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Mobile | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |
| Area | 4.27 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.66 | 0.87 | 0.02 | 2.74 | 2.76 | 0.02 | 0.70 | 0.71 | 3,325 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Mobile | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Area | 3.92 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.29 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 3,184 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Mobile | 1.21 | 0.83 | 0.01 | 2.40 | 2.41 | 0.01 | 0.61 | 0.62 | 2,532 |
| Area | 4.09 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.25 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 251 |
| Water | — | — | — | — | — | — | — | — | 14.0 |
| Waste | — | — | — | — | — | — | — | — | 97.8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Refrig. | — | — | — | — | — | — | — | — | 1.11 |
| Total | 5.30 | 0.85 | 0.01 | 2.40 | 2.41 | 0.01 | 0.61 | 0.62 | 2,902 |
| Annual | — | — | — | — | — | — | — | — | — |
| Mobile | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |
| Area | 0.75 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |
| Energy | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 41.6 |
| Water | — | — | — | — | — | — | — | — | 2.32 |
| Waste | — | — | — | — | — | — | — | — | 16.2 |
| Refrig. | — | — | — | — | — | — | — | — | 0.18 |
| Total | 0.97 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 480 |

# 3. Construction Emissions Details

## 3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.35 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 60.6 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 3.65 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.60 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | 19.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.19 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.20 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.47 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 60.6 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.03 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 3.65 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.60 |
| Demolition | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | 19.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.19 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.20 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.08 | 0.83 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | 219 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.99 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.99 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | 19.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.54 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.09 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.4. Site Preparation (2025) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.88 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 219 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | < 0.005 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.99 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.99 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | 19.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.54 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.09 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.90 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | 205 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 8.42 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.39 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 39.4 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.63 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.27 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 1.05 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | 205 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 8.42 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.39 |
| Dust From Material Movement | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 39.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.63 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.27 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Building Construction (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 1.67 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | 414 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 1.67 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | 414 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.82 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | 204 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.15 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 33.8 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.09 | 0.00 | 0.42 | 0.42 | 0.00 | 0.10 | 0.10 | 418 |
| Vendor | 0.01 | 0.31 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.02 | 226 |
| Hauling | < 0.005 | 0.03 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 23.2 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.12 | 0.00 | 0.42 | 0.42 | 0.00 | 0.10 | 0.10 | 397 |
| Vendor | 0.01 | 0.32 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.02 | 225 |
| Hauling | < 0.005 | 0.04 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 23.2 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | 197 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vendor | < 0.005 | 0.16 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | 111 |
| Hauling | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 11.4 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 32.6 |
| Vendor | < 0.005 | 0.03 | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 18.4 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 1.89 |

## 3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 1.28 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | 414 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 1.28 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | 414 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.63 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 204 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.12 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 33.8 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.09 | 0.00 | 0.42 | 0.42 | 0.00 | 0.10 | 0.10 | 418 |
| Vendor | 0.01 | 0.31 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.02 | 226 |
| Hauling | < 0.005 | 0.03 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 23.2 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.12 | 0.00 | 0.42 | 0.42 | 0.00 | 0.10 | 0.10 | 397 |
| Vendor | 0.01 | 0.32 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.02 | 225 |
| Hauling | < 0.005 | 0.04 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 23.2 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | 197 |
| Vendor | < 0.005 | 0.16 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | 111 |
| Hauling | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 11.4 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 32.6 |
| Vendor | < 0.005 | 0.03 | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 18.4 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 1.89 |

## 3.9. Paving (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.21 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 48.5 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.05 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.84 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | 59.1 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.07 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 43.8 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 6.18 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 4.57 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.76 |

## 3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.23 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 48.5 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.02 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 5.05 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.84 |
| Paving | 0.00 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | 59.1 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.07 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | 43.8 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 6.18 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 4.57 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.76 |

## 3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.06 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.73 |
| Architectural Coatings | 1.28 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.29 |
| Architectural Coatings | 0.23 | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 79.5 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 14.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 2.38 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.12. Architectural Coating (2025) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.08 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.73 |
| Architectural Coatings | 1.28 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.29 |
| Architectural Coatings | 0.23 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 79.5 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 14.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 2.38 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.06 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.06 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 6.32 |
| Architectural Coatings | 4.69 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.05 |
| Architectural Coatings | 0.86 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 81.8 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 77.9 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | 51.6 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 8.54 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.14. Architectural Coating (2026) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.08 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.08 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 9.59 |
| Architectural Coatings | 7.12 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.05 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 6.32 |
| Architectural Coatings | 4.69 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.05 |
| Architectural Coatings | 0.86 | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 81.8 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | 77.9 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | 51.6 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | 8.54 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.15. Trenching (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.80 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | 180 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.03 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 7.42 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.23 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 39.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.63 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.27 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.16. Trenching (2025) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.95 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | 180 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 7.42 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 1.23 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | 39.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 1.63 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.27 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |
| Total | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Total | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |
| Total | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |

### 4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |
| Total | 1.40 | 0.83 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,950 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Total | 1.37 | 0.98 | 0.02 | 2.74 | 2.76 | 0.01 | 0.70 | 0.71 | 2,820 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |
| Total | 0.22 | 0.15 | < 0.005 | 0.44 | 0.44 | < 0.005 | 0.11 | 0.11 | 419 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 251 |
| Total | — | — | — | — | — | — | — | — | 251 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 251 |
| Total | — | — | — | — | — | — | — | — | 251 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 41.6 |
| Total | — | — | — | — | — | — | — | — | 41.6 |

## 4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 251 |
| Total | — | — | — | — | — | — | — | — | 251 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 251 |
| Total | — | — | — | — | — | — | — | — | 251 |
| Annual | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | — | — | — | — | — | — | — | — | 41.6 |
| Total | — | — | — | — | — | — | — | — | 41.6 |

## 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |

## 4.2.4. Natural Gas Emissions By Land Use - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 3.32 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.60 | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.35 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |
| Total | 4.27 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 3.32 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.60 | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Total | 3.92 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 0.61 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.11 | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |
| Total | 0.75 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |

## 4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 3.32 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.60 | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.35 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |
| Total | 4.27 | 0.04 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 10.7 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 3.32 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.60 | — | — | — | — | — | — | — | — |
| Total | 3.92 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — |
| Hearths | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Consumer Products | 0.61 | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.11 | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |
| Total | 0.75 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | 0.87 |

# 4.4. Water Emissions by Land Use

## 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 14.0 |
| Total | — | — | — | — | — | — | — | — | 14.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 14.0 |
| Total | — | — | — | — | — | — | — | — | 14.0 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 2.32 |
| Total | — | — | — | — | — | — | — | — | 2.32 |

## 4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 14.0 |
| Total | — | — | — | — | — | — | — | — | 14.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 14.0 |
| Total | — | — | — | — | — | — | — | — | 14.0 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 2.32 |
| Total | — | — | — | — | — | — | — | — | 2.32 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 97.8 |
| Total | — | — | — | — | — | — | — | — | 97.8 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 97.8 |
| Total | — | — | — | — | — | — | — | — | 97.8 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 16.2 |
| Total | — | — | — | — | — | — | — | — | 16.2 |

### 4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 97.8 |
| Total | — | — | — | — | — | — | — | — | 97.8 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 97.8 |
| Total | — | — | — | — | — | — | — | — | 97.8 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 16.2 |
| Total | — | — | — | — | — | — | — | — | 16.2 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | — | — | — | — | — | — | — | — | 1.11 |
| Total | — | — | — | — | — | — | — | — | 1.11 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 1.11 |
| Total | — | — | — | — | — | — | — | — | 1.11 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 0.18 |
| Total | — | — | — | — | — | — | — | — | 0.18 |

## 4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 1.11 |
| Total | — | — | — | — | — | — | — | — | 1.11 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 1.11 |
| Total | — | — | — | — | — | — | — | — | 1.11 |
| Annual | — | — | — | — | — | — | — | — | — |
| Condo/Townhouse | — | — | — | — | — | — | — | — | 0.18 |
| Total | — | — | — | — | — | — | — | — | 0.18 |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

### 4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

### 4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

### 4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

## 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

## 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |

### 4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

### 4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — |

### 4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Demolition | Demolition | 1/1/2025 | 1/30/2025 | 5.00 | 22.0 | — |
| Site Preparation | Site Preparation | 2/1/2025 | 2/14/2025 | 5.00 | 10.0 | — |
| Grading | Grading | 2/14/2025 | 3/6/2025 | 5.00 | 15.0 | — |
| Building Construction | Building Construction | 3/10/2025 | 11/14/2025 | 5.00 | 180 | — |
| Paving | Paving | 11/3/2025 | 12/24/2025 | 5.00 | 38.0 | — |
| Architectural Coating | Architectural Coating | 10/1/2025 | 12/3/2026 | 5.00 | 307 | — |
| Trenching | Trenching | 2/14/2025 | 3/6/2025 | 5.00 | 15.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Excavators | Diesel | Average | 1.00 | 3.41 | 36.0 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 6.00 | 84.0 | 0.37 |
| Grading | Excavators | Diesel | Average | 1.00 | 3.33 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 4.00 | 84.0 | 0.37 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 2.67 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Average | 1.00 | 2.22 | 82.0 | 0.20 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 0.14 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Average | 2.00 | 0.67 | 46.0 | 0.45 |
| Paving | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 0.53 | 84.0 | 0.37 |
| Paving | Paving Equipment | Diesel | Average | 1.00 | 0.53 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 1.00 | 0.53 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 0.33 | 37.0 | 0.48 |
| Architectural Coating | Aerial Lifts | Diesel | Average | 1.00 | 0.12 | 46.0 | 0.31 |
| Trenching | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 3.33 | 84.0 | 0.37 |
| Trenching | Excavators | Diesel | Average | 1.00 | 3.33 | 36.0 | 0.38 |

## 5.2.2. Mitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Excavators | Diesel | Tier 4 Interim | 1.00 | 3.41 | 36.0 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Tier 4 Interim | 1.00 | 6.00 | 84.0 | 0.37 |
| Grading | Excavators | Diesel | Tier 4 Interim | 1.00 | 3.33 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Tier 4 Interim | 1.00 | 4.00 | 84.0 | 0.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Building Construction | Cranes | Diesel | Tier 4 Interim | 1.00 | 2.67 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Tier 4 Interim | 1.00 | 2.22 | 82.0 | 0.20 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Tier 4 Interim | 1.00 | 0.14 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Tier 4 Interim | 2.00 | 0.67 | 46.0 | 0.45 |
| Paving | Tractors/Loaders/Backhoes | Diesel | Tier 4 Interim | 1.00 | 0.53 | 84.0 | 0.37 |
| Paving | Paving Equipment | Diesel | Tier 4 Interim | 1.00 | 0.53 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Tier 4 Interim | 1.00 | 0.53 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Tier 4 Interim | 1.00 | 0.33 | 37.0 | 0.48 |
| Architectural Coating | Aerial Lifts | Diesel | Tier 4 Interim | 1.00 | 0.12 | 46.0 | 0.31 |
| Trenching | Tractors/Loaders/Backhoes | Diesel | Tier 4 Interim | 1.00 | 3.33 | 84.0 | 0.37 |
| Trenching | Excavators | Diesel | Tier 4 Interim | 1.00 | 3.33 | 36.0 | 0.38 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 2.50 | 11.7 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 8.40 | HHDT,MHDT |
| Demolition | Hauling | 0.00 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 2.50 | 11.7 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 8.40 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |

| | | | | |
|---|---|---|---|---|
| Grading | — | — | — | — |
| Grading | Worker | 5.00 | 11.7 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 8.40 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 50.4 | 11.7 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 7.48 | 8.40 | HHDT,MHDT |
| Building Construction | Hauling | 0.28 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 7.50 | 11.7 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 8.40 | HHDT,MHDT |
| Paving | Hauling | 0.53 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 10.1 | 11.7 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 8.40 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |
| Trenching | — | — | — | — |
| Trenching | Worker | 5.00 | 11.7 | LDA,LDT1,LDT2 |
| Trenching | Vendor | — | 8.40 | HHDT,MHDT |
| Trenching | Hauling | 0.00 | 20.0 | HHDT |
| Trenching | Onsite truck | — | — | HHDT |

## 5.3.2. Mitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 2.50 | 11.7 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 8.40 | HHDT,MHDT |
| Demolition | Hauling | 0.00 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 2.50 | 11.7 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 8.40 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 5.00 | 11.7 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 8.40 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 50.4 | 11.7 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 7.48 | 8.40 | HHDT,MHDT |
| Building Construction | Hauling | 0.28 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 7.50 | 11.7 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 8.40 | HHDT,MHDT |
| Paving | Hauling | 0.53 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 10.1 | 11.7 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 8.40 | HHDT,MHDT |

| | | | | |
|---|---|---|---|---|
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |
| Trenching | — | — | — | — |
| Trenching | Worker | 5.00 | 11.7 | LDA,LDT1,LDT2 |
| Trenching | Vendor | — | 8.40 | HHDT,MHDT |
| Trenching | Hauling | 0.00 | 20.0 | HHDT |
| Trenching | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 314,086 | 104,695 | 0.00 | 0.00 | — |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | — | — |
| Site Preparation | — | — | 0.00 | 0.00 | — |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | — |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Condo/Townhouse | — | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2025 | 0.00 | 100.0 | 0.03 | < 0.005 |
| 2026 | 0.00 | 100.0 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 512 | 570 | 440 | 186,223 | 3,507 | 3,900 | 3,009 | 1,274,463 |

### 5.9.2. Mitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 512 | 570 | 440 | 186,223 | 3,507 | 3,900 | 3,009 | 1,274,463 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

| Hearth Type | Unmitigated (number) |
|---|---|
| Condo/Townhouse | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 0 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 0 |
| Conventional Wood Stoves | 0 |
| Catalytic Wood Stoves | 0 |
| Non-Catalytic Wood Stoves | 0 |
| Pellet Wood Stoves | 0 |

## 5.10.1.2. Mitigated

| Hearth Type | Unmitigated (number) |
|---|---|
| Condo/Townhouse | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 0 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 0 |
| Conventional Wood Stoves | 0 |
| Catalytic Wood Stoves | 0 |
| Non-Catalytic Wood Stoves | 0 |
| Pellet Wood Stoves | 0 |

## 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 314085.6 | 104,695 | 0.00 | 0.00 | — |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

### 5.10.4. Landscape Equipment - Mitigated

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Condo/Townhouse | 898,756 | 100.0 | 0.0330 | 0.0040 | 0.00 |

### 5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Condo/Townhouse | 898,756 | 100.0 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Condo/Townhouse | 2,538,648 | 0.00 |

### 5.12.2. Mitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Condo/Townhouse | 2,538,648 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Condo/Townhouse | 51.9 | — |

### 5.13.2. Mitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Condo/Townhouse | 51.9 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Condo/Townhouse | Average room A/C & Other residential A/C and heat pumps | R-410A | 2,088 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Condo/Townhouse | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |

### 5.14.2. Mitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Condo/Townhouse | Average room A/C & Other residential A/C and heat pumps | R-410A | 2,088 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Condo/Townhouse | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.15.2. Mitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

#### 5.18.1.2. Mitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

#### 5.18.1.2. Mitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

#### 5.18.2.2. Mitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 5.92 | annual days of extreme heat |
| Extreme Precipitation | 9.00 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 17.7 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

### 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | N/A | N/A | N/A | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 1 | 1 | 1 | 2 |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

### 6.4. Climate Risk Reduction Measures

## 7. Health and Equity Details

### 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 7.52 |

| | |
|---|---|
| AQ-PM | 32.9 |
| AQ-DPM | 94.6 |
| Drinking Water | 54.0 |
| Lead Risk Housing | 79.7 |
| Pesticides | 0.00 |
| Toxic Releases | 37.7 |
| Traffic | 80.8 |
| Effect Indicators | — |
| CleanUp Sites | 98.9 |
| Groundwater | 99.7 |
| Haz Waste Facilities/Generators | 99.9 |
| Impaired Water Bodies | 87.0 |
| Solid Waste | 97.2 |
| Sensitive Population | — |
| Asthma | 68.9 |
| Cardio-vascular | 48.4 |
| Low Birth Weights | 53.2 |
| Socioeconomic Factor Indicators | — |
| Education | 60.6 |
| Housing | 43.3 |
| Linguistic | 57.8 |
| Poverty | 54.4 |
| Unemployment | 64.5 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |

| | |
|---|---|
| Above Poverty | 65.03272167 |
| Employed | 87.75824458 |
| Median HI | 74.04080585 |
| Education | — |
| Bachelor's or higher | 46.97805723 |
| High school enrollment | 100 |
| Preschool enrollment | 45.37405364 |
| Transportation | — |
| Auto Access | 59.70742974 |
| Active commuting | 58.00076992 |
| Social | — |
| 2-parent households | 88.6179905 |
| Voting | 71.10227127 |
| Neighborhood | — |
| Alcohol availability | 29.00038496 |
| Park access | 52.72680611 |
| Retail density | 91.04324394 |
| Supermarket access | 82.92056974 |
| Tree canopy | 62.40215578 |
| Housing | — |
| Homeownership | 71.67971256 |
| Housing habitability | 43.62889773 |
| Low-inc homeowner severe housing cost burden | 60.7596561 |
| Low-inc renter severe housing cost burden | 17.45155909 |
| Uncrowded housing | 55.74233286 |
| Health Outcomes | — |
| Insured adults | 81.30373412 |
| Arthritis | 0.0 |

| | |
|---|---|
| Asthma ER Admissions | 27.1 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 20.5 |
| Cognitively Disabled | 68.5 |
| Physically  Disabled | 47.8 |
| Heart Attack ER Admissions | 48.9 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 93.9 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 55.0 |
| Children | 61.0 |
| Elderly | 24.3 |
| English Speaking | 24.7 |
| Foreign-born | 88.7 |

| | |
|---|---|
| Outdoor Workers | 57.0 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 16.5 |
| Traffic Density | 73.3 |
| Traffic Access | 71.5 |
| Other Indices | — |
| Hardship | 46.7 |
| Other Decision Support | — |
| 2016 Voting | 55.7 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 83.0 |
| Healthy Places Index Score for Project Location (b) | 75.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | Yes |
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Characteristics: Utility Information | South San Francisco default clean energy provider is Peninsula Clean Energy. |
| Land Use | Total lot acreage, number of units, and square footage (combined residential sf and garage sf) from filled out construction worksheet and provided plans. |
| Construction: Construction Phases | Provided information from filled out applicant. Used provided start date and total work days. |
| Construction: Off-Road Equipment | Equipment info from provided construction worksheet. |
| Construction: Trips and VMT | Building Construction = 25 concrete truck round trips (0.27 trips/day), Paving = 10 asphalt truck round trips (0.53 trips/day). |
| Construction: On-Road Fugitive Dust | Air District recommended BMPS 15 mph. Required by SSF. |
| Operations: Hearths | No hearths. |
| Operations: Energy Use | Project design is all-electric. Confirmed no natural gas by applicant. Convert natural gas to electricity. |
| Operations: Water and Waste Water | Wastewater treatment 100% aerobic - no septic tanks or lagoons. |

2. Emissions Summary - HRA

2.2 Construction Emissions by Year, Unmitigated

| Year | ROG | NOx | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | $CO_2e$ |
|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | | | | | | | | | |
| 2025 | 0.2939049 | 1.8107433 | 0.0683641 | 0.0423108 | 0.1106750 | 0.0629224 | 0.0101520 | 0.0730744 | 494.22039652320757 |
| 2026 | 7.1426481 | 0.0641685 | 0.0013515 | 0.0071218 | 0.0084734 | 0.0012434 | 0.0016693 | 0.0029127 | 18.283567706671406 |
| Daily - Winter (Max) | | | | | | | | | |
| 2025 | 7.4771201 | 2.5376751 | 0.0921740 | 0.0552230 | 0.1340334 | 0.0848001 | 0.0131980 | 0.0868702 | 614.6071766591753 |
| 2026 | 7.1424259 | 0.0655019 | 0.0013515 | 0.0071218 | 0.0084734 | 0.0012434 | 0.0016693 | 0.0029127 | 17.997666724173996 |
| Average Daily | | | | | | | | | |
| 2025 | 1.4468768 | 1.0465406 | 0.0389356 | 0.0226476 | 0.0615833 | 0.0358345 | 0.0054176 | 0.0412522 | 278.33055445832537 |
| 2026 | 4.7102204 | 0.0429048 | 0.0008913 | 0.0045828 | 0.0054741 | 0.0008200 | 0.0010724 | 0.0018924 | 11.876156655404966 |
| Annual | | | | | | | | | |
| 2025 | 0.2640550 | 0.1909936 | 0.0071057 | 0.0041332 | 0.0112389 | 0.0065398 | 0.0009887 | 0.0075285 | 46.080799583279095 |
| 2026 | 0.8596152 | 0.0078301 | 0.0001626 | 0.0008363 | 0.0009990 | 0.0001496 | 0.0001957 | 0.0003453 | 1.9662332643370797 |

5.3. Construction Vehicles - HRA

5.3.1 Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | | | | |
| Demolition | Worker | 2.5 | 1 | LDA,LDT1,LDT2 |
| Demolition | Vendor | | 1 | HHDT,MHDT |
| Demolition | Hauling | 0 | 1 | HHDT |
| Demolition | Onsite truck | | | HHDT |
| Site Preparation | | | | |
| Site Preparation | Worker | 2.5 | 1 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | | 1 | HHDT,MHDT |
| Site Preparation | Hauling | 0 | 1 | HHDT |
| Site Preparation | Onsite truck | | | HHDT |
| Grading | | | | |
| Grading | Worker | 5 | 1 | LDA,LDT1,LDT2 |
| Grading | Vendor | | 1 | HHDT,MHDT |
| Grading | Hauling | 0 | 1 | HHDT |
| Grading | Onsite truck | | | HHDT |
| Building Construction | | | | |
| Building Construction | Worker | 50.4 | 1 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 7.483 | 1 | HHDT,MHDT |
| Building Construction | Hauling | 0.28 | 1 | HHDT |
| Building Construction | Onsite truck | | | HHDT |
| Paving | | | | |
| Paving | Worker | 7.5 | 1 | LDA,LDT1,LDT2 |
| Paving | Vendor | | 1 | HHDT,MHDT |
| Paving | Hauling | 0.53 | 1 | HHDT |
| Paving | Onsite truck | | | HHDT |
| Architectural Coating | | | | |
| Architectural Coating | Worker | 10.08 | 1 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | | 1 | HHDT,MHDT |
| Architectural Coating | Hauling | 0 | 1 | HHDT |
| Architectural Coating | Onsite truck | | | HHDT |
| Trenching | | | | |
| Trenching | Worker | 5 | 1 | LDA,LDT1,LDT2 |
| Trenching | Vendor | | 1 | HHDT,MHDT |
| Trenching | Hauling | 0 | 1 | HHDT |
| Trenching | Onsite truck | | | HHDT |

# Attachment 2: Project Construction Emissions and Health Risk Calculations

**500 Railroad Ave, South San Francisco, CA**
**Construction Health Impact Summary**

**Maximum Impacts at MEI Location - Without Mitigation**

| Emissions Year | Maximum Concentrations | | Cancer Risk (per million) | Hazard Index | Maximum Annual PM2.5 Concentration |
|---|---|---|---|---|---|
| | Exhaust PM10/DPM ($\mu g/m^3$) | Fugitive PM2.5 ($\mu g/m^3$) | Infant/Child | (-) | ($\mu g/m^3$) |
| 2025 | 0.0068 | 0.0011 | 1.20 | 0.00 | 0.01 |
| 2026 | 0.0002 | 0.0002 | 0.02 | 0.00 | 0.00 |
| **Total** | - | - | **1.23** | | - |
| **Maximum** | 0.0068 | 0.0011 | **-** | **0.00** | **0.01** |

**Maximum Impacts at Da Hao Preschool**

| Construction Year | Unmitigated Emissions | | | |
|---|---|---|---|---|
| | Maximum Concentrations | | Child Cancer Risk (per million) | Maximum Annual PM2.5 Concentration ($\mu g/m^3$) |
| | Exhaust PM10/DPM ($\mu g/m^3$) | Fugitive PM2.5 ($\mu g/m^3$) | | |
| 2025 | 0.0004 | 0.0001 | 0.03 | 0.000 |
| 2026 | 0.0000 | 0.0000 | 0.00 | 0.000 |
| **Total** | - | - | **0.03** | - |
| **Maximum** | 0.0004 | 0.0001 | **-** | **0.000** |

**500 Railroad Ave, South San Francisco, CA**

**DPM Emissions and Modeling Emission Rates - Unmitigatec**

| Construction Year | Activity | DPM (ton/year) | Area Source | DPM Emissions (lb/yr) | (lb/hr) | (g/s) | Modeled Area ($m^2$) | DPM Emission Rate ($g/s/m^2$) |
|---|---|---|---|---|---|---|---|---|
| ***2025*** | Construction | 0.0071 | CON_DPM | 14.2 | 0.00683 | 8.61E-04 | 7,756 | 1.11E-07 |
| ***2026*** | Construction | 0.0002 | CON_DPM | 0.3 | 0.00016 | 1.97E-05 | 7,756 | 2.54E-09 |
| ***Total*** | | ***0.0073*** | | ***14.5*** | ***0.0070*** | ***0.0009*** | | |

*Construction Hours*

| | | |
|---|---|---|
| hr/day = | 8 | (7am - 3pm) |
| days/yr = | 260 | |
| hours/year = | 2080 | |

**500 Railroad Ave, South San Francisco, CA**

**PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated**

| Construction Year | Activity | Area Source | PM2.5 Emissions (ton/year) | (lb/yr) | (lb/hr) | (g/s) | Modeled Area ($m^2$) | PM2.5 Emission Rate $g/s/m^2$ |
|---|---|---|---|---|---|---|---|---|
| ***2025*** | Construction | CON_FUG | 0.0010 | 2.0 | 0.00095 | 1.20E-04 | 7,756 | 1.54E-08 |
| ***2026*** | Construction | CON_FUG | 0.0002 | 0.4 | 0.00019 | 2.37E-05 | 7,756 | 3.06E-09 |
| ***Total*** | | | ***0.0012*** | ***2.4*** | ***0.0011*** | ***0.0001*** | | |

*Construction Hours*

| | | |
|---|---|---|
| hr/day = | 8 | (7am - 3pm) |
| days/yr = | 260 | |
| hours/year = | 2080 | |

**500 Railroad Ave, South San Francisco, CA - Construction Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at Off-Site MEI Location - 7.6 meter receptor height**

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

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

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

Where: $C_{air}$ = concentration in air ($\mu g/m^3$)
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**

| Exposure Year | Exposure Duration (years) | Age | Infant/Child - Exposure Information DPM Conc (ug/m3) Year | Annual | Age Sensitivity Factor | Infant/Child Cancer Risk (per million) | Adult - Exposure Information Modeled DPM Conc (ug/m3) Year | Annual | Age Sensitivity Factor | Adult Cancer Risk (per million) | Maximum Hazard Index | Fugitive PM2.5 | Total PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.25 | -0.25 - 0* | 2025 | 0.0058 | 10 | 0.08 | 2025 | 0.0058 | - | - | | | |
| 1 | 1 | 0 - 1 | 2025 | 0.0058 | 10 | 0.96 | 2025 | 0.0058 | 1 | 0.02 | 0.00 | 0.001 | 0.01 |
| 2 | 1 | 1 - 2 | 2026 | 0.0001 | 10 | 0.02 | 2026 | 0.0001 | 1 | 0.00 | 0.00 | 0.000 | 0.00 |
| 3 | 1 | 2 - 3 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 4 | 1 | 3 - 4 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 5 | 1 | 4 - 5 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 6 | 1 | 5 - 6 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 7 | 1 | 6 - 7 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 8 | 1 | 7 - 8 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 9 | 1 | 8 - 9 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 10 | 1 | 9 - 10 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 11 | 1 | 10 - 11 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 12 | 1 | 11 - 12 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 13 | 1 | 12 - 13 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 14 | 1 | 13 - 14 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 15 | 1 | 14 - 15 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 16 | 1 | 15 - 16 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 17 | 1 | 16-17 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 18 | 1 | 17-18 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 19 | 1 | 18-19 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 20 | 1 | 19-20 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 21 | 1 | 20-21 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 22 | 1 | 21-22 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 23 | 1 | 22-23 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 24 | 1 | 23-24 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 25 | 1 | 24-25 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 26 | 1 | 25-26 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 27 | 1 | 26-27 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 28 | 1 | 27-28 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 29 | 1 | 28-29 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 30 | 1 | 29-30 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| **Total Increased Cancer Risk** | | | | | | **1.06** | | | | **0.02** | | | |

* Third trimester of pregnancy

**500 Railroad Ave, South San Francisco, CA - Construction Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at Off-Site MEI Location - 4.5 meter receptor height**

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

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

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

Where: $C_{air}$ = concentration in air ($\mu g/m^3$)
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** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Exposure** | | | | **Age** | **Cancer** | **Modeled** | | **Age** | **Cancer** | | | |
| **Exposure** | **Duration** | | **DPM Conc (ug/m3)** | | **Sensitivity** | **Risk** | **DPM Conc (ug/m3)** | | **Sensitivity** | **Risk** | **Hazard** | **Fugitive** | **Total** |
| **Year** | **(years)** | **Age** | **Year** | **Annual** | **Factor** | **(per million)** | **Year** | **Annual** | **Factor** | **(per million)** | **Index** | **PM2.5** | **PM2.5** |
| 0 | 0.25 | -0.25 - 0* | 2025 | 0.0068 | 10 | 0.09 | 2025 | 0.0068 | - | - | | | |
| 1 | 1 | 0 - 1 | 2025 | 0.0068 | 10 | 1.11 | 2025 | 0.0068 | 1 | 0.02 | 0.00 | 0.001 | 0.01 |
| 2 | 1 | 1 - 2 | 2026 | 0.0002 | 10 | 0.02 | 2026 | 0.0002 | 1 | 0.00 | 0.00 | 0.000 | 0.00 |
| 3 | 1 | 2 - 3 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 4 | 1 | 3 - 4 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 5 | 1 | 4 - 5 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 6 | 1 | 5 - 6 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 7 | 1 | 6 - 7 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 8 | 1 | 7 - 8 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 9 | 1 | 8 - 9 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 10 | 1 | 9 - 10 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 11 | 1 | 10 - 11 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 12 | 1 | 11 - 12 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 13 | 1 | 12 - 13 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 14 | 1 | 13 - 14 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 15 | 1 | 14 - 15 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 16 | 1 | 15 - 16 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 17 | 1 | 16-17 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 18 | 1 | 17-18 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 19 | 1 | 18-19 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 20 | 1 | 19-20 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 21 | 1 | 20-21 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 22 | 1 | 21-22 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 23 | 1 | 22-23 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 24 | 1 | 23-24 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 25 | 1 | 24-25 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 26 | 1 | 25-26 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 27 | 1 | 26-27 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 28 | 1 | 27-28 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 29 | 1 | 28-29 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 30 | 1 | 29-30 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| **Total Increased Cancer Risk** | | | | | | **1.23** | | | | **0.02** | | | |

* Third trimester of pregnancy

**500 Railroad Ave, South San Francisco, CA - Construction Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at Off-Site MEI Location - 1.5 meter receptor height**

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

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

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

Where: $C_{air}$ = concentration in air (μg/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 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Exposure | | | | Age | Cancer | Modeled | | Age | Cancer | | Maximum | |
| Exposure | Duration | | DPM Conc (ug/m3) | | Sensitivity | Risk | DPM Conc (ug/m3) | | Sensitivity | Risk | Hazard | Fugitive | Total |
| Year | (years) | Age | Year | Annual | Factor | (per million) | Year | Annual | Factor | (per million) | Index | PM2.5 | PM2.5 |
| 0 | 0.25 | -0.25 - 0* | 2025 | 0.0062 | 10 | 0.08 | 2025 | 0.0062 | - | - | | | |
| 1 | 1 | 0 - 1 | 2025 | 0.0062 | 10 | 1.02 | 2025 | 0.0062 | 1 | 0.02 | 0.00 | 0.001 | 0.01 |
| 2 | 1 | 1 - 2 | 2026 | 0.0001 | 10 | 0.02 | 2026 | 0.0001 | 1 | 0.00 | 0.00 | 0.000 | 0.00 |
| 3 | 1 | 2 - 3 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 4 | 1 | 3 - 4 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 5 | 1 | 4 - 5 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 6 | 1 | 5 - 6 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 7 | 1 | 6 - 7 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 8 | 1 | 7 - 8 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 9 | 1 | 8 - 9 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 10 | 1 | 9 - 10 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 11 | 1 | 10 - 11 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 12 | 1 | 11 - 12 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 13 | 1 | 12 - 13 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 14 | 1 | 13 - 14 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 15 | 1 | 14 - 15 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 16 | 1 | 15 - 16 | | 0.0000 | 3 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 17 | 1 | 16-17 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 18 | 1 | 17-18 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 19 | 1 | 18-19 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 20 | 1 | 19-20 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 21 | 1 | 20-21 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 22 | 1 | 21-22 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 23 | 1 | 22-23 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 24 | 1 | 23-24 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 25 | 1 | 24-25 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 26 | 1 | 25-26 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 27 | 1 | 26-27 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 28 | 1 | 27-28 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 29 | 1 | 28-29 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| 30 | 1 | 29-30 | | 0.0000 | 1 | 0.00 | | 0.0000 | 1 | 0.00 | | | |
| **Total Increased Cancer Risk** | | | | | | **1.13** | | | | **0.02** | | | |

* Third trimester of pregnancy

**500 Railroad Ave, South San Francisco, CA - Construction Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at Da Hao Preschool - 1 meter - Child Exposure**

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

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

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

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

**Values**

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

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

**Construction Cancer Risk by Year - Maximum Preschool Impact Receptor Location**

| Exposure Year | Exposure Duration (years) | Age | Child - Exposure Information: DPM Conc (ug/m3) Year | DPM Conc (ug/m3) Annual | Age* Sensitivity Factor | Child Cancer Risk (per million) | Maximum Hazard Index | Maximum Fugitive PM2.5 | Maximum Total PM2.5 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 3 - 4 | 2025 | 0.0004 | 3 | 0.03 | 0.0001 | 0.000 | 0.00 |
| 2 | 1 | 4 - 5 | 2026 | 0.0000 | 3 | 0.00 | 0.0000 | 0.000 | 0.00 |
| **Total Increased Cancer Risk** | | | | | | **0.03** | | | |

* Children assumed to be 3 years of age with 2 years of exposure to construction emissions

# Attachment 3: Health Risk Modeling Information and Calculations

# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

## Risk & Hazard Stationary Source Inquiry Form

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

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

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

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

### Table A: Requester Contact Information

| | |
|---|---|
| **Date of Request** | **7/25/2024** |
| **Contact Name** | Jordyn Bauer |
| **Affiliation** | Illingworth & Rodkin, Inc. |
| **Phone** | 707-794-0400 x106 |
| **Email** | jbauer@illingworthrodkin.com |
| | |
| **Project Name** | 400 Moffett Blvd |
| **Address** | 400 Moffett Blvd |
| **City** | Mountain View |
| **County** | Santa Clara |
| **Type (residential, commercial, mixed use, industrial, etc.)** | Residential |
| **Project Size (# of units or building square feet)** | 175 du |
| | |
| **Comments:** | |

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

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

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

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

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in **Table B** lue section only.

6. Note that a small percentage of the stationa ve 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 Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov**

## Table B: Google Earth data

**Project MEI**

| Distance from Receptor (feet) or MEI[1] | Plant No. | Facility Name | Address | Cancer Risk[2] | Hazard Risk[2] | $PM_{2.5}$[2] | Source No.[3] | Type of Source[4] | Fuel Code[5] | Status/Comments | Distance Adjustment Multiplier | Adjusted Cancer Risk Estimate | Adjusted Hazard Risk | Adjusted PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 970 | 15132 | NOD Auto Body Shop Inc | 206 Baden Ave | 0 | 0 | 0 | | Automotive Body, Paint, and Interior Rep | | 2022 Dataset | 0.14 | 0.00 | 0.00000 | 0.0000 |
| 1000+ | 13866 | City of SSF Water Quality Plant | 1479 San Mateo Avenue | 20.74 | 0.01 | 0.03 | | Generator | | 2022 Dataset | 0.04 | 0.83 | 0.00040 | 0.0012 |
| 940 | 18877 | South San Francisco Water Quality | 27 So Linden Avenue | 8.92 | 0.00 | 0.01 | | Generator | | 2022 Dataset | 0.04 | 0.36 | 0.00000 | 0.0004 |
| 305 | 16753 | E & S Auto Collision Inc | 303 Commercial Avenue | 0.00 | 0.01 | 0.00 | | Automotive Body, Paint, and Interior Rep | | 2022 Dataset | 0.52 | 0.00 | 0.00523 | 0.0000 |
| 1000+ | 202457 | Altitude Apartments | 150 AIRPORT BOULEVARD | 27.59 | 0.01 | 0.04 | | Generator | | 2022 Dataset | 0.04 | 1.10 | 0.00040 | 0.0016 |
| 1000+ | 24523 | Starlite/Canal Building LLC | 111 Starlite Street | 0.01 | 0.00 | 0.00 | | Remediation Services | | 2022 Dataset | 0.13 | 0.00 | 0.00000 | 0.0000 |
| 185 | 23757 | Transform Auto Body | 99 Linden Avenue | 0.00 | 0.00 | 0.00 | | Automotive Body, Paint, and Interior Rep | | 2022 Dataset | 0.66 | 0.00 | 0.00000 | 0.0000 |
| 1000+ | 201564 | Bayside Collision Center | 69 S LINDEN AVE | 0.00 | 0.00 | 0.00 | | Automotive Body, Paint, and Interior Rep | | 2022 Dataset | 0.13 | 0.00 | 0.00000 | 0.0000 |
| 1000+ | 201912 | Lindenville Auto Body Center Inc. | 39 SOUTH LINDEN AVENUE | 0.00 | 0.00 | 0.00 | | Automotive Body, Paint, and Interior Rep | | 2022 Dataset | 0.13 | 0.00 | 0.00000 | 0.0000 |
| 1000+ | 109444-1 | Penske Truck Leasing - ATTN: Allan Wells | 62 S Linden Ave | 0.58 | 0.00 | 0.00 | | Gas Dispensing Facility | | 2022 Dataset | CARB TOOL | 0.05 | 0.01000 | 0.0000 |
| 635 | 110695-1 | South City Shell | 123 Linden Ave | 26.75 | 0.12 | 0.00 | | Gas Dispensing Facility | | 2022 Dataset | CARB TOOL | 0.76 | 0.11000 | 0.0000 |
| 1000+ | 110777-1 | Speedway #4874 | 35 S Linden Ave | 34.83 | 0.15 | 0.00 | | Gas Dispensing Facility | | 2022 Dataset | CARB TOOL | 0.76 | 0.02000 | 0.0000 |
| 1000+ | 111840-1 | South San Francisco Fire Dept | 480 N Canal St | 0.12 | 0 | 0 | | Gas Dispensing Facility | | 2022 Dataset | CARB TOOL | 0.08 | 0.01000 | 0.0000 |

**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 |
|---|---|---|---|---|---|
| 805 | 15132 | 0.19 | 0.00 | 0.000 | 0.0000 |
| 870 | 13866 | 0.05 | 1.04 | 0.001 | 0.0015 |
| 330 | 18877 | 0.22 | 1.96 | 0.000 | 0.0022 |
| 190 | 16753 | 0.658 | 0.00 | 0.007 | 0.0000 |
| 705 | 202457 | 0.08 | 2.21 | 0.001 | 0.0032 |
| 805 | 24523 | 0.189 | 0.00 | 0.000 | 0.0000 |
| 380 | 23757 | 0.444 | 0.00 | 0.000 | 0.0000 |
| 1000 | 201564 | 0.132 | 0.00 | 0.000 | 0.0000 |
| 390 | 201912 | 0.444 | 0.00 | 0.000 | 0.0000 |
| 820 | 109444-1 | CARB TOOL | 0.08 | 0.030 | 0.0000 |
| 605 | 110695-1 | CARB TOOL | 0.76 | 0.110 | 0.0000 |
| 380 | 110777-1 | CARB TOOL | 5.47 | 0.320 | 0.0000 |
| 500 | 111840-1 | CARB TOOL | 0.35 | 0.130 | 0.0000 |

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.

8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
   a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
   b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or
   c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
   d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect
   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

# 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
| --- | --- | --- |
| **Annual Throughput (gallons/year)** | **600000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **500** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8800** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **305** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **305** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **305** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
| --- | --- |
| **Max Residential Cancer Risk (chances/million)** | **0.05** |
| **Max Worker Cancer Risk (chances/million)** | **0.00** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.01** |

11/22/2024 11:37 AM

## 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **600000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **500** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8800** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **250** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **250** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **250** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **0.08** |
| **Max Worker Cancer Risk (chances/million)** | **0.01** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.03** |

# 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **3100000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **1000** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8880** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **194** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **194** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **194** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **0.76** |
| **Max Worker Cancer Risk (chances/million)** | **0.06** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.11** |

## 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **3100000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **1000** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8880** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **184** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **184** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **184** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **0.76** |
| **Max Worker Cancer Risk (chances/million)** | **0.06** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.11** |

## 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| Annual Throughput (gallons/year) | 8550000 | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| Hourly Dispensing Throughput (gallons/hour) | 2000 | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| Hourly Loading Throughput (gallons/hour) | 8800 | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| Meteorological Data | San Jose | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| Distance to Nearest Resident (meters) | 305 | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| Distance to Nearest Business (meters) | 305 | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| Distance to Acute Receptor (meters) | 305 | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| Control Scenario | EVR Phase I & EVR Phase II | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| Include Building Downwash Adjustments | yes | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| Max Residential Cancer Risk (chances/million) | 0.76 |
| Max Worker Cancer Risk (chances/million) | 0.06 |
| Chronic HI | 0.00 |
| Acute HI | 0.02 |

## 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **8550000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **2000** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8800** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **115** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **115** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **115** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **5.47** |
| **Max Worker Cancer Risk (chances/million)** | **0.45** |
| **Chronic HI** | **0.02** |
| **Acute HI** | **0.32** |

## 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **940000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **500** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8800** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **305** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **305** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **305** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **0.08** |
| **Max Worker Cancer Risk (chances/million)** | **0.01** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.01** |

# 2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
## Version 1.0 - February 18, 2022

| Required Value | User Defined Input | Instructions |
|---|---|---|
| **Annual Throughput (gallons/year)** | **940000** | Enter your gas station's annual throughput in gallons of gasoline dispensed per year. |
| **Hourly Dispensing Throughput (gallons/hour)** | **500** | The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4. |
| **Hourly Loading Throughput (gallons/hour)** | **8800** | The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5. |
| **Meteorological Data** | **San Jose** | Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool. |
| **Distance to Nearest Resident (meters)** | **150** | Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Nearest Business (meters)** | **150** | Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Distance to Acute Receptor (meters)** | **150** | Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance). |
| **Control Scenario** | **EVR Phase I & EVR Phase II** | Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls. |
| **Include Building Downwash Adjustments** | **yes** | Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment. |

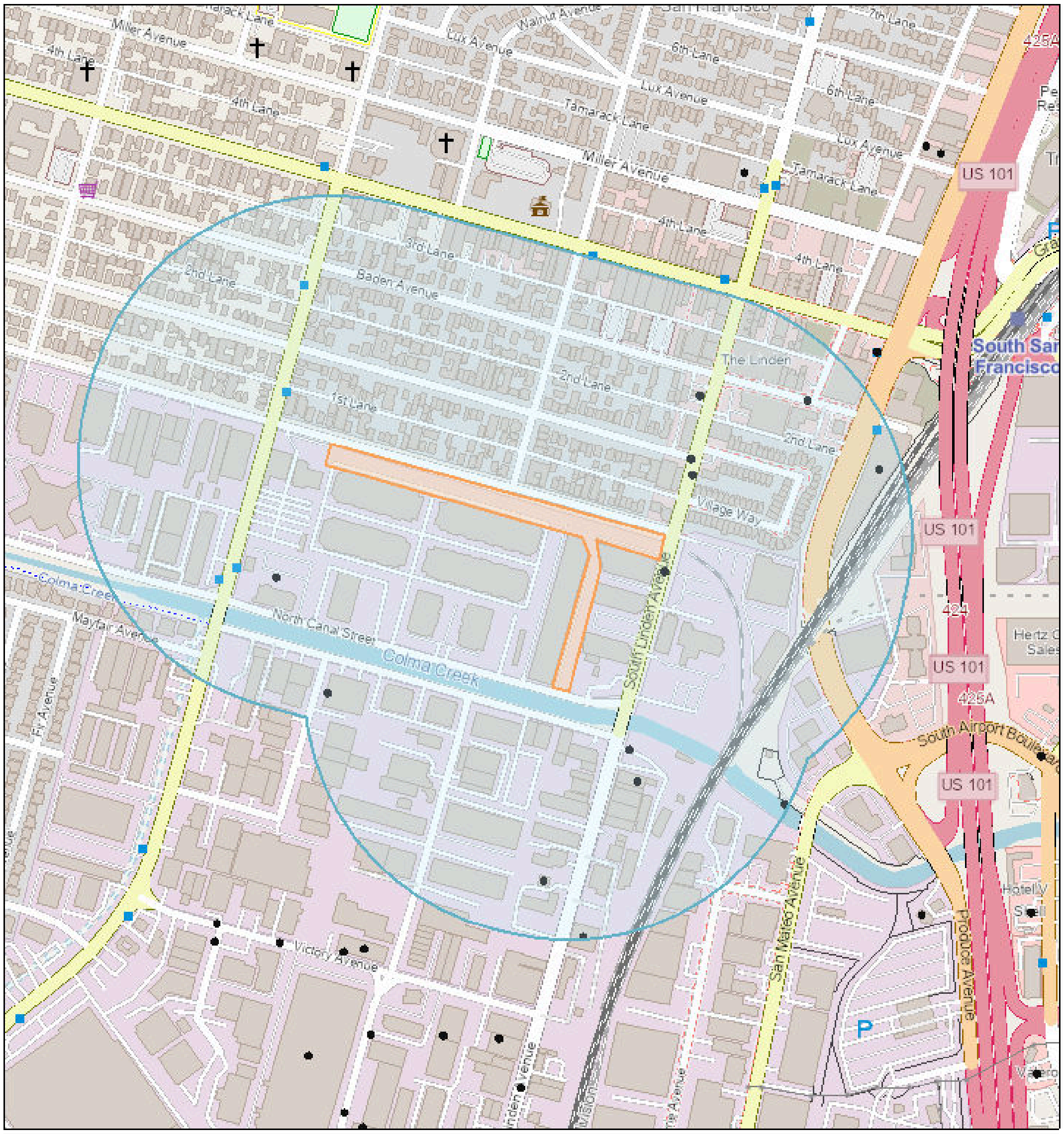
| Risk Value | Results |
|---|---|
| **Max Residential Cancer Risk (chances/million)** | **0.35** |
| **Max Worker Cancer Risk (chances/million)** | **0.03** |
| **Chronic HI** | **0.00** |
| **Acute HI** | **0.13** |

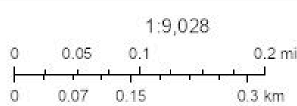
# Screening Report

## Area of Interest (AOI) Information

Area : 7,926,697.44 ft²

Aug 12 2024 14:41:49 Pacific Daylight Time




Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

## Summary

| Name | Count | Area(ft²) | Length(ft) |
|---|---|---|---|
| Permitted Stationary Sources | 13 | N/A | N/A |

## Permitted Stationary Sources

| # | Address | Cancer_Ris | Chronic_Ha | City | County |
|---|---|---|---|---|---|
| 1 | 206 Baden Ave | 0.00 | 0.00 | South San Francisco | San Mateo |
| 2 | 1479 San Mateo Avenue | 20.74 | 0.01 | South San Francisco | San Mateo |
| 3 | 27 So Linden Avenue | 8.92 | 0.00 | South San Francisco | San Mateo |
| 4 | 303 Commercial Avenue | 0.00 | 0.01 | South San Francisco | San Mateo |
| 5 | 150 AIRPORT BOULEVARD | 27.59 | 0.01 | South San Francisco | San Mateo |
| 6 | 111 Starlite Street | 0.01 | 0.00 | South San Francisco | San Mateo |
| 7 | 99 Linden Avenue | 0.00 | 0.00 | South San Francisco | San Mateo |
| 8 | 69 S LINDEN AVE | 0.00 | 0.00 | South San Francisco | San Mateo |
| 9 | 39 SOUTH LINDEN AVENUE | 0.00 | 0.00 | South San Francisco | San Mateo |
| 10 | 62 S Linden Ave | 0.58 | 0.00 | South San Francisco | San Mateo |
| 11 | 123 Linden Ave | 26.75 | 0.12 | South San Francisco | San Mateo |
| 12 | 35 S Linden Ave | 34.83 | 0.15 | South San Francisco | San Mateo |
| 13 | 480 N Canal St | 0.12 | 0.00 | South San Francisco | San Mateo |

| # | Details | Facility_I | Facility_N | Latitude | Longitude |
|---|---|---|---|---|---|
| 1 | *No Data* | 15132 | NOD Auto Body Shop Inc | 37.65 | -122.41 |
| 2 | Generator | 13866 | City of SSF Water Quality Plant | 37.65 | -122.41 |
| 3 | Generator | 18877 | South San Francisco Water Quality | 37.65 | -122.41 |
| 4 | *No Data* | 16753 | E & S Auto Collision Inc | 37.65 | -122.41 |
| 5 | Generator | 202457 | Altitude Apartments | 37.65 | -122.41 |
| 6 | *No Data* | 24523 | Starlite/Canal Building LLC | 37.65 | -122.42 |
| 7 | *No Data* | 23757 | Transform Auto Body | 37.65 | -122.41 |
| 8 | *No Data* | 201564 | Bayside Collision Center | 37.65 | -122.41 |
| 9 | *No Data* | 201912 | Lindenville Auto Body Center Inc. | 37.65 | -122.41 |
| 10 | Gas Dispensing Facility | 109444-1 | Penske Truck Leasing - ATTN: Allan Wells | 37.65 | -122.41 |
| 11 | Gas Dispensing Facility | 110695-1 | South City Shell | 37.65 | -122.41 |
| 12 | Gas Dispensing Facility | 110777-1 | Speedway #4874 | 37.65 | -122.41 |
| 13 | Gas Dispensing Facility | 111840-1 | South San Francisco Fire Dept | 37.65 | -122.42 |

| # | NAICS | NAICS_Indu | NAICS_Sect | NAICS_Subs | PM25 |
|---|---|---|---|---|---|
| 1 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance | Other Services (except Public Administration) | Repair and Maintenance | 0.00 |
| 2 | 221310 | Water Supply and Irrigation Systems | Utilities | Utilities | 0.03 |
| 3 | 221310 | Water Supply and Irrigation Systems | Utilities | Utilities | 0.01 |
| 4 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance | Other Services (except Public Administration) | Repair and Maintenance | 0.00 |
| 5 | 531110 | Lessors of Residential Buildings and Dwellings | Real Estate and Rental and Leasing | Real Estate | 0.04 |
| 6 | 562910 | Remediation Services | Administrative and Support and Waste Management and Remediation Services | Waste Management and Remediation Services | 0.00 |
| 7 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance | Other Services (except Public Administration) | Repair and Maintenance | 0.00 |
| 8 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance | Other Services (except Public Administration) | Repair and Maintenance | 0.00 |
| 9 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance | Other Services (except Public Administration) | Repair and Maintenance | 0.00 |
| 10 | 532120 | Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing | Real Estate and Rental and Leasing | Rental and Leasing Services | 0.00 |
| 11 | 447110 | Gasoline Stations with Convenience Stores | Retail Trade | Gasoline Stations | 0.00 |
| 12 | 447110 | Gasoline Stations with Convenience Stores | Retail Trade | Gasoline Stations | 0.00 |
| 13 | 922160 | Fire Protection | Public Administration | Justice, Public Order, and Safety Activities | 0.00 |

| # | State | Zip | Count |
|---|---|---|---|
| 1 | CA | 94080 | 1 |
| 2 | CA | 94080 | 1 |
| 3 | CA | 94080 | 1 |
| 4 | CA | 94080 | 1 |
| 5 | CA | 94080 | 1 |
| 6 | CA | 94080 | 1 |
| 7 | CA | 94080 | 1 |
| 8 | CA | 94080 | 1 |
| 9 | CA | 94080 | 1 |
| 10 | CA | 94080 | 1 |
| 11 | CA | 94080 | 1 |
| 12 | CA | 94080 | 1 |
| 13 | CA | 94080 | 1 |

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.

**500 Railroad Ave, South San Francisco, CA - Railway Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at Off-Site MEI Location - 4.5 meter receptor height**

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

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

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

Where: $C_{air}$ = concentration in air (μg/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**

| Exposure Year | Exposure Duration (years) | Age | Infant/Child - Exposure Information DPM Conc (ug/m3) Year | Annual | Age Sensitivity Factor | Infant/Child Cancer Risk (per million) | Adult - Exposure Information Modeled DPM Conc (ug/m3) Year | Annual | Age Sensitivity Factor | Adult Cancer Risk (per million) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.25 | -0.25 - 0* | 2025 | 0.0009 | 10 | 0.01 | 2025 | 0.0009 | - | - |
| 1 | 1 | 0 - 1 | 2025 | 0.0009 | 10 | 0.15 | 2025 | 0.0009 | 1 | 0.00 |
| 2 | 1 | 1 - 2 | 2026 | 0.0009 | 10 | 0.15 | 2026 | 0.0009 | 1 | 0.00 |
| 3 | 1 | 2 - 3 | 2027 | 0.0009 | 3 | 0.02 | 2027 | 0.0009 | 1 | 0.00 |
| 4 | 1 | 3 - 4 | 2028 | 0.0009 | 3 | 0.02 | 2028 | 0.0009 | 1 | 0.00 |
| 5 | 1 | 4 - 5 | 2029 | 0.0009 | 3 | 0.02 | 2029 | 0.0009 | 1 | 0.00 |
| 6 | 1 | 5 - 6 | 2030 | 0.0009 | 3 | 0.02 | 2030 | 0.0009 | 1 | 0.00 |
| 7 | 1 | 6 - 7 | 2031 | 0.0009 | 3 | 0.02 | 2031 | 0.0009 | 1 | 0.00 |
| 8 | 1 | 7 - 8 | 2032 | 0.0009 | 3 | 0.02 | 2032 | 0.0009 | 1 | 0.00 |
| 9 | 1 | 8 - 9 | 2033 | 0.0009 | 3 | 0.02 | 2033 | 0.0009 | 1 | 0.00 |
| 10 | 1 | 9 - 10 | 2034 | 0.0009 | 3 | 0.02 | 2034 | 0.0009 | 1 | 0.00 |
| 11 | 1 | 10 - 11 | 2035 | 0.0009 | 3 | 0.02 | 2035 | 0.0009 | 1 | 0.00 |
| 12 | 1 | 11 - 12 | 2036 | 0.0009 | 3 | 0.02 | 2036 | 0.0009 | 1 | 0.00 |
| 13 | 1 | 12 - 13 | 2037 | 0.0009 | 3 | 0.02 | 2037 | 0.0009 | 1 | 0.00 |
| 14 | 1 | 13 - 14 | 2038 | 0.0009 | 3 | 0.02 | 2038 | 0.0009 | 1 | 0.00 |
| 15 | 1 | 14 - 15 | 2039 | 0.0009 | 3 | 0.02 | 2039 | 0.0009 | 1 | 0.00 |
| 16 | 1 | 15 - 16 | 2040 | 0.0009 | 3 | 0.02 | 2040 | 0.0009 | 1 | 0.00 |
| 17 | 1 | 16-17 | 2041 | 0.0009 | 1 | 0.00 | 2041 | 0.0009 | 1 | 0.00 |
| 18 | 1 | 17-18 | 2042 | 0.0009 | 1 | 0.00 | 2042 | 0.0009 | 1 | 0.00 |
| 19 | 1 | 18-19 | 2043 | 0.0009 | 1 | 0.00 | 2043 | 0.0009 | 1 | 0.00 |
| 20 | 1 | 19-20 | 2044 | 0.0009 | 1 | 0.00 | 2044 | 0.0009 | 1 | 0.00 |
| 21 | 1 | 20-21 | 2045 | 0.0009 | 1 | 0.00 | 2045 | 0.0009 | 1 | 0.00 |
| 22 | 1 | 21-22 | 2046 | 0.0009 | 1 | 0.00 | 2046 | 0.0009 | 1 | 0.00 |
| 23 | 1 | 22-23 | 2047 | 0.0009 | 1 | 0.00 | 2047 | 0.0009 | 1 | 0.00 |
| 24 | 1 | 23-24 | 2048 | 0.0009 | 1 | 0.00 | 2048 | 0.0009 | 1 | 0.00 |
| 25 | 1 | 24-25 | 2049 | 0.0009 | 1 | 0.00 | 2049 | 0.0009 | 1 | 0.00 |
| 26 | 1 | 25-26 | 2050 | 0.0009 | 1 | 0.00 | 2050 | 0.0009 | 1 | 0.00 |
| 27 | 1 | 26-27 | 2051 | 0.0009 | 1 | 0.00 | 2051 | 0.0009 | 1 | 0.00 |
| 28 | 1 | 27-28 | 2052 | 0.0009 | 1 | 0.00 | 2052 | 0.0009 | 1 | 0.00 |
| 29 | 1 | 28-29 | 2053 | 0.0009 | 1 | 0.00 | 2053 | 0.0009 | 1 | 0.00 |
| 30 | 1 | 29-30 | 2054 | 0.0009 | 1 | 0.00 | 2054 | 0.0009 | 1 | 0.00 |
| **Total Increased Cancer Risk** | | | | | | **0.67** | | | | **0.08** |

* Third trimester of pregnancy

| Hazard Index | Maximum Fugitive PM2.5 | Total PM2.5 |
|---|---|---|
| 0.00 | 0.001 | 0.00 |

**500 Railroad Ave, South San Francisco, CA - Railway Impacts - Without Mitigation**
**Maximum DPM Cancer Risk and PM2.5 Calculations From Construction**
**Impacts at On-Site MEI Location**

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

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

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

Where: $C_{air}$ = concentration in air ($\mu g/m^3$)
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 |

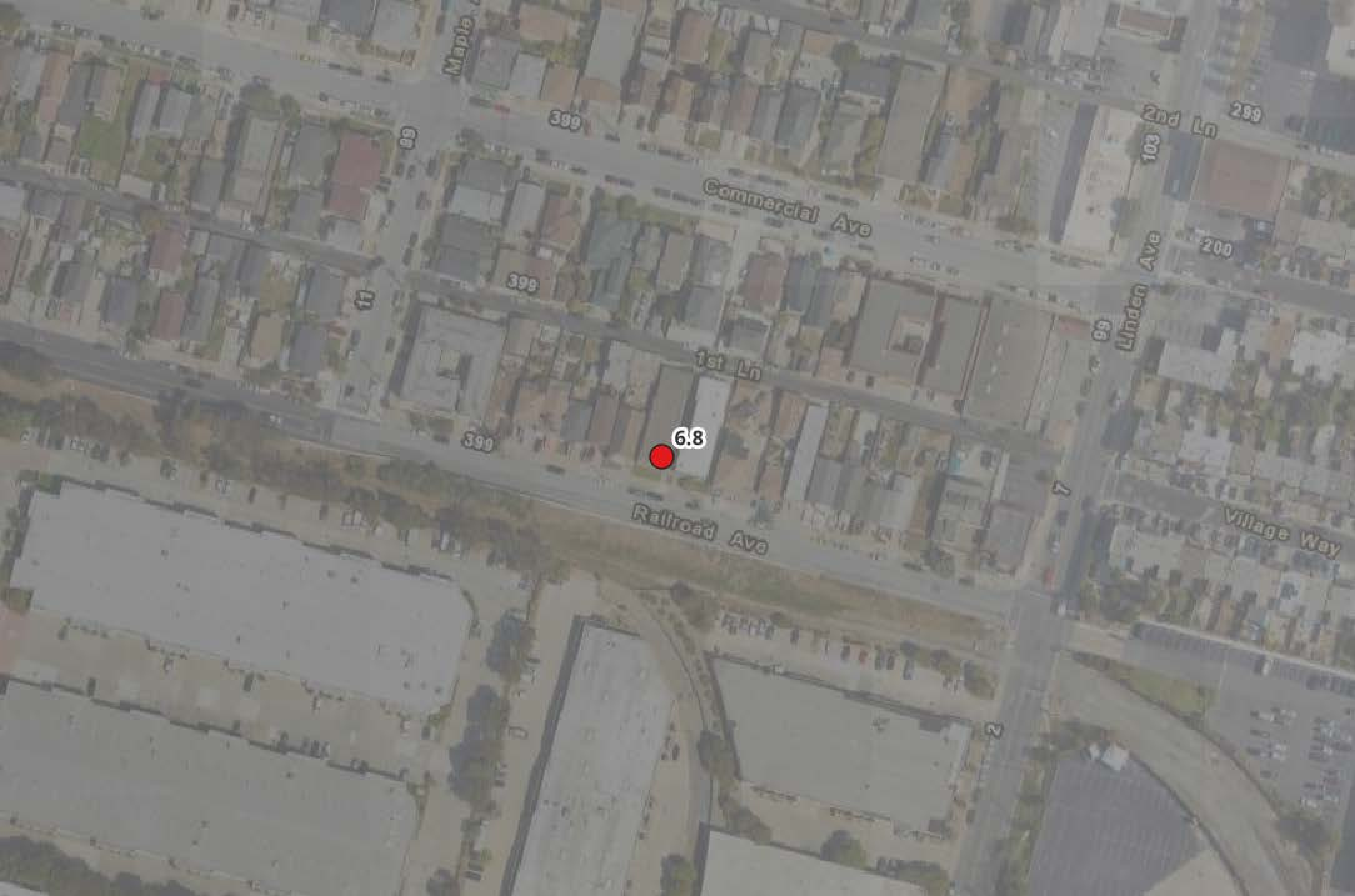
* 95th percentile breathing rates for infants and 80th percentile for children and adults

**Construction Cancer Risk by Year - Maximum Impact Receptor Location**

| | | | Infant/Child - Exposure Information | | | Infant/Child | Adult - Exposure Information | | | Adult |
|---|---|---|---|---|---|---|---|---|---|---|
| | Exposure | | | | Age | Cancer | Modeled | | Age | Cancer |
| Exposure | Duration | | DPM Conc (ug/m3) | | Sensitivity | Risk | DPM Conc (ug/m3) | | Sensitivity | Risk |
| Year | (years) | Age | Year | Annual | Factor | (per million) | Year | Annual | Factor | (per million) |
| 0 | 0.25 | -0.25 - 0* | 2027 | 0.0009 | 10 | 0.01 | 2027 | 0.0009 | - | - |
| 1 | 1 | 0 - 1 | 2027 | 0.0009 | 10 | 0.15 | 2027 | 0.0009 | 1 | 0.00 |
| 2 | 1 | 1 - 2 | 2028 | 0.0009 | 10 | 0.15 | 2028 | 0.0009 | 1 | 0.00 |
| 3 | 1 | 2 - 3 | 2029 | 0.0009 | 3 | 0.02 | 2029 | 0.0009 | 1 | 0.00 |
| 4 | 1 | 3 - 4 | 2030 | 0.0009 | 3 | 0.02 | 2030 | 0.0009 | 1 | 0.00 |
| 5 | 1 | 4 - 5 | 2031 | 0.0009 | 3 | 0.02 | 2031 | 0.0009 | 1 | 0.00 |
| 6 | 1 | 5 - 6 | 2032 | 0.0009 | 3 | 0.02 | 2032 | 0.0009 | 1 | 0.00 |
| 7 | 1 | 6 - 7 | 2033 | 0.0009 | 3 | 0.02 | 2033 | 0.0009 | 1 | 0.00 |
| 8 | 1 | 7 - 8 | 2034 | 0.0009 | 3 | 0.02 | 2034 | 0.0009 | 1 | 0.00 |
| 9 | 1 | 8 - 9 | 2035 | 0.0009 | 3 | 0.02 | 2035 | 0.0009 | 1 | 0.00 |
| 10 | 1 | 9 - 10 | 2036 | 0.0009 | 3 | 0.02 | 2036 | 0.0009 | 1 | 0.00 |
| 11 | 1 | 10 - 11 | 2037 | 0.0009 | 3 | 0.02 | 2037 | 0.0009 | 1 | 0.00 |
| 12 | 1 | 11 - 12 | 2038 | 0.0009 | 3 | 0.02 | 2038 | 0.0009 | 1 | 0.00 |
| 13 | 1 | 12 - 13 | 2039 | 0.0009 | 3 | 0.02 | 2039 | 0.0009 | 1 | 0.00 |
| 14 | 1 | 13 - 14 | 2040 | 0.0009 | 3 | 0.02 | 2040 | 0.0009 | 1 | 0.00 |
| 15 | 1 | 14 - 15 | 2041 | 0.0009 | 3 | 0.02 | 2041 | 0.0009 | 1 | 0.00 |
| 16 | 1 | 15 - 16 | 2042 | 0.0009 | 3 | 0.02 | 2042 | 0.0009 | 1 | 0.00 |
| 17 | 1 | 16-17 | 2043 | 0.0009 | 1 | 0.00 | 2043 | 0.0009 | 1 | 0.00 |
| 18 | 1 | 17-18 | 2044 | 0.0009 | 1 | 0.00 | 2044 | 0.0009 | 1 | 0.00 |
| 19 | 1 | 18-19 | 2045 | 0.0009 | 1 | 0.00 | 2045 | 0.0009 | 1 | 0.00 |
| 20 | 1 | 19-20 | 2046 | 0.0009 | 1 | 0.00 | 2046 | 0.0009 | 1 | 0.00 |
| 21 | 1 | 20-21 | 2047 | 0.0009 | 1 | 0.00 | 2047 | 0.0009 | 1 | 0.00 |
| 22 | 1 | 21-22 | 2048 | 0.0009 | 1 | 0.00 | 2048 | 0.0009 | 1 | 0.00 |
| 23 | 1 | 22-23 | 2049 | 0.0009 | 1 | 0.00 | 2049 | 0.0009 | 1 | 0.00 |
| 24 | 1 | 23-24 | 2050 | 0.0009 | 1 | 0.00 | 2050 | 0.0009 | 1 | 0.00 |
| 25 | 1 | 24-25 | 2051 | 0.0009 | 1 | 0.00 | 2051 | 0.0009 | 1 | 0.00 |
| 26 | 1 | 25-26 | 2052 | 0.0009 | 1 | 0.00 | 2052 | 0.0009 | 1 | 0.00 |
| 27 | 1 | 26-27 | 2053 | 0.0009 | 1 | 0.00 | 2053 | 0.0009 | 1 | 0.00 |
| 28 | 1 | 27-28 | 2054 | 0.0009 | 1 | 0.00 | 2054 | 0.0009 | 1 | 0.00 |
| 29 | 1 | 28-29 | 2055 | 0.0009 | 1 | 0.00 | 2055 | 0.0009 | 1 | 0.00 |
| 30 | 1 | 29-30 | 2056 | 0.0009 | 1 | 0.00 | 2056 | 0.0009 | 1 | 0.00 |
| **Total Increased Cancer Risk** | | | | | | **0.67** | | | | **0.08** |

* Third trimester of pregnancy

| | Maximum | |
|---|---|---|
| **Hazard Index** | **Fugitive PM2.5** | **Total PM2.5** |
| 0.00 | 0.001 | 0.00 |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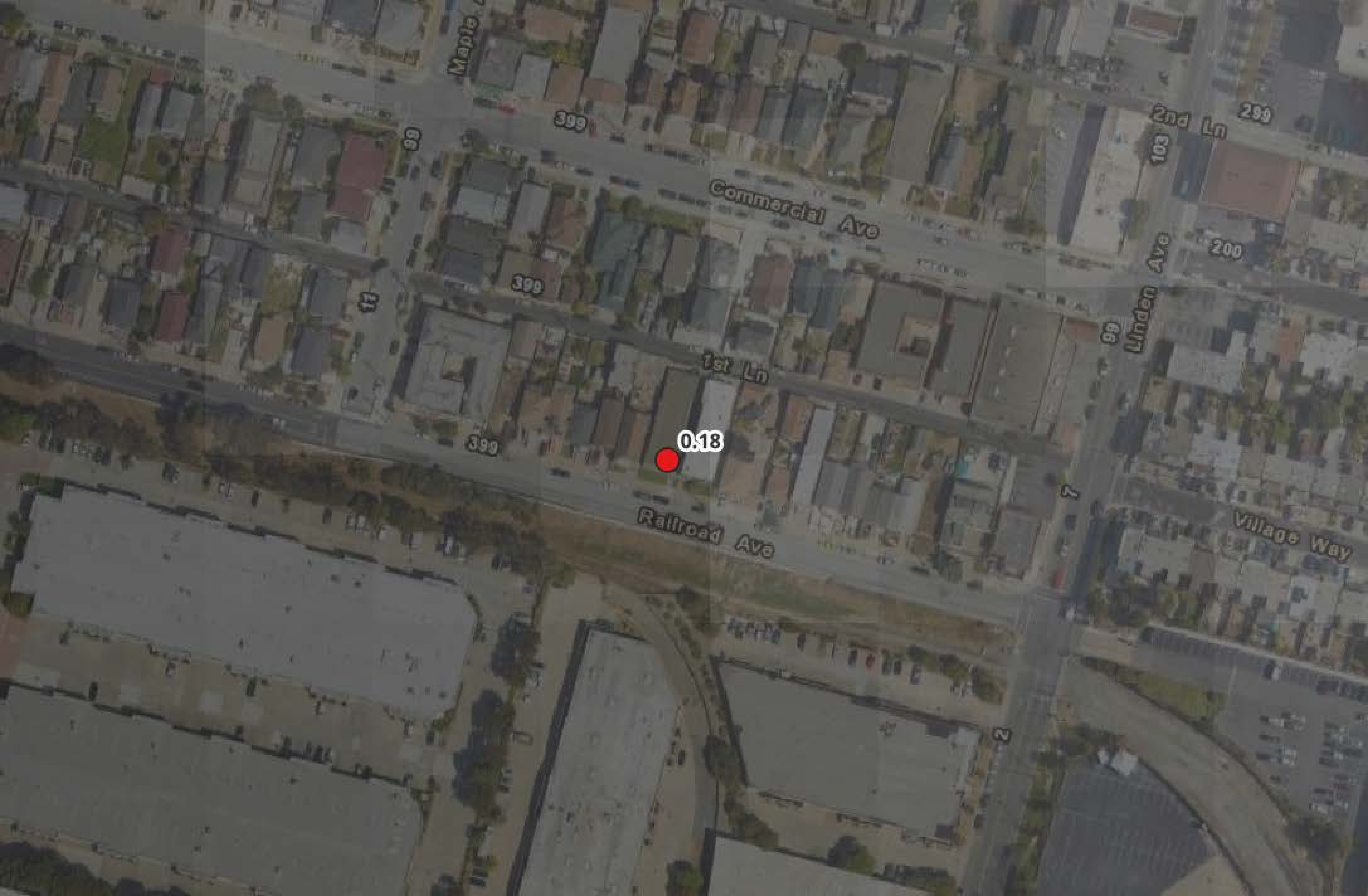

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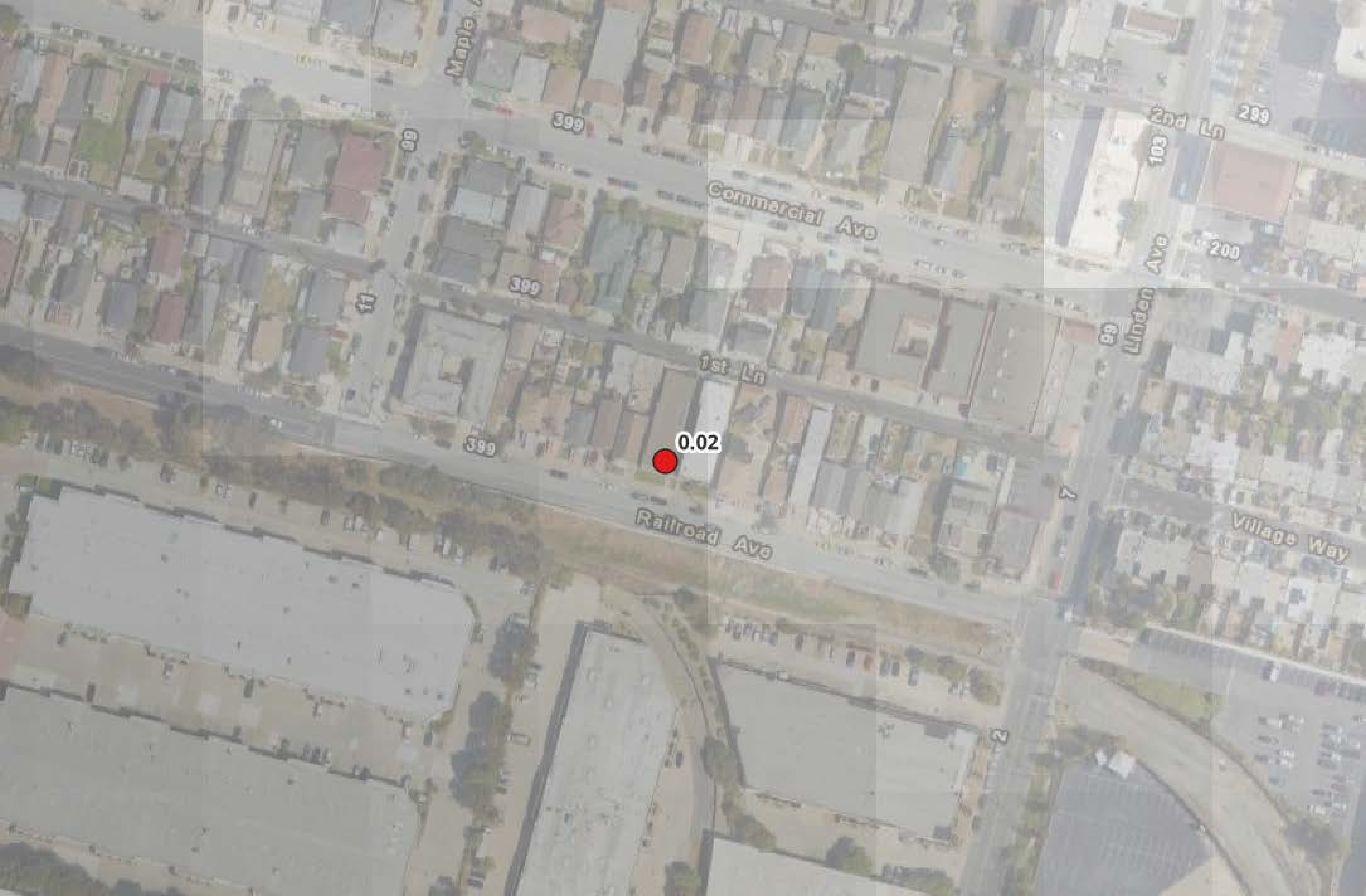

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Railroad Ave
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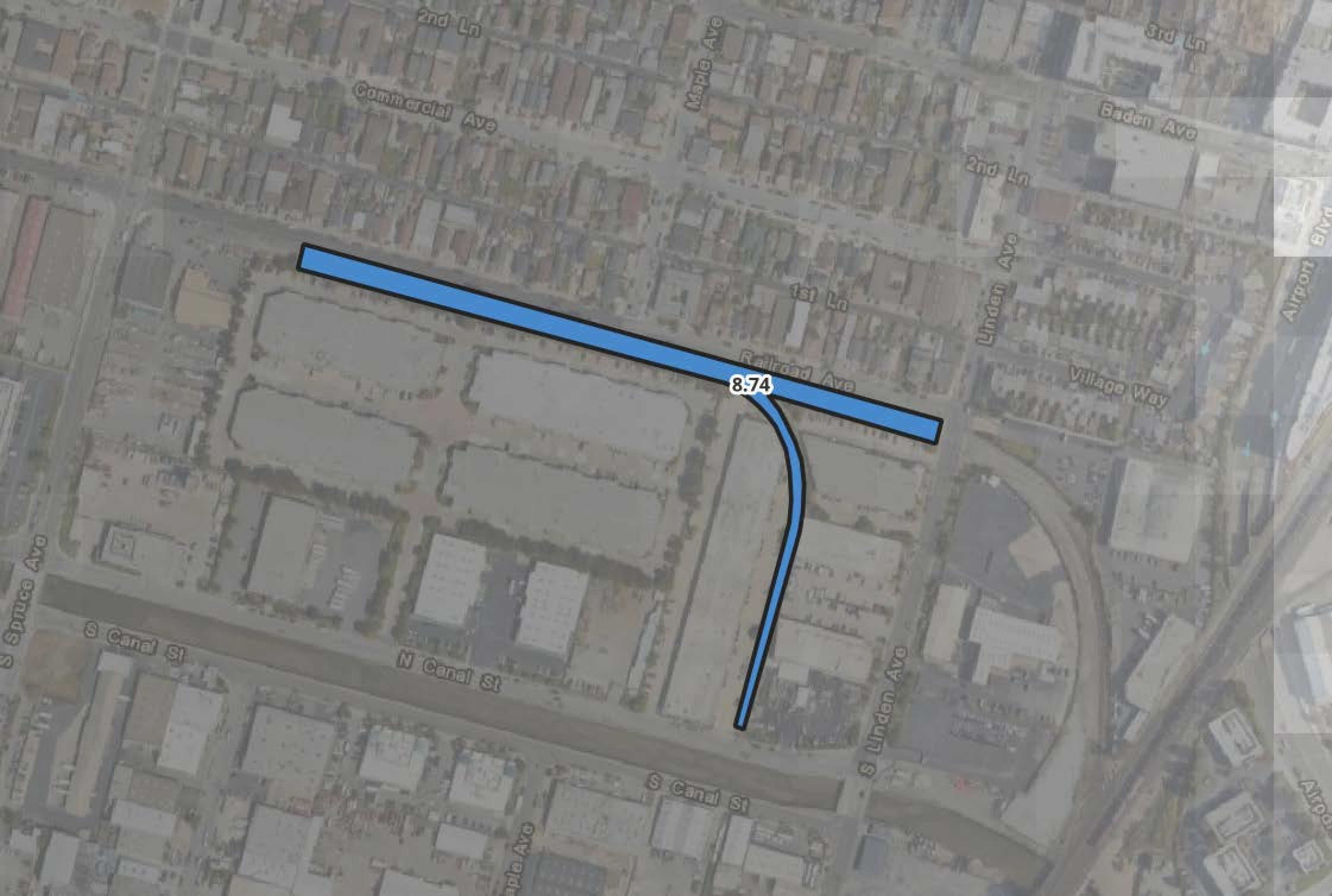
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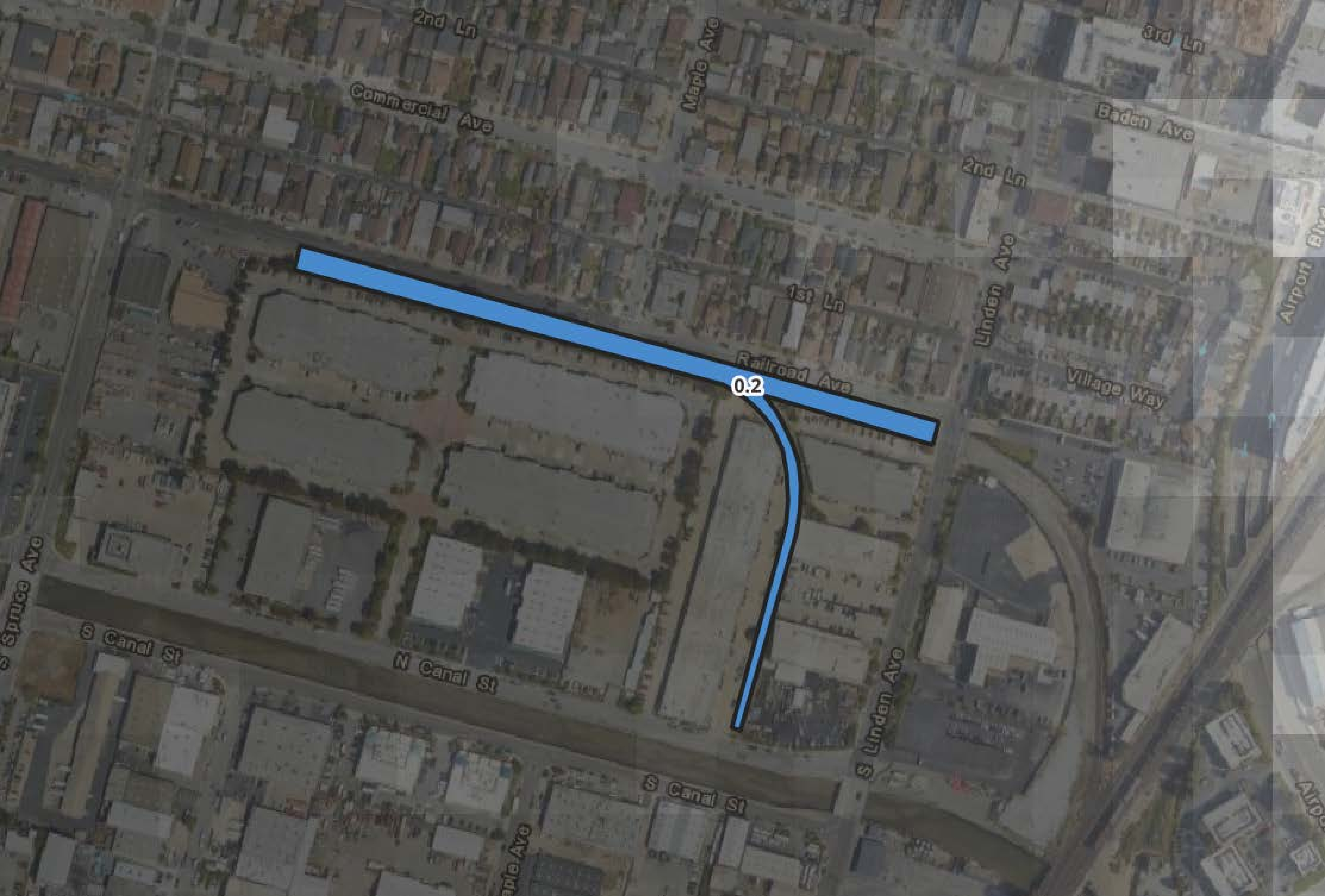

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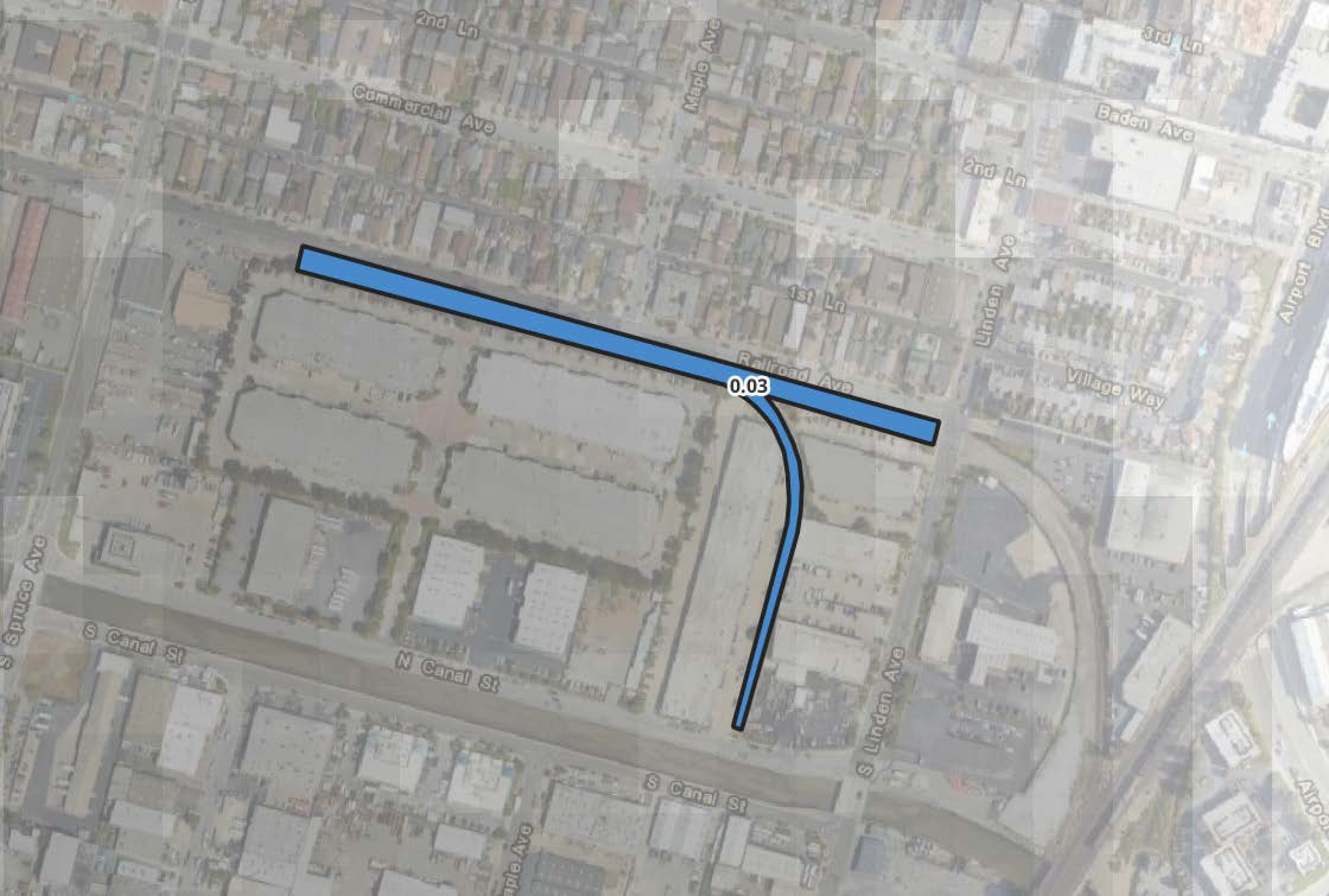
Maple Ave



2nd Ln
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3rd Ln
Commercial Ave
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2nd Ln
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Village Way
S Spruce Ave
S Canal St
N Canal St
S Linden Ave
S Canal St