830-848 SAN PABLO AVENUE PINOLE SHORES PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Pinole, California

April 25, 2024

Prepared for:

Olivia Ervin
Principal Environmental Planner
M-Group
499 Humboldt Street
Santa Rosa, CA 95404

Prepared by:

James A. Reyff
Zachary Palm
Jordyn Bauer

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project#: 22-136

Introduction

The purpose of this report is to address air quality, health risk, and greenhouse gas impacts associated with the proposed warehouse project located at 830-848 San Pablo Avenue in Pinole, California. The air quality impacts from this project would be associated with construction of the new buildings and operation of the project. Air pollutant emissions were estimated using appropriate computer models. In addition, the potential health risks associated with construction and operation of the project and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project site is located on a single vacant 7.37-acre parcel that is located at 830-848 San Pablo Avenue. The project proposes to construct a single light industrial building totaling approximately 119,226 square feet (sf). The project would include 137 parking spaces surrounding the project site and 18 loading docks located on the southeastern façade of the proposed building. The driveway to the site would be at the southeast portion. Truck loading and parking would occur in the southern portion of the site. A fire lane would surround much of the site and include additional parking for light-duty vehicles. Construction is expected to begin in January 2025 to be completed by July 2025.

Setting

The project is located in Contra Costa 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

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

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.

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 multi-family residences on the eastern boundary of the project site. Additional sensitive receptors are located at further distances around the project site. This project would not introduce new sensitive receptors (i.e., residents) to the area.

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)

---

[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.

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.

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

[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.

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 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.

---

[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.

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. However, the project site is not within an overburdened area as the Project site is scored at the 42nd percentile on CalEnviroScreen.[8]

City of Pinole General Plan Update

The 2010 Pinole General Plan Update[9] outlines the long-range policy framework to guide decision-making related to sustainability and stewardship, community tapestry, and fiscal responsibly and economic health. The Health and Safety Element and Sustainability Element includes goals, policies and actions focused on improving air quality and reducing GHG emissions. The following goals, policies, and actions are applicable to the proposed project:

GOAL SE.6 Integrate green building standards into all new and rehabilitated development.

POLICY SE.6.1 Develop local green building and energy efficiency standards.

GOAL SE.7 Air Quality will be maintained and improved for the City of Pinole and the Bay Area as a region and not decline below levels measured in the early 1990's.

POLICY SE.7.1 Continue working with the Bay Area Air Quality Management District and other regional agencies to:

1. Improve air quality through pollution prevention methods.
2. Ensure enforcement of air emission standards.
3. Reduce local and regional traffic (the single largest source of air pollution in the city) and support public transit improvements.
4. Promote regional air pollution prevention plans for business and industry.
5. Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
6. Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking.
7. Promote anti-idling policies and programs.

ACTION SE.7.1.1 Apply BAAQMD-approved criteria air pollutant reducing Basic Construction Mitigation Measures to all future construction projects within the GPU Planning Area where feasible whether or not construction related

---

[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] City of Pinole, *Pinole General Plan Update*, November 2010. Web: https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_2010_General_Plan%20with%202015-2023%20Housing%20Element%20Update.pdf

emissions exceed applicable Thresholds of Significance. These best management practices include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations (BAAQMD, 2010).

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.[10] 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.

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

Table 1. BAAQMD CEQA Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 µg/m^3	0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).		
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases. * 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.			

AIR QUALITY IMPACTS AND ENVIRONMENTAL CONDITIONS OF APPROVAL

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

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[11] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Guidance provided in the BAAQMD CEQA guidelines recommends that Plans show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds provided in BAAQMD's CEQA guidance. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see Impact below) and 2) the project would be considered urban infill as it develops an area previously analyzed and approved to be an active commercial or industrial land use. Therefore, the project would have less than significant impacts due to conflicts with the CAP.

Condition of Approval: None.

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

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the 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 O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. The O_3 precursor pollutant thresholds are for ROG and NOx, while PM_{10}, and $PM_{2.5}$ have specific thresholds. The thresholds apply to both construction period emissions and operational period emissions.

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

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 Modeling</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	Acreage
Unrefrigerated Warehouse – No Rail	119.226	1,000-sf	119,226	7.37
Parking Lot	137	Parking Spaces	-	

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 information provided by the project applicant (included in *Attachment 1)*. The construction schedules assumed that the earliest possible start date would be January 2025 and the project would be built out over a period of approximately 7 months or 151 construction workdays. The earliest full year of project operation was assumed to be 2026.

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 estimated demolition material to be exported, soil imported and/or exported to the site, and amount of concrete truck trips to and from the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for demolition and grading were estimated by CalEEMod using the estimated demolition and provided oil import/export volumes. The number of total concrete haul trips was provided for the project and converted to daily one-way trips, assuming two trips per delivery.

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 3 shows the unmitigated 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 unmitigated annualized project construction emissions would not exceed the BAAQMD significance thresholds during construction.

Table 3. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2025	0.70	0.65	0.03	0.0.2
BAAQMD Thresholds (tons per year)	*10 tons/year*	*10 tons/year*	*15 tons/year*	*10 tons/year*
Exceed Threshold?	No	No	No	No
Average Daily Construction Emissions Per Year (pounds/day)				
2025 (185 construction workdays)	9.21	8.65	0.36	0.33
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider construction impacts to be less-than-significant if best management practices are implemented to reduce these emissions. The City has adopted the BAAQMD CEQA Air Quality Guidelines best management practices to control dust and exhaust during construction activities under the City's General Plan Update Action SE.7.1.1. As a condition of approval, and to ensure compliance with Action SE.7.1.1, and latest BAAQMD best management practices, the project would be required to implement these practices during construction activities. Therefore, air pollutant emissions from the project construction would be less than significant.

Measures to reduce fugitive dust (i.e., $PM_{2.5}$) emissions from construction are recommended to ensure that health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implements basic measures to control dust and exhaust. Implementation of the dust control measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level.

Condition of Approval AQ-1: Implement BAAQMD-Recommended Standard Measures to Control Particulate Matter Emissions during Construction.

The contractor shall implement the following best management practices:

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

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

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

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

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

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

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

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

Effectiveness of Condition of Approval AQ-1

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

Operational Period Emissions

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

CalEEMod Inputs

Land Uses

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

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2026 if construction begins in 2025. Emissions associated with build-out later than 2026 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[12] This rate was calculated from the AM and PM peak hour traffic data. The project is expected to generate an estimated 985 daily trips. The Saturday and Sunday trip rates were derived by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

Operational Truck Traffic Emissions

Based on information provided by the project traffic consultant, the project would generate 107 truck trips as deliveries to and from the project site. These trucks are assumed to be heavy heavy-duty trucks (HHDT) and are a source of long-term DPM emissions. These trucks would travel to and from the site and are anticipated to idle at loading docks for 5 minutes for each trip.

This analysis involved the development of criteria pollutant emissions for heavy-duty truck trips on San Pablo Avenue, the driveway from San Pablo Avenue to the project site, and around the project site using the Caltrans version of the CARB EMFAC2021 emissions model, known as CT-EMFAC2021. CT-EMFAC2021 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for ROG, NO_x, DPM, and $PM_{2.5}$. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2021 emissions data. Inputs to the model include region (Contra Costa County), type of road (major/collector), heavy-heavy-duty truck trips accounting for 100% of the fleet mix, year of analysis (2026 - operational start year), and season (annual).

To estimate criteria pollutant emissions, the CT-EMFAC2021 model was used to develop vehicle emission factors for the year 2026 (operational start year). Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in

[12] Fehr & Peers, File: *Pinole_Shores_II_Volumes_air_noise_20240409.xlsx*

over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CT-EMFAC2021. Year 2026 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future. Finally, the default EMFAC2021 VMT-by-speed-bin information within CT-EMFAC2021 was combined with the emission factors, and an assumed 20-mile trip length, to calculate the emissions from truck travel. The emissions from truck trips are included in Table 4.

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. Marin Clean Energy (MCE) is the default electricity provider in Pinole. CalEEMod has a default emission factor of 187.983 pounds of CO_2 per megawatt of electricity produced.

According to the project applicant, the project will be all electric. Therefore, natural gas use for the unrefrigerated warehouse land use was set to zero and reassigned to electricity use in CalEEMod.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod. The daily emissions were calculated assuming 365 days of operation. Table 4 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds. Model summaries and output are provided in *Attachment 1*.

Table 4. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	1.20	0.52	1.08	0.28
Project Truck Trips (*tons/year*)	0.01	0.65	0.43	0.08
Total Operational Emissions (*tons/year*)	1.21	1.17	1.51	0.36
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Project Operational Emissions (*lbs./day*)[1]	6.61	6.44	8.27	1.96
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

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

This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., heavy-duty truck trips). Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would increase traffic consisting of mostly light-duty vehicles, which would produce TAC and air pollutant emissions.

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

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's theoretical maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing 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 would be present for extended periods of time (i.e., chronic exposures). This includes the nearby residences to the north and east of the project site, as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. 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

---

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

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

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 0.03 tons (54 pounds) and fugitive dust emissions ($PM_{2.5}$) to be 0.08 tons (158 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.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[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, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

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

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

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 Conoco Philips Hillcrest site 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 7:00 p.m., when the majority of construction and truck activity would occur according to the project applicant. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2025 period and truck activity during the 2026 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing height on the first and second floors of nearby single- and multi-family residences.[17]

Health Risks from Project Operation

As discussed above in the operational period emissions section, there would be 107 truck trips to the project site per day. These trucks are assumed to be heavy heavy-duty trucks (HHDT) and are a source of long-term DPM emissions. These trucks would travel to and from the site and are anticipated to idle at loading docks for 5 minutes for each trip.

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions from the heavy heavy-duty truck trips in the same manner as described above for the criteria pollutant emissions from the truck trips. However, emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear from re-entrained roadway dust were included in these emissions.

To estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors near the project site, the CT-EMFAC2021 model was used to develop vehicle emission factors for the year 2026 (construction start year). Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CT-EMFAC2021. Year 2026 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future.

For all hours of the day an average speed of 40 mph on San Pablo Avenue, 25 mph on the driveway, and 5 mph around the project site was assumed for all vehicles. Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ along the applicable segments of San Pablo Avenue within 1,000 feet of the project site, the driveway, and the project site. AERMOD was used to

[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

estimate the TAC and $PM_{2.5}$ concentrations at the nearby sensitive receptors. Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.[18] TAC and $PM_{2.5}$ emissions from truck trips on San Pablo Avenue within 1,000 feet of the project site, the driveway, and the project site were evaluated. Vehicle traffic on the roadways and to/from the loading area was modeled using a series of area sources along a line (line area sources); with line segments used for travel in opposing directions. An area source was used to represent truck idling emissions near the loading area. Trucks were assumed to idle for 5 minutes. The same meteorological data and off-site sensitive receptors used in the previous construction site dispersion modeling scenario were used in the truck trip modeling.

Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations using 2026 emissions from truck trips on San Pablo Avenue, the driveway, and the project site were calculated using the model. Concentrations were calculated at the MEI with receptor heights of 5 feet (1.5 meter) were used to represent the breathing heights on the first floor of the single-family residence.

Computed Cancer and Non-Cancer Health Impacts

The cancer risk, $PM_{2.5}$ concentration, and HI impacts from truck trips are shown in Table 5. Figure 1 shows the areas modeled and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from truck trips are provided in *Attachment 2*.

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

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

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 maximum modeled annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors to find the MEI. The risk impacts from a project are the combination of construction and operation sources. These sources include one year of on-site construction activity and twenty-nine

---

[18] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

years of operational truck trips. The maximum project cancer risk impact is computed by adding the construction cancer risk for an infant/child to the increased cancer risk for the project operational conditions from the truck traffic at the MEI. Residential sensitive receptors were assumed to be present near the site for up to 30 years. The cancer risks from construction and operation of the project were summed together. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI risks are not cumulative but based on an annual maximum risk for the entirety of the project.

Results of this assessment indicated that the project MEI was located on the first floor (1.5 meters) of a multi-family residence east of the project site. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 5 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.

Table 5. Project Risk Impacts at the Off-Site Receptors

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (Years 0-1)	Without COA	**12.69 (infant)**	**0.34**	0.01
	With COA	2.42 (infant)	0.12	<0.01
Project Truck Trips (Years 1-30)		0.80 (infant)	0.01	<0.01
Total/Maximum Project Impacts (Years 0-30)	Without COA	**13.49**	**0.34**	0.01
	With COA	3.22	0.12	<0.01
	BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	Without COA	***Yes***	***Yes***	*No*
	With COA	*No*	*No*	*No*

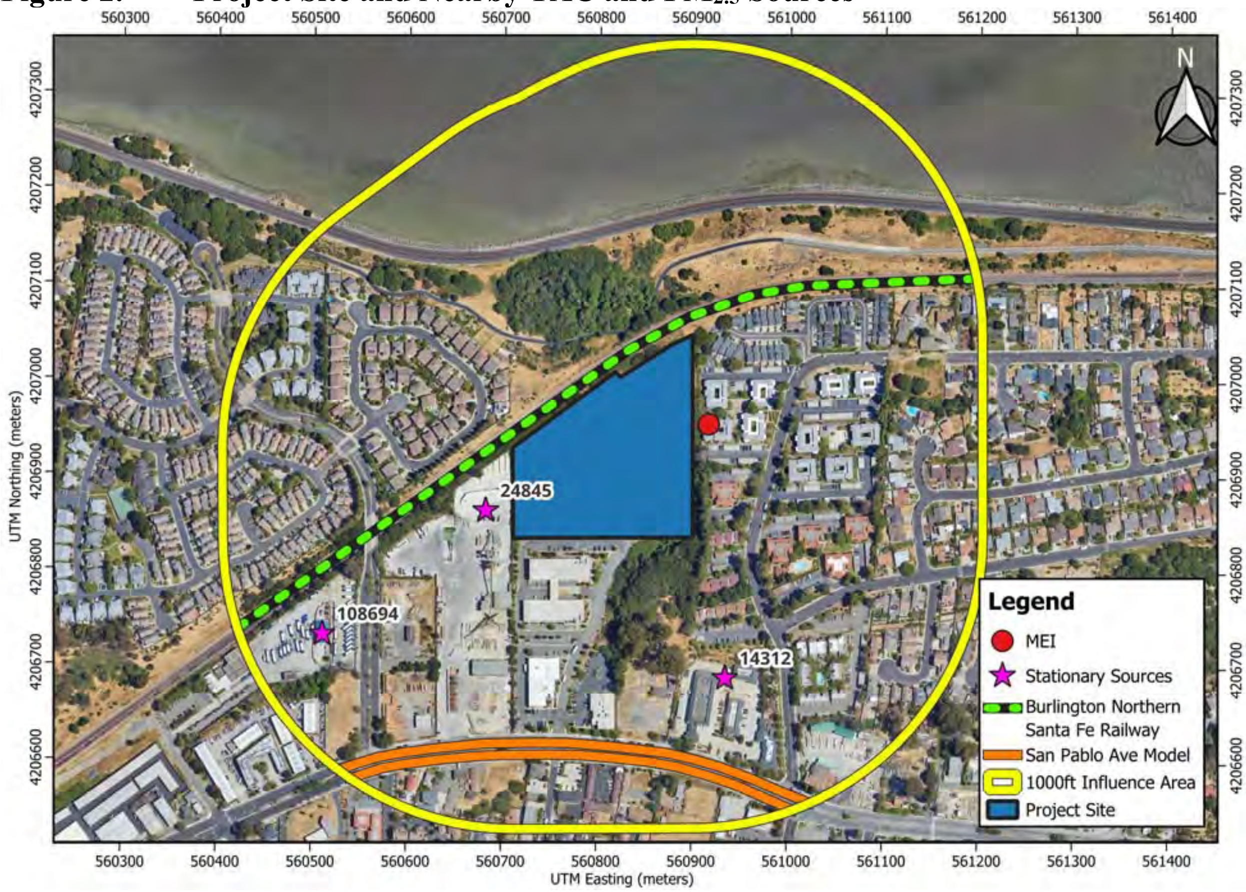
Figure 1. Locations of Project Construction Site, Off-Site Sensitive Receptors, Truck Route, Onsite Trucks, and Maximum TAC Impact Location (MEI)

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

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

A review of the traffic data provided by the applicant's traffic consultant found that one roadway, San Pablo Avenue, within 1,000 feet of the project site would have traffic exceeding 10,000 vehicles per day. All other roadways would have less than 10,000 vehicles per day. A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified three stationary sources within the influence area. The Burlington Northern Santa Fe Railroad is also near the project site. Figure 3 shows the project area, TAC sources within the influence area, and the location of the MEI. Details of the modeling and health risk calculations are included in *Attachment 3.*

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



Local Roadways – San Pablo Avenue

A refined analysis of potential health impacts from vehicle traffic on San Pablo Avenue was conducted. This analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks were then computed based on the modeled exposures.

Traffic Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on San Pablo Avenue in the same manner as described above for the operational truck trips. However, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were also included in the emissions estimate. Further, inputs to the model were adjusted to include region (Contra Costa County), type of road (major/collector), truck percentage for non-state highways in Contra Costa County (3.59 percent),[19] traffic mix assigned by CT-EMFAC2021 for the county, year of analysis (2025 – construction start year), and season (annual).

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

Average hourly traffic distributions for Contra Costa County roadways were developed using the EMFAC model,[20] which were then applied to the average daily traffic (ADT) volumes to obtain estimated hourly traffic volumes and emissions for the roadway. The estimated ADT for San Pablo Avenue was 18,911 vehicles based on a 1% increase per year from a measured ADT of 18,360 vehicles in 2022. An average travel speed of 40 miles per hour (mph) on San Pablo Avenue was used for all hours of the day based on posted speed limit signs.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions from vehicles traveling on San Pablo Avenue was conducted in the same manner as described above for the operational truck trips. Concentrations were calculated at the project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights on the first floor in the nearby residence.

Computed Cancer and Non-Cancer Health Impacts

The cancer risk, $PM_{2.5}$ concentration, and HI impacts from the roadway on the off-site MEI are shown in Table 6. Figure 2 shows the roadway links modeled and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from roadway traffic are provided in *Attachment 3.*

Railways – Burlington Northern Santa Fe Railroad

The project MEI is located near the Burlington Northern Santa Fe Railroad. Cancer risk, $PM_{2.5}$ concentrations, and HI associated with trains on the railroad were estimated using BAAQMD screening values provided via GIS data files (i.e., raster files). BAAQMD raster files provide screening-level cancer risk, $PM_{2.5}$ concentrations, and HI for railways within the Bay Area and were produced using AERMOD and 20x20-meter emissions grid. The raster file uses Appendix E of the Air District's CEQA Air Quality Guidance for risk assessment assumptions. Note that BAAQMD's screening values are considered higher than values that would be obtained with refined modeling methods. Screening-level cancer risk, $PM_{2.5}$ concentration, and HI for the Burlington Northern Santa Fe Railroad at the project MEI are listed in Table 6.

[20] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2021 does not include Burden type output with hour-by-hour traffic volume information.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2020* GIS website,[21] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. Three sources, a gas dispensing facility, a concrete manufacturer, and an auto body shop, were identified using this tool. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided input and clarification about the stationary sources. The screening level risks and hazards provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Gasoline Dispensing Facility and Generic Equipment*. Health risk impacts from stationary sources upon the MEI are reported in Table 6.

Stationary-Source: Central Concrete Pinole Plant (Plant #24845)

The project site is near a ready-mix concrete manufacturing plant, Central Concrete Pinole Plant, that is permitted to operate as Plant #24845. Concrete plants are a source of $PM_{2.5}$ emissions associated with the pulverization of raw material and other processes at the facility. BAAQMD provides screening $PM_{2.5}$ risk predictions for this facility through their Source Risk & Hazards Screening Report that was ran on September 9, 2022. The screening annual $PM_{2.5}$ concentration at the facility was reported at 5.9 ug/m^3. Since screening projections indicated the annual $PM_{2.5}$ emissions would be far above the single-source threshold, the next step in this evaluation was to conduct a more refined screening assessment of the facility based on additional tools. This involved obtaining actual emissions data for the facility through a public information request to BAAQMD to obtain facility $PM_{2.5}$ emission rates.[22]

For modeling fugitive $PM_{2.5}$ emissions, an area source with a near-ground level release height of 7 feet (2 meters) was used. The emission rate for the area source was based on the size of the parcel the Central Concrete plant is located on, and the $PM_{2.5}$ emissions reported by BAAQMD. It is assumed that the emissions generated by the Central Concrete plant would be distributed evenly over the entire area source. 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 this reason, a 7-foot release height was used as the average release height across the Central Concrete site. The emission rates and source calculations used in the analysis are shown in *Attachment 3*.

Summary of Cumulative Health Risk Impact at Construction MEI

Table 6 reports both the project and cumulative health risk impacts at the sensitive receptors most affected by the project (i.e., the MEI). The health risks from project activities would exceed the maximum increased cancer risk and $PM_{2.5}$ concentrations single-source thresholds. However, with the implementation of *Condition of Approval AQ-1 and AQ-2*, the increased cancer risk and $PM_{2.5}$ concentrations would no longer exceed the BAAQMD single-source thresholds. Further,

---

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

[22] Correspondence with Matthew Hanson, Environmental Planner II, BAAQMD, October 10, 2022.

regardless of application of AQ-1 and AQ-2, none of the BAAQMD cumulative-source thresholds are exceeded. Therefore, the cumulative health risk impacts at the construction MEI are considered to be less than significant. All cancer risk calculations assume that an infant is present during the period of time when the highest emissions from project construction occur. This ensures that the quantified cancer risk is the highest possible risk value.

Table 6. Impacts from Combined Sources at Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Total/Maximum Project Impacts (Years 0-30)	Without COA	**13.49 (infant)**	**0.34**	0.01
	With COA	3.22 (infant)	0.12	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Without COA	***Yes***	***Yes***	*No*
	With COA	*No*	*No*	*No*
Cumulative Sources				
Crocketts Premier Auto Body (Facility ID #14312, Automotive Body, Paint, and Interior Repair and Maintenance), MEI at 955 ft		-	-	<0.01
Central Concrete Pinole Plant (Facility ID #24845, Ready-Mix Concrete Manufacturing), MEI at 850 ft[1]		-	0.12	-
Western Contra Costa Transit Authority (Facility ID #108694_1, Gas Dispensing Facility), MEI at 1000+ ft		0.01	-	<0.01
Burlington Northern Santa Fe Railway		6.63	0.01	0.01
San Pablo Avenue, 18,544 ADT		0.19	0.01	<0.01
Combined Sources	Without COA	20.32	0.48	<0.05
	With COA	10.05	0.26	<0.05
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Without COA	*No*	*No*	*No*
	With COA	*No*	*No*	*No*

[1] The annual $PM_{2.5}$ concentration for the Central Concrete source was modeled using AERMOD.

Conditions of Approval AQ-2: Use construction equipment that has low diesel particulate matter exhaust to minimize emissions and limit use of diesel-powered stationary equipment.

Implement a feasible plan to reduce DPM emissions by 45 percent such that increased cancer risk and annual $PM_{2.5}$ concentrations from construction would be reduced below TAC significance levels as follows:

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

    a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 45 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

2. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 45 percent or greater. Elements of the plan could include a combination of some of the following measures:
   - Implementation of No. 1 above to use Tier 4 engines or alternatively fueled equipment,
   - Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
   - Use of electrically-powered equipment,
   - Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
   - Change in construction build-out plans to lengthen phases, and
   - Implementation of different building techniques that result in less diesel equipment usage.

   Such a construction operations plan would be subject to review by an air quality expert and approved by the City prior to construction.

Effectiveness of Conditions of Approval AQ-1 and AQ-2

CalEEMod was used to compute emissions associated with these conditions of approval assuming that all equipment met U.S. EPA Tier 4 Interim engine standards and BAAQMD best management practices for construction were included. With these conditions implemented, the project's construction cancer risk impact, assuming infant exposure, would be reduced by 81 percent to 2.42 per million and the combined project cancer risk impact would be reduced to 5.16 per million at the residential MEI. Similarly, the projects annual $PM_{2.5}$ concentration would be reduced by 65 percent to 0.12 µg/m^3 from 0.34 µg/m^3. A plan that reduces DPM emissions by 45 percent would reduce cancer risk and annual $PM_{2.5}$ concentrations to below the BAAQMD single-source thresholds far enough such that including the increased cancer risk from the heavy-duty truck trips, which cannot be mitigated, would keep the project under the BAAQMD single-source threshold. As a result, the project's construction and operational risk impacts are considered less than significant.

GREENHOUSE GAS EMISSIONS

Setting

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

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

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

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

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2022, total gross nationwide GHG emissions were 5,215.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[23] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission

[23] United States Environmental Protection Agency, 2022. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020*. February. Web: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

inventory on an annual basis where the latest inventory includes 2000 through 2019 emissions.[24] In 2019, GHG emissions from statewide emitting activities were 418.2 MMT CO_2e. The 2019 emissions have decreased by 30 percent since peak levels in 2007 and are 7.2 MMT CO_2e lower than 2018 emissions level and almost 13 MMT CO_2e below the State's 2020 GHG limit of 431 MMT CO_2e. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MT CO_2e per person to 10.5 MT CO_2e per person in 2019.

Recent Regulatory Actions for GHG Emissions

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

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

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

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

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

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

[24] CARB. 2021. *California Greenhouse Gas Emission for 2000 to 2019*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf

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

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a GHG emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.[25] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB has drafted a 2022 Scoping Plan Update to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2022 draft plan:

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

The draft Scoping Plan Update was published on May 10, 2022 and, once final, will lay out how the state can get to carbon neutrality by 2045 or earlier. It is also the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.[26]

The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The 2022 Draft Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the draft 2022 Scoping Plan, CARB recommends:

---

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

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

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

Executive Order B-55-18 – Carbon Neutrality

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

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

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

Senate Bill 350 - Renewable Portfolio Standards

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

Senate Bill 100 – Current Renewable Portfolio Standards

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

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

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[27] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[28]

CEC studies have identified the most aggressive electrification scenario as putting the building sector on track to reach the carbon neutrality goal by 2045.[29] Installing new natural gas infrastructure in new buildings will interfere with this goal. To meet the State's goal, communities have been adopting "Reach" codes that prohibit natural gas connections in new and remodeled buildings.

Requirements for electric vehicle (EV) charging infrastructure are set forth in Title 24 of the California Code of Regulations and are regularly updated on a 3-year cycle. The CALGreen standards consist of a set of mandatory standards required for new development, as well as two

---

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

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

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

more voluntary standards known as Tier 1 and Tier 2. The CalGreen standards have recently been updated (2022 version) to require deployment of additional EV chargers in various building types, including multifamily residential and nonresidential land uses. They include requirements for both EV capable parking spaces and the installation of Level 2 EV supply equipment for multifamily residential and nonresidential buildings. The 2022 CALGreen standards include requirements for both EV readiness and the actual installation of EV chargers. The 2022 CALGreen standards include both mandatory requirements and more aggressive voluntary Tier 1 and Tier 2 provisions. Providing EV charging infrastructure that meets current CALGreen requirements will not be sufficient to power the anticipated more extensive level of EV penetration in the future that is needed to meet SB 30 climate goals.

SB 743 Transportation Impacts

Senate Bill 743 required lead agencies to abandon the old "level of service" metric for evaluating a project's transportation impacts, which was based solely on the amount of delay experienced by motor vehicles. In response, the Governor's Office of Planning and Research (OPR) developed a VMT metric that considered other factors such as reducing GHG emissions and developing multimodal transportation[30]. A VMT-per-capita metric was adopted into the CEQA Guidelines Section 15064.3 in November 2017. Given current baseline per-capita VMT levels computed by CARB in the 2030 Scoping Plan of 22.24 miles per day for light-duty vehicles and 24.61 miles per day for all vehicle types, the reductions needed to achieve the 2050 climate goal are 16.8 percent for light-duty vehicles and 14.3 percent for all vehicle types combined. Based on this analysis (as well as other factors), OPR recommended using a 15-percent reduction in per capita VMT as an appropriate threshold of significance for evaluating transportation impacts.

Advanced Clean Cars

The Advanced Clean Cars Program, originally adopted by CARB in 2012, was designed to bring together CARB's traditional passenger vehicle requirements to meet federal air quality standards and also support California's AB 32 goals to develop and implement programs to reduce GHG emissions back down to 1990 levels by 2020, a goal achieved in 2016 as a result of numerous emissions reduction programs.

This recent rule, *Advanced Clean Cars II (ACC II)* is phase two of the original rule. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

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

City of Pinole General Plan Update

The Pinole General Plan Update[31] outlines the long-range policy framework to guide decision-making related to sustainability and stewardship, community tapestry, and fiscal responsibly and economic health. The Health and Safety Element and Sustainability Element includes goals, policies and actions focused on improving air quality and reducing GHG emissions. The following goals, policies, and actions are applicable to the proposed project:

POLICY HS.6.2	Reduce greenhouse gas emissions.
GOAL SE.3	The City will reduce its contribution to climate change and mitigate and adapt to the effects of climate change as appropriate.
POLICY SE.3.1	Reduce greenhouse gas emissions from City operations and community sources by a minimum of 15 percent below current or baseline levels by the year 2020.
ACTION SE.3.1.1	Complete the in-progress Greenhouse Gas Emissions Inventory for Government Operations and the community (or Planning Area) consistent with State or other accepted protocol. The Inventory shall provide a business-as-usual forecast for GHG emissions for 2020 and 2030.
ACTION SE.3.1.2	Within 12 months of completion of a baseline GHG Inventory, initiate development of a Climate Action Plan that identifies how the City will achieve its 15% reduction target by 2020, at a minimum.
POLICY SE.3.4	Reduce GHG emissions by reducing vehicle miles traveled and by increasing or encouraging the use of alternative fuels and transportation technologies.
GOAL SE.4	Optimize energy efficiency and renewable energy.

The city is currently in the process of adopting a Climate Action and Adaptation Plan (CAAP) with expected adoption to be in mid-2023.[32] The goal of the CAAP is to target a 40% reduction below 1990 levels by 2030, which would put the City on the path to achieve carbon neutrality before 2045. Therefore, once adopted, the City's CAAP will be considered a qualified GHG reduction strategy that meets the State CWQA Guidelines Section 15183.5. Since the plan has not been adopted yet, the BAAQMD's CEQA Air Quality Guideline's thresholds are used.

[31] City of Pinole, *Pinole General Plan Update*, November 2010. Web: https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_10946972/File/City%20Government/Planning/General%20Plan/City_of_Pinole_2010_General_Plan%20with%202015-2023%20Housing%20Element%20Update.pdf

[32] City of Pinole, 2018. *Climate Action and Adaptation Plan*. January 2023. Web: https://www.ci.pinole.ca.us/city_government/public_works/sustainability/climate_action_and_adaptation_plan

BAAQMD GHG Significance Thresholds

On April 20, 2022, BAAQMD adopted new thresholds of significance for operational GHG emissions from land use projects for projects beginning the CEQA process. The following framework is how BAAQMD will determine GHG significance moving forward.[33] Note BAAQMD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency. The new thresholds of significance are:

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

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

Any new land use project would have to include either section A or B from the above list, not both, to be considered in compliance with BAAQMD's GHG thresholds of significance.

Impact GHG-1: The project would generate greenhouse gas emissions, either directly or indirectly, that would have a less than significant impact on the environment.

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal.

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

Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the construction period emissions. CalEEMod output is included in *Attachment 1*.

Construction GHG Emissions

GHG emissions associated with construction were computed at 137 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. Pursuant to AQ-1 above, the project will incorporate BAAQMD best management practices to reduce GHG emissions during construction, and therefore impacts will be less than significant.

Operational GHG Emissions

The CalEEMod model, along with the project vehicle trip generation rates, were used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 7 for informational purposes only, annual GHG emissions resulting from operation of the proposed project are predicted to be 1,844 MT of CO_2e in 2026.

Table 7. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project in 2026
Area	2
Energy Consumption	119
Mobile	1,057
Mobile – Truck Trips	600
Solid Waste Generation	35
Water Usage	32
Total (MT CO_{2e}/year)	1,844

Condition of Approval: None.

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

The proposed building would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards. To avoid interference with statewide

GHG reduction measures identified in CARB's Scoping Plan and SB 100 goals, the project includes the following:

1. The project is all-electric and no natural gas will be used.
   - Conforms – the project will be all electric.
2. Avoid wasteful or inefficient use of electricity,
   - Conforms – would meet CALGreen Building Standards Code requirements that are considered to be energy efficient.
3. Include electric vehicle charging infrastructure that meets current Building Code CALGreen Tier 2 compliance, and
   - Conforms – project includes 19 EV spaces which is the minimum required by CALGreen Tier 2.
4. Reduce VMT per service population by 15 percent over regional average.
   - Conforms – Per the project's traffic consultant[34], the prior project's VMT per worker is applicable to this updated project design. It was computed to be 12.8 miles per worker, which is 18% below the region-wide average of 15.6 miles per worker.[35]

Since the project is expected to comply with all four BAAQMD GHG thresholds, the GHG-1 and GHG-2 impacts from the proposed project would be considered less than significant.

Conditions of Approval: None.

[34] Email from Alaina Lipp, April 17, 2024

[35] Fehr & Peers Pinole Shores Project – VMT Analysis and Trip Generation, File: Pinole_Shores_VMT_Trip_Gen_20221021 (OE 10.26.22).pdf

Supporting Documentation

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

Attachment 2 is the health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction and operation. The AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 3 includes the cumulative health risk calculations from existing sources affecting the construction MEI.

Attachment 1: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: **Pinole Shores**

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size	________	**Dwelling Units**	**7.37 total project acres disturbed**
	________	**s.f. residential**	
	________	**s.f. retail**	
		s.f. office/commercial	
	119,226	**s.f. other, specify:**	**Unrefrigerated Warehouse- No Rail**
	________	**s.f. parking garage**	________ **spaces**
	________	**s.f. parking lot**	**137 spaces**
Construction Days (i.e, M-F)	________	**to**	________
Construction Hours		**am to**	**pm**

Pile Driving? Y/N? N

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION

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:**	**1/2/2025**	**Total phase:**	**18**			**Overall Import/Export Volumes**
		End Date:	**1/27/2025**					
0	Concrete/Industrial Saws	81	0.73	8	18	8	0	**Demolition Volume**
1	Excavators	158	0.38	8	18	8	8646	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	18	8	14227	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37			0	0	_0_ square feet *or*
	Other Equipment?							_?_ Hauling volume (tons)
								Any pavement demolished and hauled? _0_ tons
	Site Preparation	**Start Date:**	**1/28/2025**	**Total phase:**	**24**			
		End Date:	**2/28/2025**					
1	Graders	187	0.41	8	24	8	14721	
1	Rubber Tired Dozers	247	0.4	8	24	8	18970	
1	Tractors/Loaders/Backhoes	97	0.37	8	24	8	6891	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**3/1/2025**	**Total phase:**	**22**			
		End Date:	**4/1/2025**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	22	8	10567	Export volume = _0_ cubic yards
1	Graders	187	0.41	8	22	8	13494	Import volume = _0_ cubic yards
1	Rubber Tired Dozers	247	0.4	8	22	8	17389	
0	Concrete/Industrial Saws	81	0.73			0	0	
1	Tractors/Loaders/Backhoes	97	0.37	8	22	8	6317	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**4/1/2025**	**Total phase:**	**11**			
		End Date:	**4/15/2025**					
1	Tractor/Loader/Backhoe	97	0.37	8	11	8	3158	
1	Excavators	158	0.38	8	11	8	5284	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**4/16/2025**	**Total phase:**	**44**			**Cement Trucks? _20_ Total Round-Trips**
		End Date:	**6/16/2025**					
1	Cranes	231	0.29	7	44	7	20633	Electric (N) ___ Otherwise assumed diesel
1	Forklifts	89	0.2	8	44	8	6266	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	44	8	21880	Or temporary line power? (Y/N) ___
1	Tractors/Loaders/Backhoes	97	0.37	7	44	7	11054	
1	Welders	46	0.45	8	44	8	7286	
	Other Equipment?							
Building - Interior/Architectural Coating		**Start Date:**	**6/16/2025**	**Total phase:**	**22**			
		End Date:	**7/15/2025**					
1	Air Compressors	78	0.48	6	22	6	4942	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**7/15/2025**	**Total phase:**	**12**			
		Start Date:	**7/30/2025**					
0	Cement and Mortar Mixers	9	0.56	6	12	6	0	
1	Pavers	130	0.42	8	12	8	5242	
1	Paving Equipment	132	0.36	6	12	6	3421	**Asphalt? ___ cubic yards or __118__ round trips?**
2	Rollers	80	0.38	6	12	6	4378	
1	Tractors/Loaders/Backhoes	97	0.37	8	12	8	3445	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.
Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading
Add or subtract phases and equipment, as appropriate
Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Year	Tons					MT	
Construction Equipment							
2025	0.70	0.65	0.03	0.02		136.69	
Total Construction Emissions by Year							
2025	0.70	0.65	0.03	0.02		136.69	
	Total Construction Emissions						
Tons	0.70	0.65	0.03	0.02		136.69	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2025	9.21	8.65	0.36	0.33			**151**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	9.21	8.65	0.36	0.33		0.00	
Average	9.21	8.65	0.36	0.33		0.00	151.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons						
Project Operation	1.20	0.52	1.08	0.28			
Truck Delivery Trips	0.01	0.65	0.43	0.08			
Total	1.21	1.17	1.51	0.36			
	Net Annual Operational Emissions						
Tons/year	1.21	1.17	1.51	0.36			
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**			
	Average Daily Emissions						
Pounds Per Day	6.61	6.44	8.27	1.96			
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Category	**CO2e**				
	Project	Existing	Project 2030	Existing	
Area	1.75				
Energy	118.76				
Mobile	1056.74				
Mobile - Truck Trips	599.70				
Waste	34.99				
Water	32.33				
TOTAL	1844.26	0.00	0.00	0.00	
Net GHG Emissions		1844.26		0.00	

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	**Size**	**Daily Trips**	**New Trips**	**Weekday Trip Gen**	**Weekday**	**Sat**	**Sun**
Unrefrigerated WareHouse ksf	119.226	925	925	***7.76***	1.74	1.74	1.74
					Rev	***7.76***	***7.76***

22-136 Pinole Shores Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	22-136 Pinole Shores
Construction Start Date	1/2/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	18.0
Location	830 San Pablo Ave, Pinole, CA 94564, USA
County	Contra Costa
City	Pinole
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1570
EDFZ	1
Electric Utility	MCE
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

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

Unrefrigerated Warehouse-No Rail	119	1000sqft	7.37	119,226	0.00	—	—	—
Parking Lot	137	Space	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.12	57.7	16.0	17.7	0.03	0.71	7.21	7.91	0.65	3.45	4.10	—	2,943	2,943	0.16	0.24	3.85	2,954
Mit.	0.61	57.1	10.2	17.4	0.03	0.14	2.89	3.00	0.13	1.36	1.47	—	2,943	2,943	0.16	0.24	3.85	2,954
% Reduced	71%	1%	36%	2%	—	80%	60%	62%	79%	60%	64%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.85	1.56	14.1	14.5	0.02	0.64	7.17	7.80	0.59	3.44	4.03	—	2,459	2,459	0.10	0.02	0.01	2,468
Mit.	0.34	0.34	7.95	14.1	0.02	0.07	2.84	2.92	0.07	1.36	1.43	—	2,459	2,459	0.10	0.02	0.01	2,468
% Reduced	82%	78%	44%	3%	—	88%	60%	63%	88%	61%	65%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.48	3.81	3.58	3.92	0.01	0.15	0.99	1.14	0.14	0.46	0.59	—	817	817	0.03	0.03	0.25	826
Mit.	0.14	3.53	2.44	4.03	0.01	0.03	0.45	0.48	0.03	0.19	0.22	—	817	817	0.03	0.03	0.25	826
% Reduced	72%	7%	32%	-3%	—	80%	55%	58%	79%	58%	63%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.70	0.65	0.72	< 0.005	0.03	0.18	0.21	0.02	0.08	0.11	—	135	135	0.01	< 0.005	0.04	137
Mit.	0.02	0.64	0.45	0.73	< 0.005	0.01	0.08	0.09	0.01	0.04	0.04	—	135	135	0.01	< 0.005	0.04	137
% Reduced	72%	7%	32%	-3%	—	80%	55%	58%	79%	58%	63%	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.12	57.7	16.0	17.7	0.03	0.71	7.21	7.91	0.65	3.45	4.10	—	2,943	2,943	0.16	0.24	3.85	2,954
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.85	1.56	14.1	14.5	0.02	0.64	7.17	7.80	0.59	3.44	4.03	—	2,459	2,459	0.10	0.02	0.01	2,468
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.48	3.81	3.58	3.92	0.01	0.15	0.99	1.14	0.14	0.46	0.59	—	817	817	0.03	0.03	0.25	826
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	0.70	0.65	0.72	< 0.005	0.03	0.18	0.21	0.02	0.08	0.11	—	135	135	0.01	< 0.005	0.04	137

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.61	57.1	10.2	17.4	0.03	0.14	2.89	3.00	0.13	1.36	1.47	—	2,943	2,943	0.16	0.24	3.85	2,954
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.34	0.34	7.95	14.1	0.02	0.07	2.84	2.92	0.07	1.36	1.43	—	2,459	2,459	0.10	0.02	0.01	2,468
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.14	3.53	2.44	4.03	0.01	0.03	0.45	0.48	0.03	0.19	0.22	—	817	817	0.03	0.03	0.25	826
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.64	0.45	0.73	< 0.005	0.01	0.08	0.09	0.01	0.04	0.04	—	135	135	0.01	< 0.005	0.04	137

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.68	7.23	2.62	33.1	0.07	0.05	5.92	5.97	0.05	1.50	1.55	119	7,509	7,629	6.65	0.41	23.8	7,940
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.56	6.17	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	119	7,032	7,151	6.69	0.43	0.62	7,448
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.98	6.56	2.87	27.5	0.06	0.05	5.85	5.90	0.05	1.48	1.53	119	7,095	7,214	6.67	0.42	10.3	7,517
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73	1.20	0.52	5.02	0.01	0.01	1.07	1.08	0.01	0.27	0.28	19.8	1,175	1,194	1.10	0.07	1.70	1,245

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Area	0.92	3.74	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	4.68	7.23	2.62	33.1	0.07	0.05	5.92	5.97	0.05	1.50	1.55	119	7,509	7,629	6.65	0.41	23.8	7,940
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325
Area	—	2.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	3.56	6.17	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	119	7,032	7,151	6.69	0.43	0.62	7,448
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.53	3.25	2.85	24.9	0.06	0.04	5.85	5.90	0.04	1.48	1.53	—	6,283	6,283	0.29	0.28	10.3	6,383

Area	0.45	3.31	0.02	2.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.6
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	3.98	6.56	2.87	27.5	0.06	0.05	5.85	5.90	0.05	1.48	1.53	119	7,095	7,214	6.67	0.42	10.3	7,517
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057
Area	0.08	0.60	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	117	117	0.02	< 0.005	—	119
Water	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3
Waste	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0
Total	0.73	1.20	0.52	5.02	0.01	0.01	1.07	1.08	0.01	0.27	0.28	19.8	1,175	1,194	1.10	0.07	1.70	1,245

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Area	0.92	3.74	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	4.68	7.23	2.62	33.1	0.07	0.05	5.92	5.97	0.05	1.50	1.55	119	7,509	7,629	6.65	0.41	23.8	7,940
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325

Area	—	2.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	3.56	6.17	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	119	7,032	7,151	6.69	0.43	0.62	7,448
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.53	3.25	2.85	24.9	0.06	0.04	5.85	5.90	0.04	1.48	1.53	—	6,283	6,283	0.29	0.28	10.3	6,383
Area	0.45	3.31	0.02	2.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.5	10.5	< 0.005	< 0.005	—	10.6
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	710	710	0.12	0.02	—	717
Water	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Waste	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Total	3.98	6.56	2.87	27.5	0.06	0.05	5.85	5.90	0.05	1.48	1.53	119	7,095	7,214	6.67	0.42	10.3	7,517
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057
Area	0.08	0.60	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	117	117	0.02	< 0.005	—	119
Water	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3
Waste	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0
Total	0.73	1.20	0.52	5.02	0.01	0.01	1.07	1.08	0.01	0.27	0.28	19.8	1,175	1,194	1.10	0.07	1.70	1,245

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.39	1.16	11.0	10.4	0.02	0.47	—	0.47	0.43	—	0.43	—	1,810	1,810	0.07	0.01	—	1,816
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.54	0.51	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.3	89.3	< 0.005	< 0.005	—	89.6
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.8	14.8	< 0.005	< 0.005	—	14.8
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.5	60.5	< 0.005	< 0.005	0.01	61.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	0.01	3.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	5.62	9.75	0.02	0.06	—	0.06	0.06	—	0.06	—	1,810	1,810	0.07	0.01	—	1,816
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.28	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.3	89.3	< 0.005	< 0.005	—	89.6
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.8	14.8	< 0.005	< 0.005	—	14.8
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	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.5	60.5	< 0.005	< 0.005	0.01	61.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	0.01	3.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.51

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.2	13.1	0.02	0.61	—	0.61	0.56	—	0.56	—	2,237	2,237	0.09	0.02	—	2,244
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.86	< 0.005	0.04	—	0.04	0.04	—	0.04	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.16	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.4	24.4	< 0.005	< 0.005	—	24.4
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.5	60.5	< 0.005	< 0.005	0.01	61.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.28	6.82	12.7	0.02	0.04	—	0.04	0.04	—	0.04	—	2,237	2,237	0.09	0.02	—	2,244
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.45	0.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.4	24.4	< 0.005	< 0.005	—	24.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.5	60.5	< 0.005	< 0.005	0.01	61.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.82	1.53	14.1	14.1	0.02	0.64	—	0.64	0.59	—	0.59	—	2,378	2,378	0.10	0.02	—	2,387

Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.82	1.53	14.1	14.1	0.02	0.64	—	0.64	0.59	—	0.59	—	2,378	2,378	0.10	0.02	—	2,387
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.85	< 0.005	0.04	—	0.04	0.04	—	0.04	—	143	143	0.01	< 0.005	—	144
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.21	0.21	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.7	23.7	< 0.005	< 0.005	—	23.8
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.1	88.1	< 0.005	< 0.005	0.35	89.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.6	80.6	< 0.005	< 0.005	0.01	81.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.91	4.91	< 0.005	< 0.005	0.01	4.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.31	0.31	7.92	13.7	0.02	0.07	—	0.07	0.07	—	0.07	—	2,378	2,378	0.10	0.02	—	2,387
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.31	7.92	13.7	0.02	0.07	—	0.07	0.07	—	0.07	—	2,378	2,378	0.10	0.02	—	2,387
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.48	0.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	143	143	0.01	< 0.005	—	144
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.7	23.7	< 0.005	< 0.005	—	23.8
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.1	88.1	< 0.005	< 0.005	0.35	89.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.6	80.6	< 0.005	< 0.005	0.01	81.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.91	4.91	< 0.005	< 0.005	0.01	4.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.94	0.78	7.04	7.62	0.02	0.28	—	0.28	0.26	—	0.26	—	1,584	1,584	0.06	0.01	—	1,590
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	191	191	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.6	31.6	< 0.005	< 0.005	—	31.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.18	0.12	2.10	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	441	441	0.01	0.02	1.75	448
Vendor	0.05	0.02	0.70	0.33	< 0.005	0.01	0.14	0.14	0.01	0.04	0.05	—	527	527	0.03	0.08	1.40	552
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.1	65.1	0.01	0.01	0.14	68.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.02	0.21	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.2	49.2	< 0.005	< 0.005	0.09	49.9
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.6	63.6	< 0.005	0.01	0.07	66.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.84	7.84	< 0.005	< 0.005	0.01	8.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.15	8.15	< 0.005	< 0.005	0.02	8.27
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.36

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.29	6.23	9.14	0.02	0.10	—	0.10	0.10	—	0.10	—	1,584	1,584	0.06	0.01	—	1,590
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.75	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	191	191	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.14	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.6	31.6	< 0.005	< 0.005	—	31.7

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.18	0.12	2.10	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	441	441	0.01	0.02	1.75	448
Vendor	0.05	0.02	0.70	0.33	< 0.005	0.01	0.14	0.14	0.01	0.04	0.05	—	527	527	0.03	0.08	1.40	552
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.1	65.1	0.01	0.01	0.14	68.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.21	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.2	49.2	< 0.005	< 0.005	0.09	49.9
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.6	63.6	< 0.005	0.01	0.07	66.4
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.84	7.84	< 0.005	< 0.005	0.01	8.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.15	8.15	< 0.005	< 0.005	0.02	8.27
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.36

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.69	0.58	5.27	7.40	0.01	0.24	—	0.24	0.22	—	0.22	—	1,117	1,117	0.05	0.01	—	1,121
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.7	36.7	< 0.005	< 0.005	—	36.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.08	6.08	< 0.005	< 0.005	—	6.10
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	110	110	< 0.005	< 0.005	0.44	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.14	0.03	1.79	0.86	0.01	0.03	0.36	0.39	0.02	0.10	0.12	—	1,407	1,407	0.11	0.22	3.06	1,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.35	3.35	< 0.005	< 0.005	0.01	3.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.3	46.3	< 0.005	0.01	0.04	48.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.66	7.66	< 0.005	< 0.005	0.01	8.04

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.33	7.82	0.01	0.06	—	0.06	0.06	—	0.06	—	1,117	1,117	0.05	0.01	—	1,121
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.7	36.7	< 0.005	< 0.005	—	36.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.08	6.08	< 0.005	< 0.005	—	6.10
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	110	110	< 0.005	< 0.005	0.44	112
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.14	0.03	1.79	0.86	0.01	0.03	0.36	0.39	0.02	0.10	0.12	—	1,407	1,407	0.11	0.22	3.06	1,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.35	3.35	< 0.005	< 0.005	0.01	3.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.3	46.3	< 0.005	0.01	0.04	48.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.66	7.66	< 0.005	< 0.005	0.01	8.04

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	56.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	3.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.3	88.3	< 0.005	< 0.005	0.35	89.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.92	4.92	< 0.005	< 0.005	0.01	4.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	56.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	3.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.3	88.3	< 0.005	< 0.005	0.35	89.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.92	4.92	< 0.005	< 0.005	0.01	4.99

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Trenching (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.93	2.92	< 0.005	0.07	—	0.07	0.06	—	0.06	—	432	432	0.02	< 0.005	—	434
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.16	2.16	< 0.005	< 0.005	—	2.16

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.1	44.1	< 0.005	< 0.005	0.17	44.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Trenching (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.07	2.28	3.02	< 0.005	0.04	—	0.04	0.03	—	0.03	—	432	432	0.02	< 0.005	—	434
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.16	2.16	< 0.005	< 0.005	—	2.16
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.1	44.1	< 0.005	< 0.005	0.17	44.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.75	3.48	2.58	27.9	0.07	0.04	5.92	5.97	0.04	1.50	1.54	—	6,686	6,686	0.27	0.26	23.8	6,794
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.56	3.28	3.04	25.9	0.06	0.04	5.92	5.97	0.04	1.50	1.54	—	6,230	6,230	0.31	0.29	0.62	6,325
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.64	0.59	0.52	4.55	0.01	0.01	1.07	1.08	0.01	0.27	0.28	—	1,040	1,040	0.05	0.05	1.70	1,057

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	117	117	0.02	< 0.005	—	119
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	117	117	0.02	< 0.005	—	119

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	710	710	0.12	0.02	—	717
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	117	117	0.02	< 0.005	—	119
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	117	117	0.02	< 0.005	—	119

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.85	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Total	0.92	3.74	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75
Total	0.08	0.60	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.85	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Total	0.92	3.74	0.04	5.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.3	21.3	< 0.005	< 0.005	—	21.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75
Total	0.08	0.60	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.74	1.74	< 0.005	< 0.005	—	1.75

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	58.9	92.0	151	0.22	0.13	—	195
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.75	15.2	25.0	0.04	0.02	—	32.3

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.4	0.00	60.4	6.04	0.00	—	211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.00	0.00	10.00	1.00	0.00	—	35.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	1/2/2025	1/27/2025	5.00	18.0	—
Site Preparation	Site Preparation	1/28/2025	2/28/2025	5.00	24.0	—
Grading	Grading	3/1/2025	4/1/2025	5.00	22.0	—
Building Construction	Building Construction	4/16/2025	6/16/2025	5.00	44.0	—
Paving	Paving	7/15/2025	7/30/2025	5.00	12.0	—
Architectural Coating	Architectural Coating	6/16/2025	7/15/2025	5.00	22.0	—
Trenching	Trenching	4/1/2025	4/15/2025	5.00	11.0	—

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	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Trenching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 4 Interim	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48
Trenching	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38

Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37

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	7.50	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	7.50	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	10.0	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	50.1	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	19.5	8.40	HHDT,MHDT
Building Construction	Hauling	0.91	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	19.7	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.0	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	7.50	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	7.50	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	10.0	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	50.1	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	19.5	8.40	HHDT,MHDT
Building Construction	Hauling	0.91	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	19.7	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.0	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	0.00	0.00	178,839	59,613	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	0.00	—
Site Preparation	0.00	0.00	24.0	0.00	—
Grading	0.00	0.00	22.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	0.00	100%

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	188	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
Unrefrigerated Warehouse-No Rail	925	925	925	337,696	8,386	8,386	8,386	3,060,761
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	925	925	925	337,696	8,386	8,386	8,386	3,060,761
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
0	0.00	178,839	59,613	—

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)
Unrefrigerated Warehouse-No Rail	1,377,980	188	0.0330	0.0040	0.00
Parking Lot	0.00	188	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)
Unrefrigerated Warehouse-No Rail	1,377,980	188	0.0330	0.0040	0.00
Parking Lot	0.00	188	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)
Unrefrigerated Warehouse-No Rail	27,571,013	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	27,571,013	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	112	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	112	—
Parking Lot	0.00	—

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

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

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	13.1	annual days of extreme heat
Extreme Precipitation	4.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.9	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	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	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	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
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	35.0
AQ-DPM	59.4
Drinking Water	4.21
Lead Risk Housing	43.7
Pesticides	0.00
Toxic Releases	57.9
Traffic	18.2
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	22.1
Haz Waste Facilities/Generators	52.6
Impaired Water Bodies	83.0
Solid Waste	0.00
Sensitive Population	—
Asthma	61.3
Cardio-vascular	44.5
Low Birth Weights	70.6
Socioeconomic Factor Indicators	—
Education	58.5
Housing	55.1
Linguistic	38.1
Poverty	27.0
Unemployment	47.0

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	64.36545618
Employed	56.93571154
Median HI	58.80918773
Education	—
Bachelor's or higher	47.36301809
High school enrollment	100
Preschool enrollment	90.94058771
Transportation	—
Auto Access	27.46054151
Active commuting	81.41922238
Social	—
2-parent households	19.83831644
Voting	75.65764147
Neighborhood	—
Alcohol availability	43.73155396
Park access	81.35506224
Retail density	46.91389709
Supermarket access	28.78224047
Tree canopy	86.75734634
Housing	—
Homeownership	59.87424612
Housing habitability	65.48184268
Low-inc homeowner severe housing cost burden	39.02219941
Low-inc renter severe housing cost burden	54.92108302
Uncrowded housing	56.87155139

Health Outcomes	—
Insured adults	57.24368023
Arthritis	0.0
Asthma ER Admissions	28.3
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	39.1
Cognitively Disabled	15.9
Physically Disabled	6.6
Heart Attack ER Admissions	45.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
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	84.7

Children	73.7
Elderly	29.9
English Speaking	47.2
Foreign-born	55.8
Outdoor Workers	86.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	60.9
Traffic Density	17.5
Traffic Access	70.4
Other Indices	—
Hardship	43.1
Other Decision Support	—
2016 Voting	45.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	42.0
Healthy Places Index Score for Project Location (b)	68.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	Richmond

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	MCE is provider in Pinole.
Land Use	Land use information provided by applicant.
Construction: Construction Phases	Construction phase dates provided by applicant.
Construction: Off-Road Equipment	Construction equipment based on defaults that were reviewed and modified by applicant.
Construction: Trips and VMT	Applicant states 20 round trips for concrete. 40 one way trips divided by 44 days = 0.909 trips per day. Est. 19.667 trips per day asphalt. (est 236 trips / 12) days.
Operations: Vehicle Data	Trip generation calculated from AM/PM peak hour data.
Operations: Energy Use	Applicant states project will be all electric. Natural gas usage converted to electricity usage.
Operations: Water and Waste Water	100% aerobic

2. Emissions Summary - HRA

2.2 Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2025	2.1099411	57.643501	16.015567	17.173651	0.0259420	0.7053835	7.0931845	7.7985680	0.6489528	3.4272207	4.0761735		2824.2476	2824.2476	0.1163234	0.0320410	0.3528138	2834.389629204889
Daily - Winter (Max)																		
2025	1.8485979	1.5570575	14.080693	14.230942	0.0219520	0.6371426	7.0896518	7.7267944	0.5861711	3.4263927	4.0125638		2387.0038	2387.0038	0.0986849	0.0203983	0.0007723	2395.5504502429408
Average Daily																		
2025	0.4716623	3.8049809	3.4484395	3.6723464	0.0060685	0.1469683	0.9013045	1.0482728	0.1352064	0.4337598	0.5689663		649.63634	649.63634	0.0291087	0.0081252	0.0224157	652.807801872948
Annual																		
2025	0.0860783	0.6944090	0.6293402	0.6702032	0.0011075	0.0268217	0.1644880	0.1913097	0.0246751	0.0791611	0.1038363		107.55471	107.55471	0.0048192	0.0013452	0.0037111	108.0797814061498

2. Emissions Summary - HRA

2.3 Construction Emissions by Year, Mitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2025	0.5500077	57.045660	10.205480	16.878065	0.0259420	0.1353435	2.7728067	2.8830943	0.1267388	1.3381314	1.4435935		2824.2476	2824.2476	0.1163234	0.0320410	0.3528138	2834.389629204889
Daily - Winter (Max)																		
2025	0.3367340	0.3356317	7.9273821	13.842472	0.0219520	0.0734403	2.7692740	2.8427144	0.0710276	1.3373033	1.4083310		2387.0038	2387.0038	0.0986849	0.0203983	0.0007723	2395.5504502429408
Average Daily																		
2025	0.1241718	3.5262945	2.3148512	3.7803669	0.0060685	0.0280249	0.3568185	0.3848435	0.0266589	0.1704773	0.1971362		649.63634	649.63634	0.0291087	0.0081252	0.0224157	652.807801872948
Annual																		
2025	0.0226613	0.6435487	0.4224603	0.6899169	0.0011075	0.0051145	0.0651193	0.0702339	0.0048652	0.0311121	0.0359773		107.55471	107.55471	0.0048192	0.0013452	0.0037111	108.0797814061498

5.3. Construction Vehicles - HRA

5.3.1 Unmitigated

Phase Nam	Trip Type	One-Way T	Miles per T	Vehicle Mix
Demolition				
Demolitior	Worker	7.5	1	LDA,LDT1,LDT2
Demolitior	Vendor		1	HHDT,MHDT
Demolitior	Hauling	0	1	HHDT
Demolitior	Onsite truc			HHDT
Site Preparation				
Site Prepar	Worker	7.5	1	LDA,LDT1,LDT2
Site Prepar	Vendor		1	HHDT,MHDT
Site Prepar	Hauling	0	1	HHDT
Site Prepar	Onsite truc			HHDT
Grading				
Grading	Worker	10	1	LDA,LDT1,LDT2
Grading	Vendor		1	HHDT,MHDT
Grading	Hauling	0	1	HHDT
Grading	Onsite truc			HHDT
Building Construction				
Building Cc	Worker	50.07492	1	LDA,LDT1,LDT2
Building Cc	Vendor	19.541141	1	HHDT,MHDT
Building Cc	Hauling	0.90909	1	HHDT
Building Cc	Onsite truc			HHDT
Paving				
Paving	Worker	12.5	1	LDA,LDT1,LDT2
Paving	Vendor		1	HHDT,MHDT
Paving	Hauling	19.667	1	HHDT
Paving	Onsite truc			HHDT
Architectural Coating				
Architectui	Worker	10.014984	1	LDA,LDT1,LDT2
Architectui	Vendor		1	HHDT,MHDT
Architectui	Hauling	0	1	HHDT
Architectui	Onsite truc			HHDT
Trenching				
Trenching	Worker	5	1	LDA,LDT1,LDT2
Trenching	Vendor		1	HHDT,MHDT
Trenching	Hauling	0	1	HHDT
Trenching	Onsite truc			HHDT

5.3. Construction Vehicles - HRA

5.3.2 Mitigated

Phase Nam	Trip Type	One-Way T	Miles per T	Vehicle Mix
Demolition				
Demolitior	Worker	7.5	1	LDA,LDT1,LDT2
Demolitior	Vendor		1	HHDT,MHDT
Demolitior	Hauling	0	1	HHDT
Demolitior	Onsite truc			HHDT
Site Preparation				
Site Prepar	Worker	7.5	1	LDA,LDT1,LDT2
Site Prepar	Vendor		1	HHDT,MHDT
Site Prepar	Hauling	0	1	HHDT
Site Prepar	Onsite truc			HHDT
Grading				
Grading	Worker	10	1	LDA,LDT1,LDT2
Grading	Vendor		1	HHDT,MHDT
Grading	Hauling	0	1	HHDT
Grading	Onsite truc			HHDT
Building Construction				
Building Cc	Worker	50.07492	1	LDA,LDT1,LDT2
Building Cc	Vendor	19.541141	1	HHDT,MHDT
Building Cc	Hauling	0.90909	1	HHDT
Building Cc	Onsite truc			HHDT
Paving				
Paving	Worker	12.5	1	LDA,LDT1,LDT2
Paving	Vendor		1	HHDT,MHDT
Paving	Hauling	19.667	1	HHDT
Paving	Onsite truc			HHDT
Architectural Coating				
Architectui	Worker	10.014984	1	LDA,LDT1,LDT2
Architectui	Vendor		1	HHDT,MHDT
Architectui	Hauling	0	1	HHDT
Architectui	Onsite truc			HHDT
Trenching				
Trenching	Worker	5	1	LDA,LDT1,LDT2
Trenching	Vendor		1	HHDT,MHDT
Trenching	Hauling	0	1	HHDT
Trenching	Onsite truc			HHDT

Attachment 2: Project Construction and Operation Health Risk Calculations

830 San Pablo Ave, Pinole, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations Exhaust PM10/DPM (μg/m³)	Maximum Concentrations Fugitive PM2.5 (μg/m³)	Cancer Risk (per million) Infant/Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (μg/m³)
2025	0.0714	0.2669	12.69	0.20	0.01	0.34
Total	-	-	**12.69**	**0.20**		-
Maximum	0.0714	0.2669	**-**	**-**	**0.01**	**0.34**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations Exhaust PM10/DPM (μg/m³)	Maximum Concentrations Fugitive PM2.5 (μg/m³)	Cancer Risk (per million) Infant/Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (μg/m³)
2025	0.0136	0.1052	2.42	0.04	0.00	0.12
Total	-	-	**2.42**	**0.04**	-	-
Maximum	0.0136	0.1052	**-**	**-**	**0.00**	**0.12**

830 San Pablo Ave, Pinole, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2025	Construction	0.0268	CON_DPM	53.6	0.01225	1.54E-03	29,885	5.16E-08
Total		***0.0268***		***53.6***	***0.0122***	***0.0015***		

Construction Hours

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2025	Construction	0.0051	CON_DPM	10.2	0.00234	2.94E-04	29,885	9.85E-09
Total		***0.0051***		***10.2***	***0.0023***	***0.0003***		

Construction Hours

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

830 San Pablo Ave, Pinole, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2025	Construction	CON_FUG	0.0792	158.3	0.03615	4.55E-03	29,885	1.52E-07
Total			***0.0792***	***158.3***	***0.0361***	***0.0046***		

Construction Hours

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2025	Construction	CON_FUG	0.0311	62.2	0.01421	1.79E-03	29,885	5.99E-08
Total			***0.0311***	***62.2***	***0.0142***	***0.0018***		

Construction Hours

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

830 San Pablo Ave, Pinole, 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 $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)
Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}
Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult			
	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	0.0655	10	0.89	2025	0.0655	-	-			
1	1	0 - 1	2025	0.0655	10	10.76	2025	0.0655	1	0.19	0.013	0.238	0.30
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**11.66**				**0.19**			

* Third trimester of pregnancy

830 San Pablo Ave, Pinole, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child			Adult
Age --> / **Parameter**	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
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	0.0714	10	0.97	2025	0.0714	-	-			
1	1	0 - 1	2025	0.0714	10	11.72	2025	0.0714	1	0.20	0.01	0.267	0.34
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**12.69**				**0.20**			

* Third trimester of pregnancy

830 San Pablo Ave, Pinole, CA - Construction Impacts - With 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	0.0125	10	0.17	2025	0.0125	-	-
1	1	0 - 1	2025	0.0125	10	2.05	2025	0.0125	1	0.04
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						**2.22**				**0.04**

* Third trimester of pregnancy

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.003	0.09	0.11

830 San Pablo Ave, Pinole, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

Where: CPF = Cancer potency factor (mg/kg-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	Infant/Child - Exposure Information DPM Conc (ug/m3) Annual	Infant/Child Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information Modeled DPM Conc (ug/m3) Year	Adult Modeled DPM Conc (ug/m3) Annual	Adult Age Sensitivity Factor	Adult Cancer Risk (per million)	Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0	0.25	-0.25 - 0*	2025	0.0136	10	0.19	2025	0.0136	-	-			
1	1	0 - 1	2025	0.0136	10	2.24	2025	0.0136	1	0.04	0.003	0.11	0.12
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**2.42**				**0.04**			

* Third trimester of pregnancy

830 San Pablo Ave, Pinole, CA - Truck Trips - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2026
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAAQMD Conoco Phillips Hillcrest Met Da	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological	Concentration (µg/m3)*		
Data Years	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0010	0.0120	0.0004

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological	PM2.5 Concentration (µg/m3)*		
Data Years	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0066	0.0061	0.0005

830 San Pablo Ave, Pinole, CA - Truck Trips Cancer Risk
Impacts at Construction Residential MEIs - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

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

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

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

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

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

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**
0	0.25	-0.25 - 0*	2026	10	0.0010	0.0120	0.0004	0.014	0.001	0.0000	0.01
1	1	0 - 1	2026	10	0.0010	0.0120	0.0004	0.164	0.011	0.0000	0.18
2	1	1 - 2	2027	10	0.0010	0.0120	0.0004	0.164	0.011	0.0000	0.18
3	1	2 - 3	2028	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
4	1	3 - 4	2029	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
5	1	4 - 5	2030	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
6	1	5 - 6	2031	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
7	1	6 - 7	2032	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
8	1	7 - 8	2033	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
9	1	8 - 9	2034	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
10	1	9 - 10	2035	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
11	1	10 - 11	2036	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
12	1	11 - 12	2037	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
13	1	12 - 13	2038	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
14	1	13 - 14	2039	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
15	1	14 - 15	2040	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
16	1	15 - 16	2041	3	0.0010	0.0120	0.0004	0.026	0.002	0.0000	0.03
17	1	16-17	2042	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
18	1	17-18	2043	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
19	1	18-19	2044	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
20	1	19-20	2045	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
21	1	20-21	2046	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
22	1	21-22	2047	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
23	1	22-23	2048	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
24	1	23-24	2049	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
25	1	24-25	2050	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
26	1	25-26	2051	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
27	1	26-27	2052	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
28	1	27-28	2053	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
29	1	28-29	2054	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
30	1	29-30	2055	1	0.0010	0.0120	0.0004	0.003	0.000	0.0000	0.00
Total Increased Cancer Risk								0.74	0.051	0.000	**0.80**

* Third trimester of pregnancy

Hazard Index	**Maximum Fugitive PM2.5**	**Total PM2.5**
0.00020	0.01	0.01

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - San Pablo Avenue
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Line Area: Area (sq m)	Line Area: Area (sq ft)	Line Area: Emission (g/s/m2)	Line Area: Emission (lb/hr/ft2)	Line Area: Initial Vertical height (m)	Line Area: (Sigma z) Initial Vertical Dimension
DPM_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	43.7	3.4	40	54	6,331	68,150	2.437E-10	1.797E-10	6.8	3.16
DPM_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	43.7	3.4	40	54	6,745	72,608	2.437E-10	1.797E-10	6.8	3.16
									Total	107						

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00843			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and DPM Emissions - DPM_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.58%	2	1.33E-06	9	7.39%	4	2.74E-06	17	6.54%	3	2.42E-06
2	2.55%	1	9.43E-07	10	6.52%	3	2.42E-06	18	4.65%	2	1.72E-06
3	2.92%	2	1.08E-06	11	5.58%	3	2.07E-06	19	2.39%	1	8.83E-07
4	3.02%	2	1.12E-06	12	6.16%	3	2.28E-06	20	0.96%	1	3.54E-07
5	2.08%	1	7.69E-07	13	5.59%	3	2.07E-06	21	2.75%	1	1.02E-06
6	2.92%	2	1.08E-06	14	5.50%	3	2.04E-06	22	3.60%	2	1.33E-06
7	6.81%	4	2.52E-06	15	4.56%	2	1.69E-06	23	2.28%	1	8.43E-07
8	5.69%	3	2.11E-06	16	5.03%	3	1.86E-06	24	0.96%	1	3.54E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.58%	2	1.41E-06	9	7.39%	4	2.91E-06	17	6.54%	3	2.58E-06
2	2.55%	1	1.00E-06	10	6.52%	3	2.57E-06	18	4.65%	2	1.83E-06
3	2.92%	2	1.15E-06	11	5.58%	3	2.20E-06	19	2.39%	1	9.41E-07
4	3.02%	2	1.19E-06	12	6.16%	3	2.43E-06	20	0.96%	1	3.78E-07
5	2.08%	1	8.19E-07	13	5.59%	3	2.21E-06	21	2.75%	1	1.08E-06
6	2.92%	2	1.15E-06	14	5.50%	3	2.17E-06	22	3.60%	2	1.42E-06
7	6.81%	4	2.69E-06	15	4.56%	2	1.80E-06	23	2.28%	1	8.99E-07
8	5.69%	3	2.24E-06	16	5.03%	3	1.98E-06	24	0.96%	1	3.78E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - San Pablo Avenue
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM2.5_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	54	6,331	68,150	2.36E-10	1.74E-10	2.6	1.21
PM2.5_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	54	6,745	72,608	2.36E-10	1.74E-10	2.6	1.21
									Total	107						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.008152			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	4.08E-07	9	7.15%	4	2.56E-06	17	7.44%	4	2.66E-06
2	0.42%	0	1.50E-07	10	4.37%	2	1.56E-06	18	8.22%	4	2.94E-06
3	0.43%	0	1.54E-07	11	4.65%	2	1.66E-06	19	5.68%	3	2.03E-06
4	0.26%	0	9.17E-08	12	5.86%	3	2.10E-06	20	4.26%	2	1.53E-06
5	0.50%	0	1.79E-07	13	6.13%	3	2.19E-06	21	3.24%	2	1.16E-06
6	0.90%	0	3.23E-07	14	6.01%	3	2.15E-06	22	3.27%	2	1.17E-06
7	3.81%	2	1.36E-06	15	6.98%	4	2.50E-06	23	2.45%	1	8.77E-07
8	7.79%	4	2.79E-06	16	7.18%	4	2.57E-06	24	1.87%	1	6.70E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	4.34E-07	9	7.15%	4	2.73E-06	17	7.44%	4	2.84E-06
2	0.42%	0	1.60E-07	10	4.37%	2	1.66E-06	18	8.22%	4	3.14E-06
3	0.43%	0	1.65E-07	11	4.65%	2	1.77E-06	19	5.68%	3	2.17E-06
4	0.26%	0	9.77E-08	12	5.86%	3	2.23E-06	20	4.26%	2	1.63E-06
5	0.50%	0	1.90E-07	13	6.13%	3	2.34E-06	21	3.24%	2	1.24E-06
6	0.90%	0	3.44E-07	14	6.01%	3	2.29E-06	22	3.27%	2	1.25E-06
7	3.81%	2	1.45E-06	15	6.98%	4	2.66E-06	23	2.45%	1	9.34E-07
8	7.79%	4	2.97E-06	16	7.18%	4	2.74E-06	24	1.87%	1	7.14E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - San Pablo Avenue
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	54	6,331	68,150	2.08E-09	1.53E-09	2.6	1.21
TEXH_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	54	6,745	72,608	2.08E-09	1.53E-09	2.6	1.21
									Total	107						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.07190			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	3.59E-06	9	7.15%	4	2.26E-05	17	7.44%	4	2.35E-05
2	0.42%	0	1.32E-06	10	4.37%	2	1.38E-05	18	8.22%	4	2.60E-05
3	0.43%	0	1.36E-06	11	4.65%	2	1.47E-05	19	5.68%	3	1.79E-05
4	0.26%	0	8.09E-07	12	5.86%	3	1.85E-05	20	4.26%	2	1.35E-05
5	0.50%	0	1.58E-06	13	6.13%	3	1.93E-05	21	3.24%	2	1.02E-05
6	0.90%	0	2.85E-06	14	6.01%	3	1.90E-05	22	3.27%	2	1.03E-05
7	3.81%	2	1.20E-05	15	6.98%	4	2.20E-05	23	2.45%	1	7.73E-06
8	7.79%	4	2.46E-05	16	7.18%	4	2.27E-05	24	1.87%	1	5.91E-06
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	3.83E-06	9	7.15%	4	2.40E-05	17	7.44%	4	2.50E-05
2	0.42%	0	1.41E-06	10	4.37%	2	1.47E-05	18	8.22%	4	2.77E-05
3	0.43%	0	1.45E-06	11	4.65%	2	1.56E-05	19	5.68%	3	1.91E-05
4	0.26%	0	8.62E-07	12	5.86%	3	1.97E-05	20	4.26%	2	1.43E-05
5	0.50%	0	1.68E-06	13	6.13%	3	2.06E-05	21	3.24%	2	1.09E-05
6	0.90%	0	3.03E-06	14	6.01%	3	2.02E-05	22	3.27%	2	1.10E-05
7	3.81%	2	1.28E-05	15	6.98%	4	2.35E-05	23	2.45%	1	8.24E-06
8	7.79%	4	2.62E-05	16	7.18%	4	2.41E-05	24	1.87%	1	6.29E-06
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - San Pablo Avenue
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	54	6,331	68,150	7.77E-11	5.73E-11	2.6	1.21
TEVAP_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	54	6,745	72,608	7.77E-11	5.73E-11	2.6	1.21
									Total	107						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	0.10756			
Emissions per Vehicle per Mile (g/VMT)	0.00269			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	1.34E-07	9	7.15%	4	8.44E-07	17	7.44%	4	8.79E-07
2	0.42%	0	4.94E-08	10	4.37%	2	5.15E-07	18	8.22%	4	9.71E-07
3	0.43%	0	5.09E-08	11	4.65%	2	5.49E-07	19	5.68%	3	6.71E-07
4	0.26%	0	3.03E-08	12	5.86%	3	6.92E-07	20	4.26%	2	5.03E-07
5	0.50%	0	5.90E-08	13	6.13%	3	7.23E-07	21	3.24%	2	3.83E-07
6	0.90%	0	1.06E-07	14	6.01%	3	7.10E-07	22	3.27%	2	3.86E-07
7	3.81%	2	4.50E-07	15	6.98%	4	8.24E-07	23	2.45%	1	2.89E-07
8	7.79%	4	9.19E-07	16	7.18%	4	8.47E-07	24	1.87%	1	2.21E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	1.43E-07	9	7.15%	4	8.99E-07	17	7.44%	4	9.36E-07
2	0.42%	0	5.26E-08	10	4.37%	2	5.49E-07	18	8.22%	4	1.03E-06
3	0.43%	0	5.43E-08	11	4.65%	2	5.85E-07	19	5.68%	3	7.15E-07
4	0.26%	0	3.22E-08	12	5.86%	3	7.37E-07	20	4.26%	2	5.36E-07
5	0.50%	0	6.28E-08	13	6.13%	3	7.71E-07	21	3.24%	2	4.08E-07
6	0.90%	0	1.13E-07	14	6.01%	3	7.56E-07	22	3.27%	2	4.12E-07
7	3.81%	2	4.79E-07	15	6.98%	4	8.78E-07	23	2.45%	1	3.08E-07
8	7.79%	4	9.80E-07	16	7.18%	4	9.03E-07	24	1.87%	1	2.35E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - San Pablo Avenue
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
FUG_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	54	6,331	68,150	4.80E-09	3.54E-09	2.6	1.21
FUG_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	54	6,745	72,608	4.80E-09	3.54E-09	2.6	1.21
									Total	107						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00704			
Brake Wear - Emissions per Vehicle (g/VMT)	0.02801			
Road Dust - Emissions per Vehicle (g/VMT)	0.13091			
tal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.16596			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	8.30E-06	9	7.15%	4	5.21E-05	17	7.44%	4	5.42E-05
2	0.42%	0	3.05E-06	10	4.37%	2	3.18E-05	18	8.22%	4	5.99E-05
3	0.43%	0	3.14E-06	11	4.65%	2	3.39E-05	19	5.68%	3	4.14E-05
4	0.26%	0	1.87E-06	12	5.86%	3	4.27E-05	20	4.26%	2	3.11E-05
5	0.50%	0	3.64E-06	13	6.13%	3	4.46E-05	21	3.24%	2	2.36E-05
6	0.90%	0	6.57E-06	14	6.01%	3	4.38E-05	22	3.27%	2	2.38E-05
7	3.81%	2	2.78E-05	15	6.98%	4	5.08E-05	23	2.45%	1	1.78E-05
8	7.79%	4	5.68E-05	16	7.18%	4	5.23E-05	24	1.87%	1	1.36E-05
								Total		54	

2026 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	8.84E-06	9	7.15%	4	5.55E-05	17	7.44%	4	5.78E-05
2	0.42%	0	3.25E-06	10	4.37%	2	3.39E-05	18	8.22%	4	6.38E-05
3	0.43%	0	3.35E-06	11	4.65%	2	3.61E-05	19	5.68%	3	4.41E-05
4	0.26%	0	1.99E-06	12	5.86%	3	4.55E-05	20	4.26%	2	3.31E-05
5	0.50%	0	3.88E-06	13	6.13%	3	4.76E-05	21	3.24%	2	2.52E-05
6	0.90%	0	7.00E-06	14	6.01%	3	4.67E-05	22	3.27%	2	2.54E-05
7	3.81%	2	2.96E-05	15	6.98%	4	5.42E-05	23	2.45%	1	1.90E-05
8	7.79%	4	6.05E-05	16	7.18%	4	5.57E-05	24	1.87%	1	1.45E-05
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Driveway
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Line Area Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
DPM_NB_DRV	Driveway In	NB	1	475.5	0.30	9.7	31.7	3.4	25	54	4,592	49,430	2.874E-10	2.119E-10	6.8	3.16
DPM_SB_DRV	Driveway Out	SB	1	506.6	0.31	9.7	31.7	3.4	25	54	4,893	52,663	2.874E-10	2.119E-10	6.8	3.16
									Total	107						

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	25			
Emissions per Vehicle (g/VMT)	0.00721			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and DPM Emissions - DPM_NB_DRV

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.58%	2	1.14E-06	9	7.39%	4	2.34E-06	17	6.54%	3	2.07E-06
2	2.55%	1	8.07E-07	10	6.52%	3	2.07E-06	18	4.65%	2	1.47E-06
3	2.92%	2	9.26E-07	11	5.58%	3	1.77E-06	19	2.39%	1	7.56E-07
4	3.02%	2	9.56E-07	12	6.16%	3	1.95E-06	20	0.96%	1	3.03E-07
5	2.08%	1	6.57E-07	13	5.59%	3	1.77E-06	21	2.75%	1	8.71E-07
6	2.92%	2	9.26E-07	14	5.50%	3	1.74E-06	22	3.60%	2	1.14E-06
7	6.81%	4	2.16E-06	15	4.56%	2	1.44E-06	23	2.28%	1	7.21E-07
8	5.69%	3	1.80E-06	16	5.03%	3	1.59E-06	24	0.96%	1	3.03E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_DRV

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.58%	2	1.21E-06	9	7.39%	4	2.49E-06	17	6.54%	3	2.21E-06
2	2.55%	1	8.60E-07	10	6.52%	3	2.20E-06	18	4.65%	2	1.57E-06
3	2.92%	2	9.87E-07	11	5.58%	3	1.88E-06	19	2.39%	1	8.05E-07
4	3.02%	2	1.02E-06	12	6.16%	3	2.08E-06	20	0.96%	1	3.23E-07
5	2.08%	1	7.00E-07	13	5.59%	3	1.89E-06	21	2.75%	1	9.28E-07
6	2.92%	2	9.87E-07	14	5.50%	3	1.86E-06	22	3.60%	2	1.21E-06
7	6.81%	4	2.30E-06	15	4.56%	2	1.54E-06	23	2.28%	1	7.69E-07
8	5.69%	3	1.92E-06	16	5.03%	3	1.70E-06	24	0.96%	1	3.23E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Driveway
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM2.5_NB_DRV	Driveway In	NB	1	475.5	0.30	9.7	32	1.3	25	54	4,592	49,430	2.80E-10	2.06E-10	2.6	1.21
PM2.5_SB_DRV	Driveway Out	SB	1	506.6	0.31	9.7	32	1.3	25	54	4,893	52,663	2.80E-10	2.06E-10	2.6	1.21
									Total	107						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	25			
Emissions per Vehicle (g/VMT)	0.007019			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_DRV

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	3.51E-07	9	7.15%	4	2.20E-06	17	7.44%	4	2.29E-06
2	0.42%	0	1.29E-07	10	4.37%	2	1.35E-06	18	8.22%	4	2.53E-06
3	0.43%	0	1.33E-07	11	4.65%	2	1.43E-06	19	5.68%	3	1.75E-06
4	0.26%	0	7.90E-08	12	5.86%	3	1.81E-06	20	4.26%	2	1.31E-06
5	0.50%	0	1.54E-07	13	6.13%	3	1.89E-06	21	3.24%	2	9.99E-07
6	0.90%	0	2.78E-07	14	6.01%	3	1.85E-06	22	3.27%	2	1.01E-06
7	3.81%	2	1.17E-06	15	6.98%	4	2.15E-06	23	2.45%	1	7.55E-07
8	7.79%	4	2.40E-06	16	7.18%	4	2.21E-06	24	1.87%	1	5.77E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_DRV

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	3.74E-07	9	7.15%	4	2.35E-06	17	7.44%	4	2.44E-06
2	0.42%	0	1.37E-07	10	4.37%	2	1.43E-06	18	8.22%	4	2.70E-06
3	0.43%	0	1.42E-07	11	4.65%	2	1.53E-06	19	5.68%	3	1.87E-06
4	0.26%	0	8.41E-08	12	5.86%	3	1.92E-06	20	4.26%	2	1.40E-06
5	0.50%	0	1.64E-07	13	6.13%	3	2.01E-06	21	3.24%	2	1.06E-06
6	0.90%	0	2.96E-07	14	6.01%	3	1.97E-06	22	3.27%	2	1.07E-06
7	3.81%	2	1.25E-06	15	6.98%	4	2.29E-06	23	2.45%	1	8.04E-07
8	7.79%	4	2.56E-06	16	7.18%	4	2.36E-06	24	1.87%	1	6.15E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Driveway
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_NB_DRV	Driveway In	NB	1	475.5	0.30	9.7	32	1.3	25	54	4,592	49,430	4.75E-09	3.50E-09	2.6	1.21
TEXH_SB_DRV	Driveway Out	SB	1	506.6	0.31	9.7	32	1.3	25	54	4,893	52,663	4.75E-09	3.50E-09	2.6	1.21
									Total	107						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	25			
Emissions per Vehicle (g/VMT)	0.11924			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_DRV

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	5.96E-06	9	7.15%	4	3.74E-05	17	7.44%	4	3.90E-05
2	0.42%	0	2.19E-06	10	4.37%	2	2.29E-05	18	8.22%	4	4.31E-05
3	0.43%	0	2.26E-06	11	4.65%	2	2.43E-05	19	5.68%	3	2.98E-05
4	0.26%	0	1.34E-06	12	5.86%	3	3.07E-05	20	4.26%	2	2.23E-05
5	0.50%	0	2.62E-06	13	6.13%	3	3.21E-05	21	3.24%	2	1.70E-05
6	0.90%	0	4.72E-06	14	6.01%	3	3.15E-05	22	3.27%	2	1.71E-05
7	3.81%	2	2.00E-05	15	6.98%	4	3.65E-05	23	2.45%	1	1.28E-05
8	7.79%	4	4.08E-05	16	7.18%	4	3.76E-05	24	1.87%	1	9.80E-06
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_DRV

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	6.35E-06	9	7.15%	4	3.99E-05	17	7.44%	4	4.15E-05
2	0.42%	0	2.33E-06	10	4.37%	2	2.44E-05	18	8.22%	4	4.59E-05
3	0.43%	0	2.41E-06	11	4.65%	2	2.59E-05	19	5.68%	3	3.17E-05
4	0.26%	0	1.43E-06	12	5.86%	3	3.27E-05	20	4.26%	2	2.38E-05
5	0.50%	0	2.79E-06	13	6.13%	3	3.42E-05	21	3.24%	2	1.81E-05
6	0.90%	0	5.03E-06	14	6.01%	3	3.35E-05	22	3.27%	2	1.83E-05
7	3.81%	2	2.13E-05	15	6.98%	4	3.89E-05	23	2.45%	1	1.37E-05
8	7.79%	4	4.34E-05	16	7.18%	4	4.00E-05	24	1.87%	1	1.04E-05
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Driveway
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_NB_DRV	Driveway In	NB	1	475.5	0.30	9.7	32	1.3	25	54	4,592	49,430	1.71E-10	1.26E-10	2.6	1.21
TEVAP_SB_DRV	Driveway Out	SB	1	506.6	0.31	9.7	32	1.3	25	54	4,893	52,663	1.71E-10	1.26E-10	2.6	1.21
									Total	107						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	25			
Emissions per Vehicle per Hour (g/hour)	0.10756			
Emissions per Vehicle per Mile (g/VMT)	0.00430			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_DRV

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	2.15E-07	9	7.15%	4	1.35E-06	17	7.44%	4	1.41E-06
2	0.42%	0	7.90E-08	10	4.37%	2	8.25E-07	18	8.22%	4	1.55E-06
3	0.43%	0	8.15E-08	11	4.65%	2	8.78E-07	19	5.68%	3	1.07E-06
4	0.26%	0	4.84E-08	12	5.86%	3	1.11E-06	20	4.26%	2	8.05E-07
5	0.50%	0	9.44E-08	13	6.13%	3	1.16E-06	21	3.24%	2	6.12E-07
6	0.90%	0	1.70E-07	14	6.01%	3	1.14E-06	22	3.27%	2	6.18E-07
7	3.81%	2	7.20E-07	15	6.98%	4	1.32E-06	23	2.45%	1	4.63E-07
8	7.79%	4	1.47E-06	16	7.18%	4	1.36E-06	24	1.87%	1	3.54E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_DRV

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	2.29E-07	9	7.15%	4	1.44E-06	17	7.44%	4	1.50E-06
2	0.42%	0	8.42E-08	10	4.37%	2	8.79E-07	18	8.22%	4	1.65E-06
3	0.43%	0	8.68E-08	11	4.65%	2	9.35E-07	19	5.68%	3	1.14E-06
4	0.26%	0	5.16E-08	12	5.86%	3	1.18E-06	20	4.26%	2	8.58E-07
5	0.50%	0	1.01E-07	13	6.13%	3	1.23E-06	21	3.24%	2	6.52E-07
6	0.90%	0	1.81E-07	14	6.01%	3	1.21E-06	22	3.27%	2	6.59E-07
7	3.81%	2	7.67E-07	15	6.98%	4	1.40E-06	23	2.45%	1	4.93E-07
8	7.79%	4	1.57E-06	16	7.18%	4	1.44E-06	24	1.87%	1	3.77E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Driveway
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
FUG_NB_DRV	Driveway In	NB	1	475.5	0.30	9.7	32	1.3	25	54	4,592	49,430	6.97E-09	5.14E-09	2.6	1.21
FUG_SB_DRV	Driveway Out	SB	1	506.6	0.31	9.7	32	1.3	25	54	4,893	52,663	6.97E-09	5.14E-09	2.6	1.21
									Total	107						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	25			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00704			
Brake Wear - Emissions per Vehicle (g/VMT)	0.03709			
Road Dust - Emissions per Vehicle (g/VMT)	0.13091			
tal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.17504			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_DRV

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	8.75E-06	9	7.15%	4	5.49E-05	17	7.44%	4	5.72E-05
2	0.42%	0	3.22E-06	10	4.37%	2	3.36E-05	18	8.22%	4	6.32E-05
3	0.43%	0	3.32E-06	11	4.65%	2	3.57E-05	19	5.68%	3	4.37E-05
4	0.26%	0	1.97E-06	12	5.86%	3	4.50E-05	20	4.26%	2	3.28E-05
5	0.50%	0	3.84E-06	13	6.13%	3	4.71E-05	21	3.24%	2	2.49E-05
6	0.90%	0	6.93E-06	14	6.01%	3	4.62E-05	22	3.27%	2	2.52E-05
7	3.81%	2	2.93E-05	15	6.98%	4	5.36E-05	23	2.45%	1	1.88E-05
8	7.79%	4	5.99E-05	16	7.18%	4	5.52E-05	24	1.87%	1	1.44E-05
								Total		54	

2026 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_DRV

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	9.32E-06	9	7.15%	4	5.85E-05	17	7.44%	4	6.09E-05
2	0.42%	0	3.43E-06	10	4.37%	2	3.57E-05	18	8.22%	4	6.73E-05
3	0.43%	0	3.53E-06	11	4.65%	2	3.81E-05	19	5.68%	3	4.65E-05
4	0.26%	0	2.10E-06	12	5.86%	3	4.80E-05	20	4.26%	2	3.49E-05
5	0.50%	0	4.09E-06	13	6.13%	3	5.02E-05	21	3.24%	2	2.65E-05
6	0.90%	0	7.38E-06	14	6.01%	3	4.92E-05	22	3.27%	2	2.68E-05
7	3.81%	2	3.12E-05	15	6.98%	4	5.71E-05	23	2.45%	1	2.01E-05
8	7.79%	4	6.38E-05	16	7.18%	4	5.88E-05	24	1.87%	1	1.53E-05
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Project Site
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Line Area: Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
DPM_PROJ_IN	Project Site Travel Inbound	In	1	138.9	0.09	9.7	31.7	3.4	5	54	1,341	14,439	6.731E-10	4.963E-10	6.8	3.16
DPM_PROJ_OUT	Project Site Travel Outbound	Out	1	115.2	0.07	9.7	31.7	3.4	5	54	1,113	11,975	6.731E-10	4.963E-10	6.8	3.16
									Total	107						

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	5			
Emissions per Vehicle (g/VMT)	0.01689			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and DPM Emissions - DPM_PROJ_IN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.58%	2	7.77E-07	9	7.39%	4	1.60E-06	17	6.54%	3	1.42E-06
2	2.55%	1	5.52E-07	10	6.52%	3	1.41E-06	18	4.65%	2	1.01E-06
3	2.92%	2	6.34E-07	11	5.58%	3	1.21E-06	19	2.39%	1	5.17E-07
4	3.02%	2	6.54E-07	12	6.16%	3	1.33E-06	20	0.96%	1	2.07E-07
5	2.08%	1	4.50E-07	13	5.59%	3	1.21E-06	21	2.75%	1	5.96E-07
6	2.92%	2	6.34E-07	14	5.50%	3	1.19E-06	22	3.60%	2	7.80E-07
7	6.81%	4	1.47E-06	15	4.56%	2	9.87E-07	23	2.28%	1	4.94E-07
8	5.69%	3	1.23E-06	16	5.03%	3	1.09E-06	24	0.96%	1	2.07E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_PROJ_OUT

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.58%	2	6.44E-07	9	7.39%	4	1.33E-06	17	6.54%	3	1.17E-06
2	2.55%	1	4.58E-07	10	6.52%	3	1.17E-06	18	4.65%	2	8.36E-07
3	2.92%	2	5.26E-07	11	5.58%	3	1.00E-06	19	2.39%	1	4.29E-07
4	3.02%	2	5.43E-07	12	6.16%	3	1.11E-06	20	0.96%	1	1.72E-07
5	2.08%	1	3.73E-07	13	5.59%	3	1.01E-06	21	2.75%	1	4.94E-07
6	2.92%	2	5.26E-07	14	5.50%	3	9.88E-07	22	3.60%	2	6.47E-07
7	6.81%	4	1.22E-06	15	4.56%	2	8.19E-07	23	2.28%	1	4.09E-07
8	5.69%	3	1.02E-06	16	5.03%	3	9.03E-07	24	0.96%	1	1.72E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Project Site
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM2.5_PROJ_IN	Project Site Travel Inbound	In	1	138.9	0.09	9.7	32	1.3	5	54	1,341	14,439	7.71E-10	5.68E-10	2.6	1.21
PM2.5_PROJ_OUT	Project Site Travel Outbound	Out	1	115.2	0.07	9.7	32	1.3	5	54	1,113	11,975	7.71E-10	5.68E-10	2.6	1.21
									Total	54						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	5			
Emissions per Vehicle (g/VMT)	0.019342			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_PROJ_IN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	2.82E-07	9	7.15%	4	1.77E-06	17	7.44%	4	1.85E-06
2	0.42%	0	1.04E-07	10	4.37%	2	1.08E-06	18	8.22%	4	2.04E-06
3	0.43%	0	1.07E-07	11	4.65%	2	1.15E-06	19	5.68%	3	1.41E-06
4	0.26%	0	6.36E-08	12	5.86%	3	1.45E-06	20	4.26%	2	1.06E-06
5	0.50%	0	1.24E-07	13	6.13%	3	1.52E-06	21	3.24%	2	8.04E-07
6	0.90%	0	2.24E-07	14	6.01%	3	1.49E-06	22	3.27%	2	8.12E-07
7	3.81%	2	9.46E-07	15	6.98%	4	1.73E-06	23	2.45%	1	6.08E-07
8	7.79%	4	1.93E-06	16	7.18%	4	1.78E-06	24	1.87%	1	4.64E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_PROJ_OUT

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	2.34E-07	9	7.15%	4	1.47E-06	17	7.44%	4	1.53E-06
2	0.42%	0	8.61E-08	10	4.37%	2	8.98E-07	18	8.22%	4	1.69E-06
3	0.43%	0	8.88E-08	11	4.65%	2	9.56E-07	19	5.68%	3	1.17E-06
4	0.26%	0	5.27E-08	12	5.86%	3	1.21E-06	20	4.26%	2	8.77E-07
5	0.50%	0	1.03E-07	13	6.13%	3	1.26E-06	21	3.24%	2	6.67E-07
6	0.90%	0	1.86E-07	14	6.01%	3	1.24E-06	22	3.27%	2	6.73E-07
7	3.81%	2	7.84E-07	15	6.98%	4	1.44E-06	23	2.45%	1	5.04E-07
8	7.79%	4	1.60E-06	16	7.18%	4	1.48E-06	24	1.87%	1	3.85E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Project Site
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_PROJ_IN	Project Site Travel Inbound	In	1	138.9	0.09	9.7	32	1.3	5	54	1,341	14,439	2.33E-08	1.72E-08	2.6	1.21
TEXH_PROJ_OUT	Project Site Travel Outbound	Out	1	115.2	0.07	9.7	32	1.3	5	54	1,113	11,975	2.33E-08	1.72E-08	2.6	1.21
									Total	54						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	5			
Emissions per Vehicle (g/VMT)	0.58414			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_PROJ_IN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	8.53E-06	9	7.15%	4	5.36E-05	17	7.44%	4	5.57E-05
2	0.42%	0	3.13E-06	10	4.37%	2	3.27E-05	18	8.22%	4	6.16E-05
3	0.43%	0	3.23E-06	11	4.65%	2	3.48E-05	19	5.68%	3	4.26E-05
4	0.26%	0	1.92E-06	12	5.86%	3	4.39E-05	20	4.26%	2	3.19E-05
5	0.50%	0	3.74E-06	13	6.13%	3	4.59E-05	21	3.24%	2	2.43E-05
6	0.90%	0	6.76E-06	14	6.01%	3	4.51E-05	22	3.27%	2	2.45E-05
7	3.81%	2	2.86E-05	15	6.98%	4	5.23E-05	23	2.45%	1	1.83E-05
8	7.79%	4	5.83E-05	16	7.18%	4	5.38E-05	24	1.87%	1	1.40E-05
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_PROJ_OUT

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	7.07E-06	9	7.15%	4	4.44E-05	17	7.44%	4	4.62E-05
2	0.42%	0	2.60E-06	10	4.37%	2	2.71E-05	18	8.22%	4	5.11E-05
3	0.43%	0	2.68E-06	11	4.65%	2	2.89E-05	19	5.68%	3	3.53E-05
4	0.26%	0	1.59E-06	12	5.86%	3	3.64E-05	20	4.26%	2	2.65E-05
5	0.50%	0	3.10E-06	13	6.13%	3	3.81E-05	21	3.24%	2	2.01E-05
6	0.90%	0	5.60E-06	14	6.01%	3	3.74E-05	22	3.27%	2	2.03E-05
7	3.81%	2	2.37E-05	15	6.98%	4	4.34E-05	23	2.45%	1	1.52E-05
8	7.79%	4	4.84E-05	16	7.18%	4	4.46E-05	24	1.87%	1	1.16E-05
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Project Site
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_PROJ_IN	Project Site Travel Inbound	In	1	138.9	0.09	9.7	32	1.3	5	54	1,341	14,439	8.57E-10	6.32E-10	2.6	1.21
TEVAP_PROJ_OUT	Project Site Travel Outbound	Out	1	115.2	0.07	9.7	32	1.3	5	54	1,113	11,975	8.57E-10	6.32E-10	2.6	1.21
									Total	54						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	5			
Emissions per Vehicle per Hour (g/hour)	0.10756			
Emissions per Vehicle per Mile (g/VMT)	0.02151			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_PROJ_IN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	3.14E-07	9	7.15%	4	1.97E-06	17	7.44%	4	2.05E-06
2	0.42%	0	1.15E-07	10	4.37%	2	1.20E-06	18	8.22%	4	2.27E-06
3	0.43%	0	1.19E-07	11	4.65%	2	1.28E-06	19	5.68%	3	1.57E-06
4	0.26%	0	7.07E-08	12	5.86%	3	1.62E-06	20	4.26%	2	1.18E-06
5	0.50%	0	1.38E-07	13	6.13%	3	1.69E-06	21	3.24%	2	8.94E-07
6	0.90%	0	2.49E-07	14	6.01%	3	1.66E-06	22	3.27%	2	9.03E-07
7	3.81%	2	1.05E-06	15	6.98%	4	1.93E-06	23	2.45%	1	6.76E-07
8	7.79%	4	2.15E-06	16	7.18%	4	1.98E-06	24	1.87%	1	5.16E-07
								Total		54	

2026 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_PROJ_OUT

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	2.61E-07	9	7.15%	4	1.64E-06	17	7.44%	4	1.70E-06
2	0.42%	0	9.58E-08	10	4.37%	2	9.99E-07	18	8.22%	4	1.88E-06
3	0.43%	0	9.87E-08	11	4.65%	2	1.06E-06	19	5.68%	3	1.30E-06
4	0.26%	0	5.86E-08	12	5.86%	3	1.34E-06	20	4.26%	2	9.75E-07
5	0.50%	0	1.14E-07	13	6.13%	3	1.40E-06	21	3.24%	2	7.42E-07
6	0.90%	0	2.06E-07	14	6.01%	3	1.38E-06	22	3.27%	2	7.49E-07
7	3.81%	2	8.72E-07	15	6.98%	4	1.60E-06	23	2.45%	1	5.60E-07
8	7.79%	4	1.78E-06	16	7.18%	4	1.64E-06	24	1.87%	1	4.28E-07
								Total		54	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Truck Trips - Project Site
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2026

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
FUG_PROJ_IN	Project Site Travel Inbound	In	1	138.9	0.09	9.7	32	1.3	5	54	1,341	14,439	7.09E-09	5.23E-09	2.6	1.21
FUG_PROJ_OUT	Project Site Travel Outbound	Out	1	115.2	0.07	9.7	32	1.3	5	54	1,113	11,975	7.09E-09	5.23E-09	2.6	1.21
									Total	54						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	5			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00704			
Brake Wear - Emissions per Vehicle (g/VMT)	0.04009			
Road Dust - Emissions per Vehicle (g/VMT)	0.13091			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.17804			

Emisson Factors from CT-EMFAC2021

2026 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_PROJ_IN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	1	2.60E-06	9	7.15%	4	1.63E-05	17	7.44%	4	1.70E-05
2	0.42%	0	9.55E-07	10	4.37%	2	9.97E-06	18	8.22%	4	1.88E-05
3	0.43%	0	9.85E-07	11	4.65%	2	1.06E-05	19	5.68%	3	1.30E-05
4	0.26%	0	5.85E-07	12	5.86%	3	1.34E-05	20	4.26%	2	9.73E-06
5	0.50%	0	1.14E-06	13	6.13%	3	1.40E-05	21	3.24%	2	7.40E-06
6	0.90%	0	2.06E-06	14	6.01%	3	1.37E-05	22	3.27%	2	7.47E-06
7	3.81%	2	8.70E-06	15	6.98%	4	1.59E-05	23	2.45%	1	5.59E-06
8	7.79%	4	1.78E-05	16	7.18%	4	1.64E-05	24	1.87%	1	4.27E-06
								Total		54	

2026 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_PROJ_OUT

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	1	2.16E-06	9	7.15%	4	1.35E-05	17	7.44%	4	1.41E-05
2	0.42%	0	7.92E-07	10	4.37%	2	8.27E-06	18	8.22%	4	1.56E-05
3	0.43%	0	8.17E-07	11	4.65%	2	8.80E-06	19	5.68%	3	1.08E-05
4	0.26%	0	4.85E-07	12	5.86%	3	1.11E-05	20	4.26%	2	8.07E-06
5	0.50%	0	9.46E-07	13	6.13%	3	1.16E-05	21	3.24%	2	6.14E-06
6	0.90%	0	1.71E-06	14	6.01%	3	1.14E-05	22	3.27%	2	6.20E-06
7	3.81%	2	7.22E-06	15	6.98%	4	1.32E-05	23	2.45%	1	4.64E-06
8	7.79%	4	1.47E-05	16	7.18%	4	1.36E-05	24	1.87%	1	3.54E-06
								Total		54	

HHDT Idle Emissions - DPM

Source Type	On-Site	Area Length	Area Width	Release Height (m)	No. of Daily Trucks	Idle Emissions Factor[b] (g/veh-hr)	Idle Emissions Daily (g/day)	(g/s/m²)	Annual (g/yr)	(lb/yr)
Area	Heavy Heavy Duty Trucks	Idle Area	Idle Area	6.00	54.0	0.08447	0.380115	1.35364E-09	138.742	0.305874

Emissions Factor from CT_EMFAC2021

Truck Idle DPM Emission Information

Emissions Factor @ 5 mph (g/mi)	=	0.016894
HHDT Idle Emissions Rate (g/hr)	=	0.08447
Idle Time per truck (min)	=	5
Idle Area Source Size (m²)	=	3250.1

Attachment 3: Cumulative Health Risk Modeling Information and Calculations

BAAQMD Rail Raster Cancer Risk

BAAQMD Rail Raster Annual $PM_{2.5}$

BAAQMD Rail Raster Hazard Index

File Name: Local Roadways 2025.EF
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 4/4/2024 3:25:08 PM
Area: Contra Costa (SF)
Analysis Year: 2025
Season: Annual

==

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.019	0.458	0.533
Truck 2	0.017	0.911	0.043
Non-Truck	0.964	0.007	0.938

==

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

==

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

Pollutant Name	40 mph
PM2.5	0.001370
TOG	0.019634
Diesel PM	0.000442

==

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

Pollutant Name	Emission Factor
TOG	1.134743

==

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

Pollutant Name	Emission Factor
PM2.5	0.002098

==

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

Pollutant Name	40 mph
PM2.5	0.005095

===

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

Pollutant Name	Emission Factor
PM2.5	0.015360

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

File Name:	TruckTrips 2026.EF
CT-EMFAC2021 Version:	1.0.2.0
Run Date:	4/17/2024 1:32:48 PM
Area:	Contra Costa (SF)
Analysis Year:	2026
Season:	Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.000	0.455	0.529
Truck 2	1.000	0.906	0.043
Non-Truck	0.000	0.006	0.934

Road Type:	Major/Collector		
Silt Loading Factor:	CARB	0.032 g/m2	
Precipitation Correction:	CARB	P = 65 days	N = 365 days

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

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.019342	0.015959	0.011329	0.008420	0.007019	0.006637	0.007015	0.008152	0.010048	0.012704	0.016121	0.020121	0.024608	0.024611	0.024611
PM10	0.020237	0.016695	0.011852	0.008808	0.007343	0.006942	0.007336	0.008524	0.010505	0.013281	0.016853	0.021034	0.025724	0.025728	0.025728
NOx	8.066195	5.860620	3.895133	3.021547	2.356014	1.836301	1.430778	1.138438	0.958728	0.891325	0.936036	1.091228	1.353585	1.353970	1.353970
TOG	0.584139	0.387809	0.226036	0.153936	0.119242	0.097859	0.082769	0.071899	0.064136	0.058830	0.055579	0.057276	0.059561	0.059813	0.059836
ROG	0.160963	0.102115	0.053482	0.031316	0.023167	0.018625	0.015317	0.013107	0.011913	0.011686	0.012395	0.013861	0.015807	0.015983	0.016003
Diesel PM	0.016894	0.016341	0.011604	0.008558	0.007213	0.006839	0.007246	0.008434	0.010404	0.013157	0.016695	0.020837	0.025481	0.025481	0.025481

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

Pollutant Name	Emission Factor
TOG	0.107559
ROG	0.107559

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

Pollutant Name	Emission Factor
PM2.5	0.007043
PM10	0.028171

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

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.040086	0.040086	0.039666	0.038899	0.037085	0.036097	0.031283	0.028008	0.024734	0.022376	0.022376	0.022376	0.022376	0.022376	0.022376
PM10	0.114532	0.114532	0.113333	0.111139	0.105957	0.103134	0.089379	0.080024	0.070668	0.063933	0.063933	0.063933	0.063933	0.063933	0.063933

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

Pollutant Name	Emission Factor
PM2.5	0.130911
PM10	0.872741

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

830 San Pablo Ave, Pinole, CA - San Pablo Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2025
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAAQMD Conoco Phillips Hillcrest Met Dat	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (μg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0002	0.0081	0.0118

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (μg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0099	0.0094	0.0006

830 San Pablo Ave, Pinole, CA - San Pablo Avenue Traffic Cancer Risk
Impacts at Construction Residential MEIs - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

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

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

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

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

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

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**
0	0.25	-0.25 - 0*	2025	10	0.0002	0.0081	0.0118	0.003	0.001	0.0001	0.00
1	1	0 - 1	2025	10	0.0002	0.0081	0.0118	0.034	0.008	0.0006	0.04
2	1	1 - 2	2026	10	0.0002	0.0081	0.0118	0.034	0.008	0.0006	0.04
3	1	2 - 3	2027	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
4	1	3 - 4	2028	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
5	1	4 - 5	2029	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
6	1	5 - 6	2030	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
7	1	6 - 7	2031	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
8	1	7 - 8	2032	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
9	1	8 - 9	2033	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
10	1	9 - 10	2034	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
11	1	10 - 11	2035	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
12	1	11 - 12	2036	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
13	1	12 - 13	2037	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
14	1	13 - 14	2038	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
15	1	14 - 15	2039	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
16	1	15 - 16	2040	3	0.0002	0.0081	0.0118	0.005	0.001	0.0001	0.01
17	1	16-17	2041	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
18	1	17-18	2042	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
19	1	18-19	2043	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
20	1	19-20	2044	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
21	1	20-21	2045	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
22	1	21-22	2046	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
23	1	22-23	2047	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
24	1	23-24	2048	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
25	1	24-25	2049	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
26	1	25-26	2050	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
27	1	26-27	2051	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
28	1	27-28	2052	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
29	1	28-29	2053	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
30	1	29-30	2054	1	0.0002	0.0081	0.0118	0.001	0.000	0.0000	0.00
Total Increased Cancer Risk								0.16	0.035	0.003	**0.19**

* Third trimester of pregnancy

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00004	0.01	0.01

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Cumulative Operation - San Pablo Avenue
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2025

											Line Area					
Road Link	**Description**	**Direction**	**No. Lanes**	**Link Length (m)**	**Link Length (mi)**	**Link Width (m)**	**Link Width (ft)**	**Release Height (m)**	**Average Speed (mph)**	**Average Vehicles per Day**	**Area (sq m)**	**Area (sq ft)**	**Emission (g/s/m2)**	**Emission (lb/hr/ft2)**	**Initial Vertical height (m)**	**(Sigma z) Initial Vertical Dimension**
DPM_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	43.7	3.4	40	9,456	6,331	68,150	2.257E-09	1.664E-09	6.8	3.16
DPM_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	43.7	3.4	40	9,456	6,745	72,608	2.257E-09	1.664E-09	6.8	3.16
									Total	18,911						

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00044			

Emisson Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and DPM Emissions - DPM_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.58%	339	1.23E-05	9	7.39%	698	2.53E-05	17	6.54%	618	2.24E-05
2	2.55%	241	8.74E-06	10	6.52%	617	2.24E-05	18	4.65%	440	1.59E-05
3	2.92%	277	1.00E-05	11	5.58%	528	1.91E-05	19	2.39%	226	8.18E-06
4	3.02%	285	1.04E-05	12	6.16%	582	2.11E-05	20	0.96%	90	3.28E-06
5	2.08%	196	7.12E-06	13	5.59%	529	1.92E-05	21	2.75%	260	9.43E-06
6	2.92%	277	1.00E-05	14	5.50%	520	1.89E-05	22	3.60%	340	1.23E-05
7	6.81%	644	2.33E-05	15	4.56%	431	1.56E-05	23	2.28%	215	7.81E-06
8	5.69%	538	1.95E-05	16	5.03%	475	1.72E-05	24	0.96%	90	3.28E-06
								Total		9,456	

2025 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.58%	339	1.31E-05	9	7.39%	698	2.70E-05	17	6.54%	618	2.39E-05
2	2.55%	241	9.31E-06	10	6.52%	617	2.38E-05	18	4.65%	440	1.70E-05
3	2.92%	277	1.07E-05	11	5.58%	528	2.04E-05	19	2.39%	226	8.72E-06
4	3.02%	285	1.10E-05	12	6.16%	582	2.25E-05	20	0.96%	90	3.50E-06
5	2.08%	196	7.58E-06	13	5.59%	529	2.04E-05	21	2.75%	260	1.00E-05
6	2.92%	277	1.07E-05	14	5.50%	520	2.01E-05	22	3.60%	340	1.32E-05
7	6.81%	644	2.49E-05	15	4.56%	431	1.66E-05	23	2.28%	215	8.32E-06
8	5.69%	538	2.08E-05	16	5.03%	475	1.84E-05	24	0.96%	90	3.50E-06
								Total		9,456	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Cumulative Operation - San Pablo Avenue
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2025

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height (m)	(Sigma z) Initial Vertical Dimension
PM2.5_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	9,456	6,331	68,150	7.00E-09	5.16E-09	2.6	1.21
PM2.5_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	9,456	6,745	72,608	7.00E-09	5.16E-09	2.6	1.21
									Total	18,911						

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.001370			

Emisson Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	108	1.21E-05	9	7.15%	676	7.60E-05	17	7.44%	704	7.91E-05
2	0.42%	40	4.45E-06	10	4.37%	413	4.64E-05	18	8.22%	777	8.74E-05
3	0.43%	41	4.59E-06	11	4.65%	439	4.94E-05	19	5.68%	537	6.04E-05
4	0.26%	24	2.72E-06	12	5.86%	554	6.23E-05	20	4.26%	403	4.53E-05
5	0.50%	47	5.31E-06	13	6.13%	579	6.51E-05	21	3.24%	306	3.44E-05
6	0.90%	85	9.59E-06	14	6.01%	569	6.39E-05	22	3.27%	309	3.48E-05
7	3.81%	360	4.05E-05	15	6.98%	660	7.42E-05	23	2.45%	232	2.60E-05
8	7.79%	736	8.28E-05	16	7.18%	679	7.63E-05	24	1.87%	177	1.99E-05
								Total		9,456	

2025 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	108	1.29E-05	9	7.15%	676	8.10E-05	17	7.44%	704	8.43E-05
2	0.42%	40	4.74E-06	10	4.37%	413	4.95E-05	18	8.22%	777	9.31E-05
3	0.43%	41	4.89E-06	11	4.65%	439	5.26E-05	19	5.68%	537	6.44E-05
4	0.26%	24	2.90E-06	12	5.86%	554	6.64E-05	20	4.26%	403	4.83E-05
5	0.50%	47	5.66E-06	13	6.13%	579	6.94E-05	21	3.24%	306	3.67E-05
6	0.90%	85	1.02E-05	14	6.01%	569	6.81E-05	22	3.27%	309	3.71E-05
7	3.81%	360	4.32E-05	15	6.98%	660	7.90E-05	23	2.45%	232	2.77E-05
8	7.79%	736	8.82E-05	16	7.18%	679	8.13E-05	24	1.87%	177	2.12E-05
								Total		9,456	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Cumulative Operation - San Pablo Avenue
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2025

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEXH_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	9,456	6,331	68,150	1.00E-07	7.39E-08	2.6	1.21
TEXH_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	9,456	6,745	72,608	1.00E-07	7.39E-08	2.6	1.21
									Total	18,911						

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.01963			

Emisson Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	108	1.73E-04	9	7.15%	676	1.09E-03	17	7.44%	704	1.13E-03
2	0.42%	40	6.38E-05	10	4.37%	413	6.65E-04	18	8.22%	777	1.25E-03
3	0.43%	41	6.57E-05	11	4.65%	439	7.08E-04	19	5.68%	537	8.66E-04
4	0.26%	24	3.90E-05	12	5.86%	554	8.93E-04	20	4.26%	403	6.49E-04
5	0.50%	47	7.61E-05	13	6.13%	579	9.34E-04	21	3.24%	306	4.94E-04
6	0.90%	85	1.37E-04	14	6.01%	569	9.16E-04	22	3.27%	309	4.99E-04
7	3.81%	360	5.81E-04	15	6.98%	660	1.06E-03	23	2.45%	232	3.73E-04
8	7.79%	736	1.19E-03	16	7.18%	679	1.09E-03	24	1.87%	177	2.85E-04
								Total		9,456	

2025 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	108	1.85E-04	9	7.15%	676	1.16E-03	17	7.44%	704	1.21E-03
2	0.42%	40	6.79E-05	10	4.37%	413	7.09E-04	18	8.22%	777	1.33E-03
3	0.43%	41	7.00E-05	11	4.65%	439	7.55E-04	19	5.68%	537	9.22E-04
4	0.26%	24	4.16E-05	12	5.86%	554	9.51E-04	20	4.26%	403	6.92E-04
5	0.50%	47	8.11E-05	13	6.13%	579	9.95E-04	21	3.24%	306	5.26E-04
6	0.90%	85	1.46E-04	14	6.01%	569	9.76E-04	22	3.27%	309	5.31E-04
7	3.81%	360	6.19E-04	15	6.98%	660	1.13E-03	23	2.45%	232	3.98E-04
8	7.79%	736	1.26E-03	16	7.18%	679	1.17E-03	24	1.87%	177	3.04E-04
								Total		9,456	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Cumulative Operation - San Pablo Avenue
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2025

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
TEVAP_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	9,456	6,331	68,150	1.45E-07	1.07E-07	2.6	1.21
TEVAP_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	9,456	6,745	72,608	1.45E-07	1.07E-07	2.6	1.21
									Total	18,911						

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	1.13474			
Emissions per Vehicle per Mile (g/VMT)	0.02837			

Emisson Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	108	2.51E-04	9	7.15%	676	1.57E-03	17	7.44%	704	1.64E-03
2	0.42%	40	9.21E-05	10	4.37%	413	9.61E-04	18	8.22%	777	1.81E-03
3	0.43%	41	9.50E-05	11	4.65%	439	1.02E-03	19	5.68%	537	1.25E-03
4	0.26%	24	5.64E-05	12	5.86%	554	1.29E-03	20	4.26%	403	9.38E-04
5	0.50%	47	1.10E-04	13	6.13%	579	1.35E-03	21	3.24%	306	7.13E-04
6	0.90%	85	1.99E-04	14	6.01%	569	1.32E-03	22	3.27%	309	7.20E-04
7	3.81%	360	8.39E-04	15	6.98%	660	1.54E-03	23	2.45%	232	5.39E-04
8	7.79%	736	1.71E-03	16	7.18%	679	1.58E-03	24	1.87%	177	4.12E-04
								Total		9,456	

2025 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	108	2.67E-04	9	7.15%	676	1.68E-03	17	7.44%	704	1.75E-03
2	0.42%	40	9.81E-05	10	4.37%	413	1.02E-03	18	8.22%	777	1.93E-03
3	0.43%	41	1.01E-04	11	4.65%	439	1.09E-03	19	5.68%	537	1.33E-03
4	0.26%	24	6.01E-05	12	5.86%	554	1.37E-03	20	4.26%	403	1.00E-03
5	0.50%	47	1.17E-04	13	6.13%	579	1.44E-03	21	3.24%	306	7.60E-04
6	0.90%	85	2.11E-04	14	6.01%	569	1.41E-03	22	3.27%	309	7.68E-04
7	3.81%	360	8.94E-04	15	6.98%	660	1.64E-03	23	2.45%	232	5.74E-04
8	7.79%	736	1.83E-03	16	7.18%	679	1.68E-03	24	1.87%	177	4.39E-04
								Total		9,456	

830 San Pablo Ave, Pinole, CA - Off-Site Residential
Cumulative Operation - San Pablo Avenue
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2025

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day	Area (sq m)	Area (sq ft)	Emission (g/s/m2)	Emission (lb/hr/ft2)	Initial Vertical height	(Sigma z) Initial Vertical Dimension
FUG_EB_SPA	San Pablo Avenue Eastbound	EB	2	475.5	0.30	13.3	44	1.3	40	9,456	6,331	68,150	1.15E-07	8.49E-08	2.6	1.21
FUG_WB_SPA	San Pablo Avenue Westbound	WB	2	506.6	0.31	13.3	44	1.3	40	9,456	6,745	72,608	1.15E-07	8.49E-08	2.6	1.21
									Total	18,911						

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00210			
Brake Wear - Emissions per Vehicle (g/VMT)	0.00510			
Road Dust - Emissions per Vehicle (g/VMT)	0.01536			
tal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02255			

Emisson Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_SPA

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.14%	108	1.99E-04	9	7.15%	676	1.25E-03	17	7.44%	704	1.30E-03
2	0.42%	40	7.32E-05	10	4.37%	413	7.64E-04	18	8.22%	777	1.44E-03
3	0.43%	41	7.55E-05	11	4.65%	439	8.13E-04	19	5.68%	537	9.95E-04
4	0.26%	24	4.48E-05	12	5.86%	554	1.03E-03	20	4.26%	403	7.46E-04
5	0.50%	47	8.74E-05	13	6.13%	579	1.07E-03	21	3.24%	306	5.67E-04
6	0.90%	85	1.58E-04	14	6.01%	569	1.05E-03	22	3.27%	309	5.73E-04
7	3.81%	360	6.67E-04	15	6.98%	660	1.22E-03	23	2.45%	232	4.29E-04
8	7.79%	736	1.36E-03	16	7.18%	679	1.26E-03	24	1.87%	177	3.28E-04
								Total		9,456	

2025 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_SPA

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.14%	108	2.12E-04	9	7.15%	676	1.33E-03	17	7.44%	704	1.39E-03
2	0.42%	40	7.80E-05	10	4.37%	413	8.14E-04	18	8.22%	777	1.53E-03
3	0.43%	41	8.04E-05	11	4.65%	439	8.67E-04	19	5.68%	537	1.06E-03
4	0.26%	24	4.78E-05	12	5.86%	554	1.09E-03	20	4.26%	403	7.95E-04
5	0.50%	47	9.31E-05	13	6.13%	579	1.14E-03	21	3.24%	306	6.04E-04
6	0.90%	85	1.68E-04	14	6.01%	569	1.12E-03	22	3.27%	309	6.10E-04
7	3.81%	360	7.11E-04	15	6.98%	660	1.30E-03	23	2.45%	232	4.57E-04
8	7.79%	736	1.45E-03	16	7.18%	679	1.34E-03	24	1.87%	177	3.49E-04
								Total		9,456	

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	**1/13/2023**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	jbauer@illingworthrodkin.com
Project Name	Pinole Shores
Address	848 San Pablo Ave
City	Pinole
County	Contra Costa
Type (residential, commercial, mixed use, industrial, etc.)	Industrial
Project Size (# of units or building square feet)	117,943
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
955	14312	Crocketts Premier Auto Body	900 San Pablo Ave	0	0.0032804	0		No Data		2020 Dataset	0.14	0.00	0.00046	0.0000
850	24845	Central Concrete Pinole Plant	800 San Pablo Ave	0	0	5.886679		No Data		2020 Dataset	0.18	0.00	0.00000	1.0419
1000+	108694_1	Western Contra Costa Transit /	601 Walter Ave	0.68	0.0032351	0		Gas Dispensing Facility		2020 Dataset	0.02	0.01	0.000	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

Screening Report

Area of Interest (AOI) Information

Area : 6,480,930.11 ft²

Sep 9 2022 15:03:43 Pacific Daylight Time

• Permitted Stationary Sources

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	3	N/A	N/A

Permitted Stationary Sources

#	FacID	FacName	Address	City	Street
1	14312	Crocketts Premier Auto Body	900 San Pablo Ave	Pinole	CA
2	24845	Central Concrete Pinole Plant	800 San Pablo Ave	Pinole	CA
3	108694_1	Western Contra Costa Transit Authority	601 Walter Ave	Pinole	CA

#	Zip	County	Latitude	Longitude	Details
1	94,564.00	Contra Costa	38.01	-122.31	*No Data*
2	94,564.00	Contra Costa	38.00	-122.31	*No Data*
3	94,564.00	Contra Costa	38.01	-122.31	Gas Dispensing Facility

#	NAICS	Sector	Sub_Sector	Industry	ChronicHI
1	811,121.00	Other Services (except Public Administration)	Repair and Maintenance	Automotive Body, Paint, and Interior Repair and Maintenance	0.0032804
2	327,320.00	Manufacturing	Nonmetallic Mineral Product Manufacturing	Ready-Mix Concrete Manufacturing	0.0000000
3	485,119.00	Transportation and Warehousing	Transit and Ground Passenger Transportation	Other Urban Transit Systems	0.0032351

#	PM2_5	Cancer Risk {expression/expr0}	Chronic Hazard Index {expression/expr1}	PM2.5 {expression/expr2}	Count
1	0.0000000	*No Data*	0.003	*No Data*	1
2	5.8866787	*No Data*	*No Data*	5.887	1
3	0.0000000	0.675	0.003	*No Data*	1

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.

830 San Pablo Ave, Pinole, CA

PM2.5 Fugitive Dust Emissions for Modeling - Central Concrete

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	Operation	OPR_FUG	0.3440	687.9	0.15706	1.98E-02	22,858	8.66E-07
Total			***0.3440***	***687.9***	***0.1571***	***0.0198***		

830 San Pablo Ave, Pinole, CA - Central Concrete Impacts
Maximum PM2.5 Calculations
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

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

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

Maximum
Fugitive PM2.5
0.12