SAN JOSE EMERGENCY INTERIM HOUSING PROGRAM

AIR QUALITY ASSESSMENT

San Jose, California

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INTRODUCTION

This report addresses the air quality and health risk impacts associated with the City of San José's adoption of an Emergency Interim Housing Program (EIH Program). The air quality impacts from this Program would be associated with possible demolition of the existing land uses, minor grading, placement of new prefabricated modular building and infrastructure, and operation of the housing. Air pollutants associated with construction and operation are addressed qualitatively in accordance with Bay Area Air Quality Management District (BAAQMD).[1] The impact of existing toxic air contaminant (TAC) sources affecting the new sensitive receptors proposed by the Program were also evaluated. This report was developed following guidance provided by the Bay Area Air Quality Management District (BAAQMD).

PROJECT DESCRIPTION

In 2016, the State of California passed Assembly Bill (AB) 2176, allowing the City of San José to declare a shelter crisis and create emergency Bridge Housing Communities (BHCs).[2] This law allows San José to develop communities of small sleeping cabins, along with common buildings, which could include meeting space, showers, and laundry facilities. The law also allows San José to adopt local standards in lieu of State and local building codes and requirements that may hinder or delay development of BHCs. Potential BHC sites must be either City-owned or leased. AB 2176 describes an "emergency sleeping cabin" as a relocatable hard-sided structure that may be used for occupancy, with a raised floor area of at least 120 square feet of interior space for two occupants and a minimum of 70 square feet of interior space for one occupant, with no plumbing or gas service. Additionally, AB 2176 requires emergency sleeping cabins to provide light, heat, and ventilation, and to comply with minimum emergency bridge housing design standards.

Under the authority of AB 2176/1745, the City approved the BHC Ordinance (No. 30199), which amended the City's Municipal Code Section 5.09 to include standards for construction and operation of emergency bridge housing. There are currently five operational BHC sites, and four approved but not yet installed BHC sites, within the City of San José.

Under the EIH Program, the City would initially select up to 15 EIH/BHC sites in order to provide temporary housing and supportive services for individuals, couples, and families experiencing homelessness. Additional sites may be considered at a future date. The project includes the construction of transitional housing units on EIH/BHC sites. The market for transitional housing units is rapidly developing and the form of the actual units may change over time. For purposes of this Program, the City assumes the option with the greatest massing for a conservative analysis of project impacts. Each project would construct two-story, modular buildings, each containing up to six units at each EIH site. Each unit would include a bed and bathroom. Each site would accommodate up to 12 modular buildings per acre. Additionally, each EIH site would include three one-story common use buildings per acre, which would include shared facilities such as a kitchen,

[1] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*, May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[2] The January 2022 sunset date of AB 2176 was extended to January 1, 2025 by AB 1745, thus allowing BHC sites to operate through 2024.

dining area, laundry facilities, office area, private case management rooms, storage units, and recreational spaces.

SETTING

The EIH sites are all within the City of San Jose, which is within Santa Clara County that is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level that apply to the air basin and the area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

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

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

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

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

assessment guidelines, which were published in February of 2015.[3] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

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

Regulatory Setting

Federal

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders) as well as nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in the State, as long as they are the same or more stringent than the federal standards.

In the past decade, the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter ($PM_{2.5}$) 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.[4]

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

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

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

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] A significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment in addition to requiring more stringent emission standards for new on-road mobile, non-road (or off-road) mobile, and stationary diesel-fueled engine sources to reduce particulate matter emissions by 90 percent. Many Plan measures have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, and adoption of regulations for low sulfur fuel in California.

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

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

Local Air District Guidance

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.

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

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The District also has permit authority over most types of stationary emissions sources. 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.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's *2017 Clean Air Plan* is the current Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_X), particulate matter and greenhouse gas (GHG) emissions.

Community Air Risk Evaluation Program

The 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 is implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted as part of the CARE program: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. Portions of the City are within a CARE area.

Overburdened Communities

BAAQMD Regulation 2-1-24 identifies an *overburdened* community as an area located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[7] Portions of the City are considered overburdened areas as identified by CalEnviroScreen as the area is scored above the 60th percentile.[8]

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[6] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.
[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 , accessed 10/1/2021.
[8] OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

Planning Healthy Places

BAAQMD developed a guidebook that provides information intended to assist local governments in addressing potential issues related to exposure of sensitive receptors to local sources of air pollutants. The guidance provides tools and recommends best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD Stationary Source Rules and Regulations

Combustion equipment associated with the proposed projects that include new diesel engines to power emergency power generators and possibly cooling towers would establish new sources of particulate matter and gaseous emissions. Emissions could result from the testing of the emergency backup generators and some minor emissions from cooling towers. Emission sources are subject to BAAQMD stationary source Regulations and Rules and would require permits.

California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[9] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with California Environmental Quality Act (CEQA) requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for TACs, odors, and greenhouse gas (GHG) emissions.

Per Appendix G of the CEQA Guidelines and BAAQMD recommendations, air quality and GHG impacts are considered significant if implementation of the Plan would:

1) Conflict with or obstruct implementation of an applicable air quality plan.
2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
3) Expose sensitive receptors to substantial pollutant concentrations.
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
5) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
6) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air

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

Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the CEQA Air Quality Guidelines in 2017 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1 and Table 2. Impacts above these thresholds are considered potentially significant.

Table 1. BAAQMD Recommended Plan-Level Air Quality Significance Thresholds

Pollutant/Contaminant	Construction	Operational
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet from all freeways and high-volume roadways For this analysis – overlay zones are based on potential for sources to result in the following impacts: 1. Excess cancer risk >10.0 chances per million 2. Annual PM2.5 Concentration > 0.3 µg/m^3 3. Hazard Index >1.0
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors

Table 2. BAAQMD Recommended Project-Level 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 1,000-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	
Odors	**Complaints**		
Detection	5 confirmed complaints per year averaged over three years		
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.			

Source: Bay Area Air Quality Management District, 2017

San José Envision 2040 General Plan

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

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

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

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

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

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

MS-10.11 Enforce the City's wood-burning appliance ordinance to limit air pollutant emissions from residential and commercial buildings.

MS-10.13 As a part of City of San José Sustainable City efforts, educate the public about air polluting household consumer products and activities that generate air pollution. Increase public awareness about the alternative products and activities that reduce air pollutant emissions.

Applicable Goals – Toxic Air Contaminants

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

Applicable Policies – Toxic Air Contaminants

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways

and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

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

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

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

Actions – Toxic Air Contaminants

MS-11.6 Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of TACs and $PM_{2.5}$, emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. The Community Risk Reduction Plan will include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, progress reporting to the public and responsible agencies, and periodic updates of the plan, as appropriate.

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

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

Applicable Goals – Construction Air Emissions

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

Applicable Policies – Construction Air Emissions

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

Applicable Actions – Construction Air Emissions

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

AIR QUALITY IMPACTS AND APPLICABLE MITIGATION MEASURES

Air pollutant emissions and associated health risks are described for the EIH Program. Since individual Project sites have not been identified, this analysis provides a qualitative assessment and includes suggested Mitigation Measures or Conditions of Approval to avoid significant air quality impacts.

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

The BAAQMD, with assistance from the Metropolitan Transportation Commission (MTC), has prepared and implemented a specific plan to meet the applicable laws, regulations, and programs related to air quality. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[10] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans and specific area plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds provided in BAAQMD's CEQA guidance. The project would not conflict with the latest Clean Air planning efforts, since 1) Projects developed under the EIH Program would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below), 2) the project would be considered urban infill, and 3) the project would be located near transit with regional connections. The EIH Program serves the existing population in San Jose and is not expected to increase traffic.

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

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has

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

established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The development of EIH sites would have emissions associated with construction and operation. The number of sites has not been determined but would be up to 15 sites that would be 1 to 10 acres in size. Each project would construct two-story, modular buildings, each containing up to six units at each EIH site. Each unit would include a bed and bathroom. Each site would accommodate up to 12 modular buildings per acre. Additionally, each EIH site would include three one-story common use buildings per acre, which would include shared facilities such as a kitchen, dining area, laundry facilities, office area, private case management rooms, storage units, and recreational spaces. Under a maximum build-out scenario, the Program could build out 10,800 residential units. This assumes all sites are the maximum size of 10 acres and fully built out at 720 dwelling units per site.

Construction Emissions

The BAAQMD CEQA Air Quality Guidelines do not identify quantified plan level thresholds for construction emissions. There are project-level thresholds of 54 pounds per average day for NOx, ROG and $PM_{2.5}$ exhaust and 82 pounds per average day for PM_{10} exhaust. Unless controlled, the combination of temporary dust from activities and diesel exhaust from construction equipment and related traffic may pose a nuisance impact to nearby receptors or exceed acceptable levels for projects.

BAAQMD CEQA Air Quality Guidelines include screening sizes of projects that have the potential to have emissions that exceed construction emission thresholds. The most similar category for these projects would be low-rise apartments that have a screening size of 240 dwelling units due to the potential emissions from ROG associated with architectural coatings. However, the EIH Program would include modular buildings that are pre-constructed off site. Therefore, ROG emissions associated with this type of construction would be low. The online CalEEMod model, Version 2022.1.1, was used to predict the maximum construction emissions from any site. The model inputs included:

Number of Units and Type: 720 low-rise apartments
Site Acreage: 10 acres
Building Square Footage: 102,000-sf, (720 units with max., 120sf/unit plus separate amenities)
Construction Phases: Demolition, Site Preparation, Building Construction, Paving (no grading or interior work)
Construction Year: Start 2025 and last 12 months maximum

Table 3 reports average daily emissions associated with construction of the maximum sized project. Emissions would be well below the BAAQMD-recommended project thresholds. Therefore, Projects constructed under the EIH would not have significant emissions of criteria air pollutants. However, each individual construction project would be required to implement the BAAQMD-recommended control measures that reduce dust emissions as identified under *Mitigation Measure AQ-1*.

Operational Period Emissions

Projects constructed under the EIH Program would have operational emissions in the form of some minor traffic and area source emissions from consumer products and paints. The CalEEMod model was used to provide a worst-case assessment of emissions from projects built out under the EIH Program. Since traffic data are not available, the CalEEMod model default rates for low-rise apartments were used. These would provide an overestimate of emissions since these types of living units would generate traffic at a much lower rate than typical apartments.

Annual and average daily emissions are also reported in Table 3 in total tons and average daily emissions, assuming 365 days of operation per year. As shown in Table 3, average daily and annual emissions would not exceed the BAAQMD project-level significance thresholds.

Table 3. EIH Maximum Project Emissions[1]

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Construction				
Total Construction (1 year period)	0.33 tons	1.92 tons	0.07 tons[2]	0.06 tons[2]
Average Daily	3 lbs.	15 lbs.	1 lbs.[2]	<1 lbs.[2]
BAAQMD Thresholds (pounds per day)	*54* lbs. *Project*	*54* lbs. *Project*	*82* lbs. *Project*[2]	*54* lbs. *Project*[2]
Exceed Threshold	No	No	No	No
Operation				
Annual Operational Emissions (tons)	3.50 tons	1.88 tons	1.48 tons	0.28 tons
BAAQMD Thresholds (tons per year)	*10 tons project*	*10 tons project*	*15 tons project*	*10 tons project*
Average Daily Operational Emissions (pounds)[3]	19 lbs.	10 lbs.	8 lbs.	2 lbs.
BAAQMD Thresholds (pounds per day)	*54* lbs. *Project*	*54* lbs. *Project*	*82* lbs. *Project*	*54* lbs. *Project*
Exceed Threshold	No	No	No	No

[1] Based on largest possible Project size of 720 dwelling units.
[2] Exhaust portion of construction emissions.
[3] Assumes 365-day operation.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. San Jose General Policy MS-10.1 specifies that projects should assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines, relative to state and federal standards and identify and implement feasible air emission reduction measures. Thus, San Jose General Policy MS-10.1 requires construction projects implement BAAQMD-Recommended Standard Measures to control PM_{10} and $PM_{2.5}$ emissions. *Mitigation Measure AQ-1 would implement BAAQMD's standard measures.*

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

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

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

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

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

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

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

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

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

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

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents standard mitigation measures that would achieve greater than a 50 percent reduction in on-site fugitive $PM_{2.5}$ emissions. The measures above are consistent with

BAAQMD-recommended "best management practices" for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Impact Air-3: Expose project sensitive receptors to substantial pollutant concentrations during operation?

Project Construction

Implementation of the EIH Program would include short-term construction sources of TACs. There may be sensitive receptors in close proximity of Project construction areas that could potentially be exposed to construction TACs during construction activity. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose community risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities would have to be conducted at a project level to address these impacts.

Since project sites have not been identified, it is not possible to evaluate the worst potential for health risk impacts from construction projects. The likelihood of significant health risks from this project are low for the following reasons:

- Many Projects sites will be small at only a few acres;
- Projects will include prefabricated modular construction;
- Minimal grading would be conducted with minor excavation;
- Construction periods would be relatively short at one year or less; and
- The City can implement controls to minimize emissions where sensitive receptors are in close proximity.

To avoid significant health risks from construction, the City can implement *Mitigation Measure AQ-2* to avoid or reduce emissions of TACs and $PM_{2.5}$ such that health risks would be less-than-significant.

Project Operation

The type of residential land use that would occur under the EIH Program would not include significant sources of TACs or $PM_{2.5}$ such that BAAQMD's health risk thresholds would be exceeded. Stationary sources, such as diesel power generators are not planned; however, if included they would require permitting by BAAQMD and health risks would be assessed through the permitting process. Sources of air pollution that operate within accordance of BAAQMD rules and regulations would not cause significant exposure for on- or off-site sensitive receptors.

Project sites are expected to generate low rates of traffic. The projects under this program would have small amounts of truck traffic such that health risks would be negligible.

Mitigation Measure AQ-2: Require Future Construction Projects Located within 1,000 Feet of Sensitive Receptors to Perform a Health Risk Assessment and Reduce TAC Emissions.

EIH Projects proposing development of projects within 1,000 feet of existing sensitive receptors as defined by the BAAQMD (e.g., residential, daycares) shall prepare a site-specific construction and operational health risk assessment (HRA). If the HRA demonstrates that the health risk exposures for adjacent receptors will be less than BAAQMD project-level thresholds, then additional mitigation would be unnecessary. However, if the HRA demonstrates that health risks would exceed BAAQMD project level thresholds, additional feasible on- and off-site mitigation shall be analyzed to further reduce risks to the greatest extent practicable.

Measures to avoid significant construction health risks impacts that could be included in projects, depending on the results of an HRA, could include the following:

1. Use Tier 4 engines for all off-road equipment greater than 50 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities.

2. Implement fugitive dust best management practices and if necessary, enhanced measures recommended by BAAQMD.

3. Use portable electrical equipment where commercially available and practicable to complete construction. Construction contractors shall utilize electrical grid power instead of diesel generators when (1) grid power is available at the construction site; (2) when construction of temporary power lines are not necessary in order to provide power to portions of the site distant from existing utility lines; and (3) when use of portable extension lines is practicable given construction safety and operational limitations.

Alternatively, the City could require the measures listed above to avoid significant construction health risks impacts in lieu of performing individual health risk assessments.

Effects on EIH Program Sensitive Receptors

The project would include new sensitive receptors. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. EIH sites are not identified; therefore, specific sources of TACs and $PM_{2.5}$ that could affect sensitive receptors occupying the EIH sites cannot be assessed. Individual sites would have to be reviewed to identify potential sources of TACs and $PM_{2.5}$ within 1,000 feet that include highways, local roadways, rail lines with diesel locomotives, and stationary sources. Sites near these types of sources would require some level of a health risk assessment. Potential TAC and $PM_{2.5}$ sources and analysis methods are described below.

Highway/Roadway Risk Impacts

Highway and local roadways with traffic volumes of over 10,000 vehicles per day could potentially have significant TAC effects on the proposed EIH sites. Health risk impacts from highways and roadways can either be evaluated through BAAQMD screening tools or through refined analysis using emissions for the traffic volume and mix of vehicle types on the roadways near the project site and an atmospheric dispersion model to predict exposure to TACs.

Health risk screening data provided by BAAQMD is typically first used to evaluate potential cancer risks and $PM_{2.5}$ concentrations from highways or large roadways. BAAQMD developed raster files with cancer risk and $PM_{2.5}$ values for all highways/freeways, roadways (ADT > 30,000), and rail lines within the Bay Area. The risk values shown in the raster files were modeled using AERMOD and a 20x20-meter emissions grid. The raster file uses EMFAC2014 data for fleet mix and includes the OEHHA 2015 factor. BAAQMD has found that non-cancer hazards were found to be minimal, so an HI value is not included. If highway and large roadway health risk screening values at the proposed EIH sites do not exceed the project-level BAAQMD thresholds, then no further analysis is required.

Highways or large roadways impacts that do not screen out using the BAAQMD raster tool and any roadways that have ADTs between 10,000-30,000 vehicles would require refined analysis to determine potential health risk impacts at the EIH sites. The refined analysis would involve developing hourly emissions rates for DPM, organic TACs, and $PM_{2.5}$ along applicable segments of the local roadways within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the sensitive receptor locations would be developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the sensitive receptor locations at the EIH sites would be computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters. If health risk impacts exceed the single-source thresholds at the EIH sites, then effective mitigation of the project design (i.e., MERV filtration) would be incorporated.

Rail Lines

Rail activity, typically from passenger and freight services by trains using diesel fueled locomotives, generates DPM and $PM_{2.5}$ emissions from locomotive exhaust. As with highway and roadways above, health risk impacts from rail lines can either be evaluated through BAAQMD screening tools or through refined analysis using emissions for trains, engine size, and fuel types on the rail lines near the project site and an atmospheric dispersion model to predict exposure to TACs.

Health risk screening data provided by BAAQMD is typically first used to evaluate potential cancer risks and $PM_{2.5}$ concentrations from rail lines. The same BAAQMD raster file data described above is used to provide cancer risk and $PM_{2.5}$ screening values for the rail lines If rail line health risk screening values at the proposed EIH sites do not exceed the project-level BAAQMD thresholds, then no further analysis is required.

Note that the BAAQMD screening risk values do not account for electrification of the rail line, which would eliminate DPM emissions from the electrified trains. The rail line is currently being modernized to allow the use of mostly electric powered trains that do not emit TACs. There will still be some diesel-powered passenger and freight trains. Overall cancer risk levels will decrease substantially.

Rail line impacts that do not screen out using the BAAQMD raster tool would require refined analysis to determine potential health risk impacts at the EIH sites. The refined analysis would involve calculating DPM and $PM_{2.5}$ emissions from diesel trains on the rail line using engine size, EPA emission factors for locomotives, and CARB adjustment factors to account for fuels used in California. The mix of electrified trains would be incorporated in the emissions calculations. These emissions would be modeled along applicable segments of the rail line within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the sensitive receptor locations would be developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the sensitive receptor locations at the EIH sites would be computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters. If health risk impacts exceed the single-source thresholds at the EIH sites, then effective mitigation of the project design (i.e., MERV filtration) would be incorporated.

Stationary Sources

Permitted stationary sources of air pollution near the EIH sites would be identified using BAAQMD's *Permitted Stationary Sources 2020* GIS map website.[11] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. A Stationary Source Information Form (SSIF) containing the identified sources would be prepared and submitted to BAAQMD. BAAQMD then provides updated emissions data and risk values. The screening risk and hazard levels provided by BAAQMD for the stationary sources can then be adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines, Gasoline Dispensing Facility, and Generic Engines.* If health risk impacts exceed the single-source thresholds at the EIH sites, then effective mitigation of the project design (i.e., MERV filtration) would be incorporated.

Recommended Condition of Approval

The City's General Plan has several policies that address TAC impacts for new sensitive receptor developments. Policy MS-11.1 requires completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution. It also requires projects that introduce new sensitive receptors to either incorporate effective mitigation into project designs to avoid significant risks to health and safety required when new residences are proposed near existing sources of TACs, or locate them an adequate distance from existing sources of TACs. Policy MS-11.7 requires communication with BAAQMD to identify TAC sources to determine the need for a health risk assessment at the new sensitive receptors development projects.

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

The EIH Program would provide temporary housing, so the sensitive receptors at the EIH sites would be transitory. However, the sensitive receptors could be there for up to two years and include families with infants and small children who are more sensitive to the effects of TAC exposure. In order to comply with the City's General Plan Policy MS-11.1, the following Conditions of Approval are recommended:

Condition of Approval AQ-1: Require Future Sensitive Receptor Projects Located within 1,000 Feet of TAC Sources to Perform a Health Risk Assessment.

EIH sites proposing development of projects within 1,000 feet of existing TAC sources as defined by the BAAQMD (i.e., highways, local roadways, rail lines, stationary sources) shall prepare a site-specific HRA. If the HRA demonstrates that the health risk exposures for on-site sensitive receptors will be less than BAAQMD project-level thresholds, then additional mitigation would be unnecessary. However, if the HRA demonstrates that health risks would exceed BAAQMD project level thresholds, additional feasible on-site mitigation shall be analyzed to reduce risks to the greatest extent practicable.

Condition of Approval AQ-2: Design Features to Reduce Project Receptor Exposure

If the HRA demonstrates that health risks would exceed BAAQMD project level thresholds, filtration in ventilation systems at the EIH sites would be recommended to reduce the level of harmful pollutants to below the significant thresholds. The project could include the following measures to minimize long-term increased cancer risk exposure for new project occupants:

1. Install air filtration and fresh air ventilation system intakes for all residential units. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter all fresh air that would be circulated into the dwelling units.

2. The ventilation system shall be designed to keep the building at positive pressure when doors and windows are closed to reduce the intrusion of unfiltered outside air into the building.

3. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required that includes regular filter replacement.

4. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, and (2) include assurance that new tenants are provided information on the ventilation system.

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The EIH Program may increase localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off site by resulting in confirmed odor complaints. The EIH Program does not identify any typical sources of odors that could lead to objectionable odors that generate frequent odor complaints.

Attachment 1: CalEEMod Modeling Output

23-002 Emergency Interim Housing Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-002 Emergency Interim Housing
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	1.60
Location	San Jose, CA, USA
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1858
EDFZ	1
Electric Utility	San Jose Clean Energy
Gas Utility	Pacific Gas & Electric

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
Apartments Low Rise	720	Dwelling Unit	10.0	103,680	0.00	0.00	2,153	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-C	Water Unpaved Construction Roads
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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.92	14.4	35.5	0.04	0.46	4.83	5.29	0.43	1.15	1.58	23.1	9,092
Mit.	2.21	13.5	37.3	0.04	0.15	4.83	4.98	0.14	1.15	1.30	23.1	9,092
% Reduced	24%	6%	-5%	—	68%	—	6%	67%	—	18%	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.37	31.7	32.5	0.05	1.37	19.8	21.2	1.26	10.1	11.4	0.60	8,747
Mit.	2.15	14.8	34.3	0.05	0.20	19.8	19.9	0.19	10.1	10.2	0.60	8,747
% Reduced	36%	53%	-5%	—	85%	—	6%	85%	—	10%	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.83	10.5	20.2	0.02	0.36	3.20	3.56	0.33	0.91	1.24	5.49	5,255
Mit.	1.23	8.97	21.1	0.02	0.10	3.20	3.30	0.10	0.91	1.01	5.49	5,255
% Reduced	33%	15%	-4%	—	72%	—	7%	71%	—	19%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.33	1.92	3.69	< 0.005	0.07	0.58	0.65	0.06	0.17	0.23	0.91	870
Mit.	0.22	1.64	3.85	< 0.005	0.02	0.58	0.60	0.02	0.17	0.18	0.91	870
% Reduced	33%	15%	-4%	—	72%	—	7%	71%	—	19%	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.92	14.4	35.5	0.04	0.46	4.83	5.29	0.43	1.15	1.58	23.1	9,092
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.37	31.7	32.5	0.05	1.37	19.8	21.2	1.26	10.1	11.4	0.60	8,747
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.83	10.5	20.2	0.02	0.36	3.20	3.56	0.33	0.91	1.24	5.49	5,255
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.33	1.92	3.69	< 0.005	0.07	0.58	0.65	0.06	0.17	0.23	0.91	870

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.21	13.5	37.3	0.04	0.15	4.83	4.98	0.14	1.15	1.30	23.1	9,092
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.15	14.8	34.3	0.05	0.20	19.8	19.9	0.19	10.1	10.2	0.60	8,747

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.23	8.97	21.1	0.02	0.10	3.20	3.30	0.10	0.91	1.01	5.49	5,255
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.22	1.64	3.85	< 0.005	0.02	0.58	0.60	0.02	0.17	0.18	0.91	870

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.8	10.6	152	0.25	0.18	8.89	9.06	0.17	1.56	1.73	88.8	30,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.3	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	3.03	28,535
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.2	10.3	114	0.21	0.15	7.96	8.11	0.14	1.40	1.54	34.8	26,281
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.50	1.88	20.8	0.04	0.03	1.45	1.48	0.03	0.26	0.28	5.76	4,351

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Area	6.24	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112

Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	23.8	10.6	152	0.25	0.18	8.89	9.06	0.17	1.56	1.73	88.8	30,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Area	2.62	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	19.3	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	3.03	28,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.8	10.1	93.9	0.21	0.14	7.96	8.10	0.13	1.40	1.53	34.1	21,631
Area	4.40	0.19	20.1	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.4
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	19.2	10.3	114	0.21	0.15	7.96	8.11	0.14	1.40	1.54	34.8	26,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581
Area	0.80	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	564
Water	—	—	—	—	—	—	—	—	—	—	—	29.9
Waste	—	—	—	—	—	—	—	—	—	—	—	166

Refrig.	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	3.50	1.88	20.8	0.04	0.03	1.45	1.48	0.03	0.26	0.28	5.76	4,351

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Area	6.24	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	23.8	10.6	152	0.25	0.18	8.89	9.06	0.17	1.56	1.73	88.8	30,162
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Area	2.62	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	19.3	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	3.03	28,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.8	10.1	93.9	0.21	0.14	7.96	8.10	0.13	1.40	1.53	34.1	21,631
Area	4.40	0.19	20.1	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.4

Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,409
Water	—	—	—	—	—	—	—	—	—	—	—	180
Waste	—	—	—	—	—	—	—	—	—	—	—	1,004
Refrig.	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	19.2	10.3	114	0.21	0.15	7.96	8.11	0.14	1.40	1.54	34.8	26,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581
Area	0.80	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	564
Water	—	—	—	—	—	—	—	—	—	—	—	29.9
Waste	—	—	—	—	—	—	—	—	—	—	—	166
Refrig.	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	3.50	1.88	20.8	0.04	0.03	1.45	1.48	0.03	0.26	0.28	5.76	4,351

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,437
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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.2
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.53	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.01	121
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	6.69
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.11
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
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

3.2. Demolition (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,437
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	1.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	188
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.12	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.2
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.53	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.01	121
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
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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	6.69
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.11
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
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

3.3. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,314
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	146
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.1
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	0.02	141
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.90
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.65
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
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

3.4. Site Preparation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,314
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.40	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.07	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	0.02	141

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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.90
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.65
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
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

3.5. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.72	7.15	0.01	0.24	—	0.24	0.22	—	0.22	—	1,318

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.04	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	218
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.26	21.2	0.00	0.00	4.29	4.29	0.00	1.00	1.00	17.6	4,512
Vendor	0.08	2.67	1.29	0.01	0.03	0.54	0.57	0.03	0.15	0.18	5.50	2,174
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.66	1.59	18.2	0.00	0.00	4.29	4.29	0.00	1.00	1.00	0.46	4,172
Vendor	0.07	2.80	1.31	0.01	0.03	0.54	0.57	0.03	0.15	0.18	0.14	2,170
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.90	0.78	9.81	0.00	0.00	2.35	2.35	0.00	0.55	0.55	4.15	2,312
Vendor	0.04	1.51	0.71	0.01	0.02	0.30	0.31	0.02	0.08	0.10	1.31	1,190
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	1.79	0.00	0.00	0.43	0.43	0.00	0.10	0.10	0.69	383
Vendor	0.01	0.28	0.13	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	0.22	197
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

3.6. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	9.53	14.8	0.02	0.12	—	0.12	0.11	—	0.11	—	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	9.53	14.8	0.02	0.12	—	0.12	0.11	—	0.11	—	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	5.22	8.12	0.01	0.07	—	0.07	0.06	—	0.06	—	1,318
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.95	1.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	218
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.26	21.2	0.00	0.00	4.29	4.29	0.00	1.00	1.00	17.6	4,512
Vendor	0.08	2.67	1.29	0.01	0.03	0.54	0.57	0.03	0.15	0.18	5.50	2,174
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.66	1.59	18.2	0.00	0.00	4.29	4.29	0.00	1.00	1.00	0.46	4,172
Vendor	0.07	2.80	1.31	0.01	0.03	0.54	0.57	0.03	0.15	0.18	0.14	2,170

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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.90	0.78	9.81	0.00	0.00	2.35	2.35	0.00	0.55	0.55	4.15	2,312
Vendor	0.04	1.51	0.71	0.01	0.02	0.30	0.31	0.02	0.08	0.10	1.31	1,190
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	1.79	0.00	0.00	0.43	0.43	0.00	0.10	0.10	0.69	383
Vendor	0.01	0.28	0.13	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	0.22	197
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

3.7. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,517
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.41	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	83.1
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.53	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.01	121
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	6.69
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.11
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
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

3.8. Paving (2025) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,517
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.39	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	83.1
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.53	0.00	0.00	0.12	0.12	0.00	0.03	0.03	0.01	121
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	6.69
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.11
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
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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Total	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Total	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581
Total	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Total	17.6	10.2	111	0.25	0.16	8.89	9.05	0.15	1.56	1.71	88.1	25,456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Total	16.7	12.0	110	0.23	0.16	8.89	9.05	0.15	1.56	1.71	2.28	23,941
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581
Total	2.70	1.84	17.1	0.04	0.03	1.45	1.48	0.02	0.26	0.28	5.64	3,581

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3,409
Total	—	—	—	—	—	—	—	—	—	—	—	3,409
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3,409

Total	—	—	—	—	—	—	—	—	—	—	—	3,409
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	564
Total	—	—	—	—	—	—	—	—	—	—	—	564

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3,409
Total	—	—	—	—	—	—	—	—	—	—	—	3,409
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3,409
Total	—	—	—	—	—	—	—	—	—	—	—	3,409
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	564
Total	—	—	—	—	—	—	—	—	—	—	—	564

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Low Rise	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

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	2.22	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.40	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.62	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112
Total	6.24	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	2.22	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.40	—	—	—	—	—	—	—	—	—	—	—
Total	2.62	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Consumer Products	0.40	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.33	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17
Total	0.80	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17

4.3.1. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	2.22	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.40	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.62	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112
Total	6.24	0.39	40.8	< 0.005	0.02	—	0.02	0.02	—	0.02	—	112
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	2.22	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.40	—	—	—	—	—	—	—	—	—	—	—
Total	2.62	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	0.40	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.33	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17
Total	0.80	0.04	3.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.17

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	180
Total	—	—	—	—	—	—	—	—	—	—	—	180
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	180
Total	—	—	—	—	—	—	—	—	—	—	—	180
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	29.9
Total	—	—	—	—	—	—	—	—	—	—	—	29.9

4.4.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	180
Total	—	—	—	—	—	—	—	—	—	—	—	180
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	180
Total	—	—	—	—	—	—	—	—	—	—	—	180
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	29.9
Total	—	—	—	—	—	—	—	—	—	—	—	29.9

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1,004
Total	—	—	—	—	—	—	—	—	—	—	—	1,004

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1,004
Total	—	—	—	—	—	—	—	—	—	—	—	1,004
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	166
Total	—	—	—	—	—	—	—	—	—	—	—	166

4.5.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1,004
Total	—	—	—	—	—	—	—	—	—	—	—	1,004
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1,004
Total	—	—	—	—	—	—	—	—	—	—	—	1,004
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	166
Total	—	—	—	—	—	—	—	—	—	—	—	166

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	—	—	—	—	—	—	—	—	—	—	0.12	0.12

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	—	—	—	—	—	—	—	—	—	—	0.12	0.12

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	1/1/2025	1/29/2025	5.00	20.0	—
Site Preparation	Site Preparation	1/30/2025	2/13/2025	5.00	10.0	—
Building Construction	Building Construction	2/14/2025	11/20/2025	5.00	200	—
Paving	Paving	11/21/2025	12/18/2025	5.00	20.0	—

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	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	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	17.5	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
Building Construction	—	—	—	—
Building Construction	Worker	518	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	77.0	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	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	17.5	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
Building Construction	—	—	—	—
Building Construction	Worker	518	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	77.0	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Paving	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
Apartments Low Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	178	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
Apartments Low Rise	5,270	5,861	4,522	1,915,437	29,085	32,343	24,953	10,570,475

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	5,270	5,861	4,522	1,915,437	29,085	32,343	24,953	10,570,475

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	720
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)

Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	720
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
209952	69,984	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Low Rise	6,911,988	178	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)
Apartments Low Rise	6,911,988	178	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)
Apartments Low Rise	26,111,808	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	26,111,808	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Apartments Low Rise	178	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	178	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
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	11.6	annual days of extreme heat
Extreme Precipitation	2.55	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	20.8
AQ-PM	37.5
AQ-DPM	76.9
Drinking Water	22.7
Lead Risk Housing	61.3
Pesticides	13.7
Toxic Releases	33.2
Traffic	13.0
Effect Indicators	—

CleanUp Sites	7.71
Groundwater	96.8
Haz Waste Facilities/Generators	75.5
Impaired Water Bodies	51.2
Solid Waste	0.00
Sensitive Population	—
Asthma	84.5
Cardio-vascular	48.2
Low Birth Weights	29.2
Socioeconomic Factor Indicators	—
Education	80.6
Housing	90.5
Linguistic	85.3
Poverty	82.4
Unemployment	67.5

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	31.07917362
Employed	81.98383164
Median HI	18.79892211
Education	—
Bachelor's or higher	62.49197998
High school enrollment	100
Preschool enrollment	61.70922623

Transportation	—
Auto Access	1.62966765
Active commuting	90.82509945
Social	—
2-parent households	9.790837931
Voting	39.93327345
Neighborhood	—
Alcohol availability	11.79263442
Park access	81.35506224
Retail density	97.61324265
Supermarket access	94.25125112
Tree canopy	58.28307455
Housing	—
Homeownership	8.443474913
Housing habitability	24.89413576
Low-inc homeowner severe housing cost burden	96.52252021
Low-inc renter severe housing cost burden	48.36391634
Uncrowded housing	49.60862312
Health Outcomes	—
Insured adults	18.72192994
Arthritis	74.6
Asthma ER Admissions	23.5
High Blood Pressure	59.0
Cancer (excluding skin)	68.9
Asthma	46.1
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	59.8

Diagnosed Diabetes	48.6
Life Expectancy at Birth	49.3
Cognitively Disabled	7.3
Physically Disabled	10.8
Heart Attack ER Admissions	41.4
Mental Health Not Good	45.5
Chronic Kidney Disease	45.1
Obesity	51.8
Pedestrian Injuries	50.9
Physical Health Not Good	46.9
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	57.0
Current Smoker	48.5
No Leisure Time for Physical Activity	40.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	64.0
Elderly	30.4
English Speaking	10.3
Foreign-born	83.4
Outdoor Workers	82.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	15.1
Traffic Density	22.0
Traffic Access	87.4

Other Indices	—
Hardship	63.1
Other Decision Support	—
2016 Voting	38.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	33.0
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)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	San Jose Clean Energy 2020 rate = 178 lb/Mwh.
Land Use	Estimate

Construction: Construction Phases	Shortened building const from 300 days to 200 days to fit it all into 2025, otherwise would go into May 2026.
Construction: Electricity	San Jose Clean Energy 2020 rate = 178 lb/MWh.
Operations: Hearths	No hearths.
Operations: Water and Waste Water	Wastewater treatment = 100% aerobic, no septic tanks or lagoons.
Operations: Energy Use	Assume all-electric, convert natural gas.