# Appendix A

# Air Quality, Greenhouse Gas Emissions, and Energy Study

# 5200 Patrick Henry Drive Data Center

## Air Quality, Greenhouse Gas Emissions, and Energy Study

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## 1.1 Introduction

This study analyzes the potential air quality, greenhouse gas (GHG) emissions, and energy impacts of the proposed 5200 Patrick Henry Drive Data Center Project (herein referred to as "proposed project" or "project") in Santa Clara, California. Rincon Consultants, Inc. (Rincon) prepared this study for Circlepoint for use in support of environmental documentation being prepared for the City of Clara for the project pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the project's air quality, GHG emissions, and energy impacts related to both temporary construction activity and long-term operation of the project. Table 1 provides a summary of project impacts.

**Table 1 Summary of Impacts**

| Impact Statement | Proposed Project's Level of Significance | Mitigation |
|---|---|---|
| **Air Quality** | | |
| Conflict with or obstruct implementation of the applicable air quality plan? | Less than significant impact | None |
| Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard? | Less than significant impact | None |
| Expose sensitive receptors to substantial pollutant concentrations? | Potentially significant impact | Less than significant with mitigation (AQ-1) |
| Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | Less than significant impact | None |
| **Greenhouse Gas Emissions** | | |
| Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | Less than significant impact | None |
| Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | No impact | None |
| **Energy** | | |
| Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | Less than significant impact | None |
| Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | Less than significant impact | None |

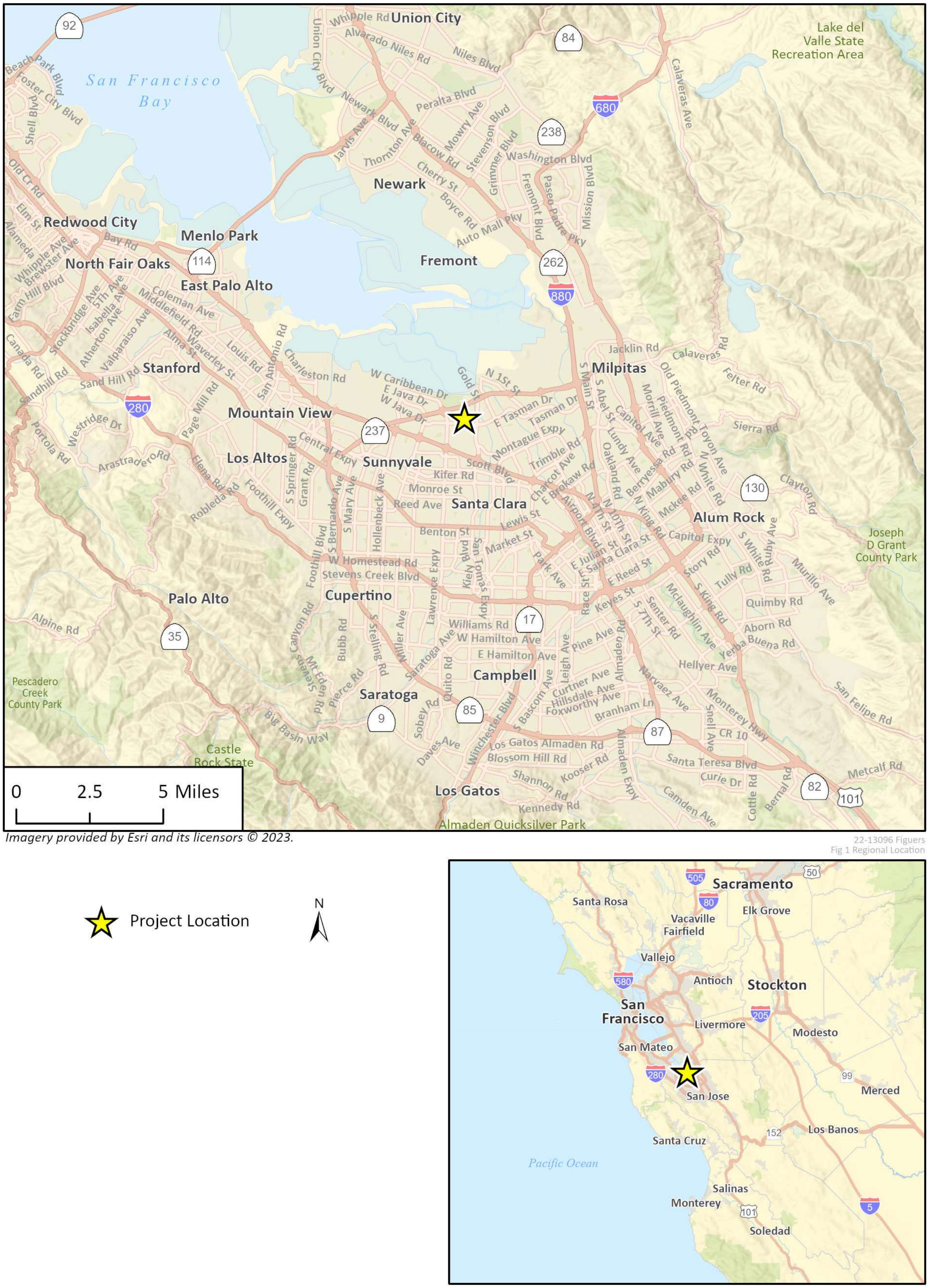
# 1.2 Project Summary

## 1.2.1 Project Location

The approximately 5.63-acre project site is located at 5200 Patrick Henry Drive (Assessor's Parcel Number104-50-011) within the City of Santa Clara, in the larger San Francisco Bay Area. The project site is approximately 0.3 mile south of US Highway 237 (US-237) and 0.5 mile east of the Lawrence Expressway. General plan land use designations surrounding the project site consist of Low-Intensity Office/R&D to the north, south, and east; and General Industrial to the west. The project site's general plan land use designation is Low-Intensity Office/R&D and the zoning is ML – Light Industrial. The project site is fully developed with a one-story research and development center and parking lot.

The surrounding development consists of one- to three-story buildings with surface parking lots. Nearby uses include manufacturing, research and development buildings, and other energy technology-oriented uses. Buildings in the area, including the project site, are generally set back from the street by landscaped areas, fencing and surface parking. Street-side trees occur intermittently throughout the area, often breaking up views of existing buildings from the street. The project site is bound by Patrick Henry Drive to the east and Calabazas Creek Trail to the west. The nearest data center, QTS Data, is approximately one mile southeast of the project site at 2805 Mission College Boulevard. The closest residential uses are located approximately 925 feet southeast of the project site along Tasman Drive. Figure 1 shows the project site's regional location and Figure 2 shows an aerial view of the project site and surrounding area.

**Figure 1 Regional Location**



## Figure 2 Project Site


*Imagery provided by Microsoft Bing and its licensors © 2023.*

### 1.2.2 Project Description

The project would involve demolishing the existing 95,573-square-foot research and development center and constructing a four-story building with a subterranean parking garage and surface-level parking. The project would include a data center that is approximately 22,668 gross square feet and would be located throughout the first floor; a laboratory space that is approximately 52,839 gross square feet and would be located on the sub-level floor, first floor, and second floor; and a research and development center that is approximately 169,386 gross square feet and would be located throughout floors one to four. The project would also include a sub-level parking garage with 235 parking spaces, including 71 electric vehicle charging stations and seven accessible parking spaces. In addition, the project would provide 406 surface-level parking spaces and 34 bicycle parking spaces, which include a bicycle storage room on the sub-level floor. The proposed project's power supply would require 9 megawatts (MW) of peak power with closed-loop cooling supplied by Silicon Valley Power (SVP). In addition, the project would consume green power from SVP, and emergency power generators are not included onsite. The proposed data center is for research and development only, is not mission-critical, and does not require standby power.

Project construction activities are anticipated to occur over the course of 23 months from October 2023 through September 2025. Construction would involve demolition, site preparation, grading, building construction, paving, and architectural coating. In addition, project construction would export approximately 67,789 cubic yards of soil during demolition, and soil material would be transported to Green Waste Zanker Resource Recovery Facility at 705 Los Esteros Road.

# 2 Background

## 2.1 Air Quality

### Local Climate and Meteorology

The project site is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). As the local air quality management agency, the BAAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

### Regional Climate and Air Pollution in the SFBAAB

The City of Santa Clara is located in the southern portion of the SFBAAB and the proximity to the Pacific Ocean and San Francisco Bay influence the climate in the city and surrounding region. The Santa Cruz Mountains and Diablo Mountain Range on either side of the South Bay restrict air dispersion, and this alignment of the terrain also channels winds from the north to south, carrying pollution from the northern Peninsula toward the south bay. The maximum daily temperature near the project area (City of San Jose) is approximately 73 degrees Fahrenheit (°F), while the minimum average daily temperature for the year is approximately 50°F. The average total precipitation in the project area is approximately 14.9 inches annually (U.S. Climate Data 2023). Winds play a large role in controlling climate in the area, and annual average winds range between five and ten miles per hour in this region (BAAQMD 2017a).

Air pollutant emissions in the SFBAAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are distributed widely and include those such as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be operated legally on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles (BAAQMD 2017a.

### Air Pollutants of Primary Concern

Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack. The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides ($NO_X$), particulate matter with diameters of up to ten microns ($PM_{10}$) and up to 2.5 microns ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and $NO_X$. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections. The following subsections describe the characteristics, sources, and health and atmospheric effects of air pollutants of primary concern.

### *Ozone*

Ozone is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NOx) and ROG. ROG is composed of non-methane hydrocarbons (with specific exclusions), and NOx is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide (NO) and $NO_2$. NOx is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with many multiple different atmosphere components. Consequently, high ozone levels tend to exist only while high ROG and NOx levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors. Depending on the level of exposure, ozone can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis (U.S. EPA 2022a).

### *Carbon Monoxide*

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces throughout the year. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (U.S. EPA 2022b).

[1] CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this analysis.

### *Nitrogen Dioxide*

Nitrogen dioxide ($NO_2$) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of $NO_x$ produced by combustion is nitric oxide (NO), but NO reacts rapidly to form $NO_2$, creating the mixture of NO and $NO_2$, commonly called $NO_x$. $NO_2$ is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of $NO_2$ can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of $NO_2$ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, such as children and the elderly are generally at greater risk for the health effects of $NO_2$ (U.S. EPA 2022c). $NO_2$ absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of $O_3$/smog and acid rain.

### *Sulfur Dioxide*

Sulfur dioxide ($SO_2$) is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of $SO_2$ emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of $SO_2$ emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to $SO_2$ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of $SO_2$ (U.S. EPA 2023a).

### *Particulate Matter*

Suspended atmospheric $PM_{10}$ and $PM_{2.5}$ are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both $PM_{10}$ and $PM_{2.5}$ are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of $PM_{10}$ and $PM_{2.5}$ can be very different. $PM_{10}$ is generally associated with dust mobilized by wind and vehicles. In contrast, $PM_{2.5}$ is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{10}$ can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resource Board [CARB] 2023a]).

### *Lead*

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial. However, due to the United States EPA ’s regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred before 1990 due to the removal of Pb from gasoline sold for most highway vehicles. Pb emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (U.S. EPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered IQ (U.S. EPA 2022d).

### *Toxic Air Contaminants*

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about $1/70^{th}$ the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2023a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (U.S. EPA 2023b).

## Air Quality Regulation

The federal and state governments have authority under the federal and state CAA to regulate emissions of airborne pollutants and have established ambient air quality standards (AAQS) for the protection of public health. An air quality standard is defined as “the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harming public health” (CARB 2023b). The U.S. EPA is the federal agency designated to administer air quality regulation, while CARB is the state equivalent in California. Federal and state AAQS have been established for six criteria pollutants: Ozone, CO, $NO_2$, $SO_2$, $PM_{10,}$ $PM_{2.5}$, and Pb, which can be harmful to public health and the environment. The CAA identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings (U.S. EPA 2023c). In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards (CARB 2023c). The federal and state Clean Air Acts are described in more detail below.

### *Federal Air Quality Regulations*

The federal CAA was enacted in 1970 and amended in 1977 and 1990 (42 United States Code [USC] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the CAA (42 USC 7409), the U.S. EPA developed primary and secondary NAAQS. NAAQS have been designated for the following criteria pollutants: ozone, CO, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead.

The primary NAAQS "in the judgment of the Administrator[2], based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health," and the secondary standards are to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" (42 USC 7409[b][2]). The U.S. EPA classifies specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the NAAQS. States are required to adopt an enforceable plan, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and adversely affect air quality in downwind states. Once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas. Table 2 lists the current federal standards for regulated pollutants.

**Table 2 Federal and State Ambient Air Quality Standards**

| Pollutant | NAAQS | CAAQS |
|---|---|---|
| Ozone | 0.070 ppm (8-hr avg) | 0.09 ppm (1-hr avg)<br>0.070 ppm (8-hr avg) |
| Carbon Monoxide | 35.0 ppm (1-hr avg)<br>9.0 ppm (8-hr avg) | 20.0 ppm (1-hr avg)<br>9.0 ppm (8-hr avg) |
| Nitrogen Dioxide | 0.100 ppm (1-hr avg)<br>0.053 ppm (annual avg) | 0.18 ppm (1-hr avg)<br>0.030 ppm (annual avg) |
| Sulfur Dioxide | 0.075 ppm (1-hr avg)<br>0.5 ppm (3-hr avg)<br>0.14 ppm (24-hr avg)<br>0.030 ppm (annual avg) | 0.25 ppm (1-hr avg)<br>0.04 ppm (24-hr avg) |
| Lead | 0.15 $\mu g/m^3$ (rolling 3-month avg)<br>1.5 $\mu g/m^3$ (calendar quarter) | 1.5 $\mu g/m^3$ (30-day avg) |
| Particulate Matter ($PM_{10}$) | 150 $\mu g/m^3$ (24-hr avg) | 50 $\mu g/m^3$ (24-hr avg)<br>20 $\mu g/m^3$ (annual avg) |
| Particulate Matter ($PM_{2.5}$) | 35 $\mu g/m^3$ (24-hr avg)<br>12 $\mu g/m^3$ (annual avg) | 12 $\mu g/m^3$ (annual avg) |

2 The term "Administrator" means the Administrator of the U.S. EPA.

| Pollutant | NAAQS | CAAQS |
|---|---|---|
| Visibility-Reducing Particles | No Federal Standards | Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape. (8-hr avg) |
| Sulfates | No Federal Standards | 25 μg/m$^3$ (24-hr avg) |
| Hydrogen Sulfide | No Federal Standards | 0.03 ppm (1-hr avg) |
| Vinyl Chloride | No Federal Standards | 0.01 ppm (24-hr avg) |

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; avg = average; μg/m$^3$ = micrograms per cubic meter
Source: CARB 2016

To derive the NAAQS, the U.S. EPA reviews data from integrated science assessments and risk/exposure assessments to determine the ambient pollutant concentrations at which human health impacts occur, then reduces these concentrations to establish a margin of safety (U.S. EPA 2022e). As a result, human health impacts caused by the air pollutants discussed above may affect people when ambient air pollutant concentrations are at or above the concentrations established by the NAAQS. The closer a region is to attainting a particular NAAQS, the lower the human health impact is from that pollutant (San Joaquin Valley Air Pollution Control District 2015). Accordingly, ambient air pollutant concentrations below the NAAQS are considered to be protective of human health (CARB 2023b and 2023c). The NAAQS and the underlying science that forms the basis of the NAAQS are reviewed every five years to determine whether updates are necessary to continue protecting public health with an adequate margin of safety (U.S. EPA 2015).

#### *State Air Quality Regulations*

The California CAA was enacted in 1988 (California Health & Safety Code §39000 et seq.). Under the California CAA, the state has developed the CAAQS, which are generally more stringent than the NAAQS. Table 2 lists the current state standards for regulated pollutants. In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Similar to the federal CAA, the California CAA classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant, based on the comparison of measured data within the CAAQS.

### TOXIC AIR CONTAMINANTS

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as DPM; however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires the CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

#### STATE IMPLEMENTATION PLAN

The SIP is a collection of documents that set forth the state's strategies for achieving the AAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the United States EPA for approval and publication in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

As the regional air quality management district, the BAAQMD is responsible for preparing and implementing the portion of the SIP applicable to the portion of the SFBAAB within its jurisdiction. The air quality management district for each region adopts rules, regulations, and programs to attain federal and State air quality standards and appropriates money (including permit fees) to achieve these standards. In addition, the following CCR sections would be applicable to the project:

- **Engine Idling.** In accordance with Section 2485 of CCR Title 13, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.
- **Emission Standards.** In accordance with Section 93115 of CCR Title 17, operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

### NAAQS and CAAQS Attainment Status

California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a nonattainment area for that pollutant. Under the federal and state CAA, once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas.

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The project site is within Santa Clara County jurisdiction, which currently exceeds the NAAQS for 8-hour ozone and 24-hour $PM_{2.5}$ (U.S. EPA 2023d). Santa Clara County is currently classified as a nonattainment area under the CAAQS for $O_3$, $PM_{10}$, and $PM_{2.5}$ and classified as attainment for the remaining criteria pollutants (CARB 2022).

## Regional and Local Regulations

### Air Quality Management Plan

The BAAQMD is responsible for assuring that the federal and State ambient air quality standards are attained and maintained in the Bay Area. The BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities.

The BAAQMD adopted the 2017 Clean Air Plan (2017 Plan) as an update to the 2010 Clean Air Plan in April 2017. The 2017 Plan provides a regional strategy to protect public health and the climate. Consistent with the GHG reduction targets adopted by the state, the 2017 Plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050 (BAAQMD 2017b). To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors—ROG and $NO_X$—and reduce transport of ozone and its precursors to neighboring air basins. The 2017 Plan builds upon and enhances the BAAQMD's efforts to reduce emissions of fine particulate matter TACs (BAAQMD 2017b).

### BAAQMD RULES

The BAAQMD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Rules and regulations relevant to the project include the following:

- **Regulation 2 Permits, Rule 2 (New Source Review)**: This rule applies to all new or modified sources requiring a permit. This rule requires the analysis of new or modified sources to ensure that if emissions do exceed specific applicable thresholds that “Best Available Control Technology” it installed to limit the emissions to the greatest extent possible.
- **Regulation 8, Rule 3 (Architectural Coatings):** This rule limits the quantity of volatile organic compounds that can supplied, sold, applied, and manufactured within the BAAQMD region.
- **Regulation 9 Inorganic Gaseous Pollutants, Rule 8 (Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines)**: This rule limits the emissions of $NO_X$ and CO from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake horsepower. In addition, Section 9-8-330 states that an emergency standby engine cannot be operated for more than 50 hours in a calendar year for testing and maintenance purposes.

### CITY OF SANTA CLARA 2035 GENERAL PLAN

On November 16, 2010, the Santa Clara City Council adopted the 2010 – 2035 General Plan and certified the Final Environmental Impact Report. The Santa Clara General Plan includes goals and policies to address sustainability aimed in part at improving air quality. The following are applicable goals and policies that relate to the proposed project (City of Santa Clara 2014a):

**Goal 5.10.2-G1:** Improved air quality in Santa Clara and the region.

**Policy 5.10.2-P1** Support alternative transportation modes and efficient parking mechanisms to improve air quality.

**Policy 5.10.2-P2** Encourage development patterns that reduce vehicle miles traveled and air pollution.

**Policy 5.10.2-P3** Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

**Policy 5.10.2-P5** Promote regional air pollution prevention plans for local industry and businesses.

**Policy 5.10.2-P6** Require “Best Management Practices” for construction dust abatement.

## Current Air Quality

The BAAQMD operates a network of air quality monitoring stations throughout the SFBAAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and to determine whether ambient air quality meets the NAAQS and CAAQS.

The SFBAAB monitoring station closest to the project site is the San José-Jackson Street Station, which is located approximately 6.4 miles southeast of the project site, was used for ozone, carbon monoxide, nitrogen dioxide, $PM_{10}$, and $PM_{2.5}$ measurements. $SO_2$ is not monitored in Santa Clara County and therefore is not reported.

Table 3 indicates the number of days that each of the federal and state standards has been exceeded at this station in the years 2019, 2020, and 2021. The data indicates that the 1-hour ozone CAAQS and 8-hour ozone CAAQS were exceeded for all three years. In addition, the 8-hour ozone NAAQS were exceeded for all three years. The $PM_{10}$ CAAQS was exceeded in 2019 and 2020, and the $PM_{2.5}$ NAAQS was exceeded in 2020 and 2021. As shown in Table 3, no other state or federal standards were exceeded at these monitoring stations.

### Table 3 Ambient Air Quality – Monitoring Station Measurements

| Pollutant | 2019 | 2020 | 2021 |
|---|---|---|---|
| **Ozone (ppm), Worst 1-Hour** | 0.095 | 0.106 | 0.098 |
| Number of days above CAAQS (>0.09 ppm) | 1 | 1 | 3 |
| Number of days above NAAQS (>0.12 ppm) | 0 | 0 | 0 |
| **Ozone (ppm), Worst 8-Hour Average** | 0.081 | 0.085 | 0.084 |
| Number of days above CAAQS (>0.070 ppm) | 2 | 2 | 4 |
| Number of days above NAAQS (>0.070 ppm) | 2 | 2 | 4 |
| **Carbon Monoxide (ppm), Worst Hour[1]** | 1.72 | 1.86 | 1.70 |
| Number of days above CAAQS (>9.0 ppm) | 0 | 0 | 0 |
| **Nitrogen Dioxide (ppm), Worst 1-Hour** | 0.060 | 0.052 | 0.048 |
| Number of days above CAAQS (>0.180 ppm) | 0 | 0 | 0 |
| Number of days above NAAQS (>0.100 ppm) | 0 | 0 | 0 |
| **Particulate Matter <10 microns (μg/m³), Worst 24 Hours** | 77.1 | 137.1 | 45.1 |
| Number of days above CAAQS (>50 μg/m3) | 4 | 10 | 0 |
| Number of days above NAAQS (>150 μg/m3) | 0 | 0 | 0 |
| **Particulate Matter <2.5 microns (μg/m³), Worst 24 Hours** | 34.4 | 120.5 | 38.1 |
| Number of days above NAAQS (>35 μg/m³) | 0 | 12 | 1 |

ppm = parts per million; μg/m³ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard

Notes: Measurements from CARB at the nearest monitoring station (158b Jackson Street in San José).

Source: CARB 2023d

## Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). The sensitive receptors nearest to the project site are residential receptors located approximately 925 feet southwest of the project site. The project would not include new sensitive receptors.

# 2.2 Greenhouse Gas Emissions

## Greenhouse Gas Overview

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxides ($N_2O$), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas ($CO_2$) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" ($CO_2e$), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than $CO_2$ on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[3]

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The IPCC expressed that the rise and continued growth of atmospheric $CO_2$ concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic $CO_2$ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021).

## Greenhouse Gas Emissions Inventory

### *Global Emissions Inventory*

In 2015, worldwide anthropogenic GHG emissions totaled 47,000 million metric ton (MMT) of $CO_2e$, which is a 43 percent increase from 1990 GHG levels. Specifically, 34,522 MMT of $CO_2e$ of $CO_2$, 8,241

[3] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

MMT of $CO_2e$ of $CH_4$, 2,997 MMT of $CO_2e$ of $N_2O$, and 1,001 MMT of $CO_2e$ of fluorinated gases were emitted in 2015. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 75 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed three percent. These sources account for approximately 96 percent (U.S. EPA 2022f).

### *United States Emissions Inventory*

U.S. GHG emissions were 6,347.7 MMT of $CO_2e$ in 2021 or 5,593.5 MMT $CO_2e$ after accounting for sequestration. Emissions increased by 6.8 percent from 2020 to 2021. The increase from 2020 to 2021 reflects the was driven by an increase in $CO_2$ emissions from fossil fuel combustion which increased 7 percent relative to previous years and is primarily due to the economic rebounding after the COVID-19 Pandemic. In 2020, the energy sector (including transportation) accounted for 81 percent of nationwide GHG emissions while agriculture, industrial and waste accounted for approximately 10 percent, 6 percent and 3 percent respectively. (U.S. EPA 2023e).

### *California Emissions Inventory*

Based on CARB California Greenhouse Gas Inventory for 2000-2020, California produced 369.2 MMT of $CO_2e$ in 2020, which is 35.3 MMT of $CO_2e$ lower than 2019 levels. The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic. The major source of GHG emissions in California is the transportation sector, which comprises 37 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 20 percent of the state's GHG emissions while electric power accounts for approximately 16 percent (CARB 2022b). The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, the state of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of $CO_2e$. The annual 2030 statewide target emissions level is 260 MT of $CO_2e$ (CARB 2017).

### *Local Emissions Inventory*

Based on the City of Santa Clara Climate Action Plan (CAP, Santa Clara 2022), the City generated approximately 1.8 MMT of $CO_2e$ in 2016. Nonresidential electricity consumption was the major source accounting approximately 0.8 MMT of $CO_2e$. Transportation accounted for approximately 0.4 MMT of $CO_2e$. The remaining emissions came from natural gas usage, residential electricity consumption, landfilled waste and wastewater treatment. These 2017 GHG emissions are an approximately 4 percent reduction from 2008 GHG emissions (approximately 1.9 MMT of $CO_2e$) with the greatest reductions from non-residential natural gas usage. By 2030, the City is forecasted to generate 1.5 MMT of $CO_2e$ if no further reduction measures are taken. Therefore, the city has a established a pathway towards achieving the following goals:

- SB 32 requirement of 40 percent reduction in emissions by 2030;
- City interim goal of an 80 percent reduction in emissions by 2035; and
- EO B-55-18 target of net carbon neutrality by no later than 2045.

The CAP has adopted strategies and actions that will meet the GHG reduction requirements of 40 percent below 2030 level with a pathway outlined to meet the long-term 2045 reduction goals of net neutrality, while working to achieve the aggressive interim goal of 80 reduction by 2035.

## Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21$^{st}$ century than were observed during the 20$^{th}$ century. The year 2022 was the sixth warmest year since global records began in 1880 at 0.86°C (1.55°F) above the 20th century average of 13.9°C (57.0°F). This value is 0.13°C (0.23°F) less than the record set in 2016 and it is only 0.02°C (0.04°F) higher than the last year's (2021) value, which now ranks as the seventh highest (National Oceanic and Atmospheric Administration 2023). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations jointly indicate that Land Surface Air Temperature and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years. *California's Fourth Climate Change Assessment* (California Natural Resource Agency 2019) includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies. However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that climate change could generate in California.

### *Air Quality*

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C (4.3°F to 5.8°F) in the next 50 years and by 3.1 to 4.9°C (5.6°F to 8.8°F) in the next century (California Natural Resource Agency 2019). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (California Natural Resource Agency 2019). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. With increasing temperatures, shifting weather patterns, longer dry seasons, and more dry fuel loads, the frequency of large wildfires and area burned is expected to continue to increase. (California Natural Resources Agency 2021).

### *Water Supply*

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (California Natural Resource Agency 2019). The Sierra Nevada Mountains snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (California Natural Resource Agency 2019).

### *Hydrology and Sea Level Rise*

Climate change could affect the intensity and frequency of storms and flooding (California Natural Resource Agency 2019). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2022, observed by satellites, is approximately 3.4 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2023). Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880 (National Oceanic and Atmospheric Administration 2022). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise ranging between 0.25 to 1.01 meters by 2100 with the sea level ranges dependent on a low, intermediate, or high GHG emissions scenario (IPCC 2021). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California’s water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (California Natural Resource Agency 2019). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

### *Agriculture*

California has an over $51 billion annual agricultural industry that produces over a third of the country’s vegetables and three-quarters of the country’s fruits and nuts (California Department of Food and Agriculture 2022). Higher $CO_2$ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (California Natural Resource Agency 2019). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

### *Ecosystems*

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions with higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; California Natural Resource Agency 2019).

## Greenhouse Gas Regulations

### *Federal Regulations*

#### FEDERAL CLEAN AIR ACT

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the U.S. EPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

### *California Regulations*

#### CALIFORNIA AIR RESOURCES BOARD

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below. For more information on the Senate and Assembly Bills, executive orders, building codes, and reports discussed below, and to view reports and research referenced below, please refer to the following websites: https://www.energy.ca.gov/data-reports/reports/californias-fourth-climate-change-assessment, www.arb.ca.gov/cc/cc.htm, and https://www.dgs.ca.gov/BSC/Codes.

### California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The “California Global Warming Solutions Act of 2006,” (AB 32), outlines California’s major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT of $CO_2e$, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan’s approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB’s climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state’s longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT of $CO_2e$ by 2030 and two MT of $CO_2e$ by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

### The California Climate Crisis Act (Assembly Bill 1279)

AB 1279 was passed on September 16, 2022, and declares the State would achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045. In addition, achieve and maintain net negative greenhouse gas emissions and ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85% below the 1990 levels. The bill would require updates to the scoping plan (once every five years) to implement various policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

### 2022 Update to the Climate Change Scoping Plan

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022 (CARB 2022c). The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action no natural and working lands (NWL) to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. As stated in the 2022 Update, "The plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the state's NWL and using a variety of mechanical approaches" (CARB 2022c). Specifically, the 2022 Update:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of NWL to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Update includes emissions and carbon sequestration in NWL and explores how NWL contribute to long-term climate goals. Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet our GHG reduction goals and achieve carbon neutrality no later than 2045. The 2022 Update approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

### Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline California Environmental Quality Act (CEQA) processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments (ABAG) was assigned targets of a 3 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 6 percent reduction in per capita GHG emissions from passenger vehicles by 2035.

### Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statues of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

### Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

### Executive Order B-55-18

On September 10, 2018, the former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

## CALIFORNIA BUILDING STANDARDS CODE

The CCR Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2022 Title 24 standards. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

**Part 6 – Building Energy Efficiency Standards/Energy Code.** CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2022 Title 24 standards are the applicable building energy efficiency standards for the proposed Project because they became effective on January 1, 2023.

**Part 11 – California Green Building Standards.** The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards applicable to the project require:

- 20 percent reduction in indoor water use relative to specified baseline levels;[4]
- Waste Reduction:
  - Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Electric Vehicle (EV) Charging for New Construction:[5]
  - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:
    - 0-9: no EV capable spaces or charging stations required;

[4] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

[5] EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

  - 10-25: 4 EV capable spaces but no charging stations required;
  - 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
  - 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
  - 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
  - 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
  - 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
  - More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;
  - Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;

- Bicycle Parking:
  - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or
  - Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.

- Shade Trees (Non-Residential):
  - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
  - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or

- Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

The voluntary Tier I and Tier II standards require:

- Tier I:
  - Stricter energy efficiency requirements;
  - Stricter water conservation requirements for specific fixtures;
  - minimum 65 percent reduction in construction waste with third-party verification, Minimum 10 percent recycled content for building materials;
  - Minimum 20 percent permeable paving;
  - Minimum 20 percent cement reduction;

- Tier II:
  - Stricter energy efficiency requirements,
  - Stricter water conservation requirements for specific fixtures;
  - Minimum 75 percent reduction in construction waste with third-party verification,
  - Minimum 15 percent recycled content for building materials;
  - Minimum 30 percent permeable paving; and/or
  - Minimum 25 percent cement reduction.

#### CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT (ASSEMBLY BILL 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995 through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000.

#### EXECUTIVE ORDER N-79-20

On September 23, 2020, Governor Newsom issued EO N-79-20, which established the following new statewide goals:

- All new passenger cars and trucks sold in-state to be zero-emission by 2035;
- All medium- and heavy-duty vehicles in the state to be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and
- All off-road vehicles and equipment to be zero-emission by 2035 where feasible.

EO N-79-20 directs CARB, the Governor's Office of Business and Economic Development, the CEC, the California Department of Transportation, and other state agencies to take steps toward drafting regulations and strategies and leveraging agency resources toward achieving these goals.

#### CLEAN ENERGY, JOBS, AND AFFORDABILITY ACT OF 2022 (SENATE BILL 1020)

Adopted on September 16, 2022, SB 1020 creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. This bill states that to achieve this, carbon emissions should not be increased elsewhere in the western grid.

### *Local Regulations*

#### PLAN BAY AREA 2050

Plan Bay Area 2050 is a state-mandated, integrated long-range transportation, land-use, and housing plan that would support a growing economy, provide more housing and transportation choices and reduce transportation-related pollution in the nine-county San Francisco Bay Area (ABAG 2021). "Plan Bay Area 2050 connects the elements of housing, the economy, transportation and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG and partner organizations to take over the next five years to make headway on each of the 35 strategies (Bay Area Metro 2022).

### City of Santa Clara 2035 General Plan

On November 16, 2010, the Santa Clara City Council adopted the 2010 – 2035 General Plan and certified the Final Environmental Impact Report. The Santa Clara General Plan includes goals and policies to address sustainability aimed in part at reducing the City's contributions to GHG emissions. The following are applicable goals and policies that relate to the proposed project (City of Santa Clara 2014a):

**Goal 5.10.2-G2:** Reduced greenhouse gas emissions that meet the State and regional goals and requirements to combat climate change.

**Policy 5.10.2-P2** Encourage development patterns that reduce vehicle miles traveled and air pollution.

**Policy 5.10.2-P4** Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

### City of Santa Clara Climate Action Plan

The City of Santa Clara adopted an updated Climate Action Plan (CAP) on June 7, 2022 (City of Santa Clara 2022). The City of Santa Clara CAP specifies the strategies and measures to be taken for a number of focus areas (data centers, coal-free and large renewables, energy efficiency, water conservation, transportation and land use, waste reduction, etc.) citywide to achieve the overall emission reduction target and includes an adaptive management process that can incorporate new technology and respond when goals are not being met.

CEQA clearance for discretionary development proposals are required to address the consistency of individual projects with reduction measures in the City of Santa Clara CAP and goals and policies in the Santa Clara General Plan designed to reduce GHG emissions.

The following goal and measure relate to the proposed project (City of Santa Clara 2022):

- Strategy B1**:** Shift to electric fuels in new and existing buildings to achieve net-zero carbon buildings.
  - B-1-7: Carbon-neutral data centers
- Strategy B2: Improve energy efficiency
- Strategy T1: Transition vehicles to electric alternatives; and
- Strategy N3: Improve water supply and conservation.

# 2.3 Energy

## Electricity and Natural Gas

In 2021, California used 277,764 gigawatt-hours (GWh) of electricity, of which 35 percent were from renewable resources (CEC 2023a). California also consumed approximately 11,923 million U.S. therms (MMthm) of natural gas in 2022 (CEC 2023b). The project site would be provided electricity by Silicon Valley Power and natural gas by Pacific Gas & Electric (PG&E). Table 4 and Table 5 show the electricity and natural gas consumption by sector and total for Silicon Valley Power and PG&E. In

2021, Silicon Valley Power provided approximately 1.6 percent of the total electricity used in California. Also in 2021, PG&E provided approximately 37.5 percent of the total natural gas usage in California.

### Table 4 Electricity Consumption in the Silicon Valley Power Service Area in 2021

| Agriculture and Water Pump | Commercial Building | Commercial Other | Industry | Mining and Construction | Residential | Streetlight | Total Usage |
|---|---|---|---|---|---|---|---|
| 0.1 | 3,090.7 | 46.2 | 910.9 | 80.2 | 251.1 | 3.0 | 4,382 |

Notes: All usage expressed in GWh

Source: CEC 2023c

### Table 5 Natural Gas Consumption in PG&E Service Area in 2021

| Agriculture and Water Pump | Commercial Building | Commercial Other | Industry | Mining and Construction | Residential | Total Usage |
|---|---|---|---|---|---|---|
| 52.5 | 834.9 | 50.4 | 1,429.8 | 223.5 | 1,877.0 | 4,467.1 |

Notes: All usage expressed in MMThm

Source: CEC 2023d

## Petroleum

In 2021, the transportation sector used approximately 83 percent of the petroleum consumed in the state (U.S. EIA 2023). Californians presently consume over 19 billion gallons of motor vehicle fuels per year (CEC 2018). Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.6 billion gallons in 2017 to between 12.1 billion and 12.6 billion gallons in 2030, a 19 percent to 22 percent reduction. This decline comes in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018).

## Energy Regulations

### *Local*

#### CITY OF SANTA CLARA GENERAL PLAN

The City of Santa Clara General Plan (2014a) contains goals and policies that are designed to encourage reduced energy use. The following goals and policies that would apply to the project:

**Goal 5.10.3-G1.** Energy supply and distribution maximizes the use of renewable resources.

**Policy 5.10.3-P1** Promote the use of renewable energy resources, conservation and recycling programs.

**Goal 5.10.3-G2.** Implementation of energy conservation measures to reduce consumption.

**Policy 5.10.3-P4** Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

**Policy 5.10.3-P5** Reduce energy consumption through sustainable construction practices, materials and recycling.

**Policy 5.10.3-P6** Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

### City of Santa Clara Climate Action Plan

The City of Santa Clara Climate Action Plan (2022) contains goals and policies that are designed to encourage reduced energy use. The following goals and policies that would apply to the project:

**Building & Energy**

**Goal: Transition to clean, renewable energy sources and reduce energy consumption.**

**Action B-1-7: Carbon-neutral data centers.** Require all new data centers to operate on 100 percent carbon neutral energy, with offsets as needed. This requirement does not apply to data centers with planning application approval within six months of the CAP adoption date.

### City of Santa Clara Municipal Code

The City's energy code is codified in Chapter 15.36, *Adoption of the Energy Code,* of the Santa Clara Municipal Code (SCMC). Chapter 15.36 adopts the 2016 California Energy Code, published and copyrighted by the International Code Council, Inc., and the California Building Standards Commission in Part 6 of Title 24 of the California Code of Regulations.

# 3 Impact Analysis

## 3.1 Methodology

Air pollutant and GHG emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod allows for the use of standardized data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices C, D, and G (California Air Pollution Control Officers Associated [CAPCOA] 2022). The analysis reflects construction and operation of the proposed Project as described in Section 1.2, *Project Summary*.

### Construction Methodology

Project construction would primarily generate temporary criteria pollutant and GHG emissions from construction equipment operation on-site, construction worker vehicle trips to and from the site, and import of materials off-site. Construction of the proposed project was analyzed based on the land use type and square footage described provided by the applicant, which includes a 22,668 square feet data center, 169,386 square feet of research & development uses, 52,839 square feet of laboratory uses, , 235 subterranean parking garage, and 406 surface parking lot. Construction of the proposed project was assumed to begin in October 2023 and end in August 2025, for approximately 23 months. Based on the applicant-provided land uses, the CalEEMod provides assumptions for equipment lists and vehicle trips. During the demolition phase, the project would export approximately 67,789 cubic yards of soil based on applicant provided data. In addition, approximately 95,573 square feet of the existing one-story building would be demolished. The hauling material would be transported approximately 5.2 miles from the project site to Green Waste Zanker Resource Recovery Facility at 705 Los Esteros Road. It is assumed that construction equipment used would be diesel-powered and the project would comply with applicable regulatory standards, such as BAAQMD's Basic Best Management Practices fugitive dust control measures and Regulation 8 Rule 3, Architectural Coating.

Construction GHG emissions are typically amortized over the project life cycle, as the nature of construction emissions is relatively intense and occur over a shorter time period compared to operational emissions. Neither BAAQMD or the City of Santa Clara have provided guidance on what the amortization period for individual projects should be. The Association of Environmental Professionals (2016) recommends GHG emissions from construction be amortized over 30 years.

### Operational Emissions

*Data Center*

Operational emissions modeled include mobile source emissions, energy emissions, and area source emissions. Operational area source modeling relied on the following assumptions:

- **Energy Consumption** Based on applicant-provided information, the estimated annual electricity consumption is anticipated to be approximately 78,740 MWh per year. The data center would utilize 100 percent carbon free energy; therefore, natural gas defaults for the data center land use were omitted. Natural Gas usage for the research and development land use was estimated using CalEEMod defaults.
- **Water Demand**. Water source emissions are based on CalEEMod defaults.
- **Employee Vehicle Trips.** Hexagon Transportation Consultants, Inc. completed a traffic study for the proposed project. The existing land use generates 1,012 daily vehicle trips and the project would generate 1,866 daily vehicle trips. Therefore, approximately 852 net new daily trips would be generated from the project.
- **Area Source Emissions:** Area source emissions are based on CalEEMod defaults.
- **Solid Waste Generation**: Solid waste generated by the operations of the building are quantified based on CalEEMod default generation rates.

## 3.2 Significance Thresholds

### Air Quality

To determine whether a project would result in a significant impact to air quality, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The BAAQMD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *2022 CEQA Air Quality Guidelines*.

*Regional Significance Thresholds*

The BAAQMD's *2022 CEQA Air Quality Guidelines* are used in this analysis to evaluate air quality. Table 6 shows the significance thresholds for construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if construction or operational emissions would exceed thresholds as shown in Table 6.

### Table 6 BAAQMD Air Quality Significance Thresholds

| | Construction Thresholds | Operational Thresholds | |
|---|---|---|---|
| Pollutant | Average Daily Emissions (lbs/day) | Average Daily Emissions (lbs/day) | Maximum Annual 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 |

ROG = reactive organic gases, $NO_X$ = nitrogen oxides, $PM_{10}$ = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day

Source: BAAQMD 2023

#### *Carbon Monoxide*

BAAQMD provides a preliminary screening methodology to conservatively determine whether a proposed project would exceed carbon monoxide thresholds. If the following criteria are met, a project would result in a less than significant impact related to local carbon monoxide concentrations:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

#### *Odor Sources*

The BAAQMD provides minimum distances for siting of new odor sources as shown in Table 7. A significant impact would occur if the project would result in other emissions (such as odors) affecting substantial numbers of people or would site a new odor source within the specified distances of existing receptors.

### Table 7 BAAQMD Odor Source Thresholds

| Odor Source | Minimum Distance for Less than Significant Odor Impacts (in miles) |
|---|---|
| Wastewater treatment plant | 2 |
| Wastewater pumping facilities | 1 |
| Sanitary Landfill | 2 |
| Transfer Station | 1 |
| Composting Facility | 1 |
| Petroleum Refinery | 2 |
| Asphalt Batch Plant | 2 |
| Chemical Manufacturing | 2 |

| Odor Source | Minimum Distance for Less than Significant Odor Impacts (in miles) |
|---|---|
| Fiberglass Manufacturing | 1 |
| Painting/Coating Operations | 1 |
| Rendering Plant | 2 |
| Coffee Roaster | 1 |
| Food Processing Facility | 1 |
| Confined Animal facility/feed lot/diary | 1 |
| Green Waste and Recycling Operations | 1 |
| Metal Smelting Plants | 2 |

## Greenhouse Gas Emissions

To determine whether a project would result in a significant impact related to GHG emissions, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions.

CEQA Guidelines Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7[c]). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130[f]). As a note, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem in the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of GHG emissions." Therefore, a lead agency can make a finding of less-than-significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The City has formally adopted the City of Santa Clara Climate Action Plan (CAP) that addresses the reduction of GHG emissions to meet regulatory thresholds. The CAP was adopted by the City through a public review process, provides baseline and forecasted emissions, provided measures with which to reduce emissions and an implementation strategy and timeline to affect the reductions. Therefore, the CAP meets the requirements of a qualified CAP and can be used in the determination of significance under CEQA.

In addition, the BAAQMD has adopted CEQA thresholds for GHG emissions. Based on BAAQMD's thresholds, land use projects must include either A or B below to be determined to have less than significant impacts with respect to GHG emissions (BAAQMD 2023).

A. Projects must include, at a minimum, the following project design elements:
    1. Buildings
        a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
        b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    2. Transportation
        a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            i. Residential projects: 15 percent below the existing VMT per capita
            ii. Office projects: 15 percent below the existing VMT per employee
            iii. Retail projects: no net increase in existing VMT.
        b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.
B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

In accordance with CEQA Guidelines Section 15064(h)(3), part B of the BAAQMD guidance, consistency with the CAP that reduce GHG emissions, is used to determine significance for this project.

## Energy

Based on Appendix G of the State CEQA Guidelines, impacts related to energy from the project would be significant if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

# 3.3 Impact Analysis

## Air Quality

| | |
|---|---|
| **Threshold 1:** | Would the project conflict with or obstruct implementation of the applicable air quality plan? |

**Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE 2017 CLEAN AIR PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The California CAA requires that air districts create a Clean Air Plan (2017 CAP) that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan is the BAAQMD 2017 Plan. The Clean Air Plan builds upon and enhances the BAAQMD's efforts to reduce emissions of fine particulate matter and TACs. The 2017 Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes control measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

The 2017 CAP focuses on two paramount goals:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs.
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

Under BAAQMD's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan.
- Includes applicable control measures from the air quality plan.
- Does not disrupt or hinder implementation of any air quality plan control measures.

A project that would not support the 2017 Plan's goals would not be consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support for the clean air plan's goals. As shown in the response to Threshold 2 (Table 9 and Table 10), the project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Plan's goal to attain air quality standards. Furthermore, as shown in Table 8, the proposed project would include applicable control measures from the 2017 Plan and would not disrupt or hinder implementation of such control measures. Therefore, project impacts related to consistency with the 2017 Plan would be less than significant.

### Table 8 Project Consistency with Applicable Control Measures of 2017 Plan

| Control Measure | Evaluation |
|---|---|
| **TR9: Bicycle and Pedestrian Access and Facilities**. Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities. | **Consistent**. The project would include two short-term and 32 long-term bicycle parking spaces. |
| **EN2: Decrease Electricity Demand**. Work with local governments to adopt additional energy-efficiency policies and programs. Support local government energy efficiency program via best practices, model ordinances, and technical support. Work with partners to develop messaging to decrease electricity demand during peak times. | **Consistent**. The proposed project would be required to comply with all energy efficiency standards of the latest Title 24 (including the California Energy Code and CALGreen). The Title 24 standards are updated every three years and become increasingly more stringent over time. In addition, the proposed data center would utilize air cooled chillers, air handling units, and dedicated outdoor air system with economizer mode to reduce energy used to cool air and lower energy consumption. Furthermore, according to SB 100, renewable energy resources must supply 100 percent of retail sales of electricity in California to end-use customers by 2045. |
| **BL1: Green Buildings**. Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for on-site renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings. | **Consistent**. The proposed project would be required to comply with the latest iteration of the 2022 Title 24 Building Efficiency Standards. For example, require a minimum 65 percent diversion of construction/demolition waste, use of low pollutant emitting exterior and interior finish materials, and dedicated circuitry for electric vehicle charging stations. The CALGreen standards are updated every three years and become increasingly more stringent over time. |
| **WR2: Support Water Conservation**. Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance. | **Consistent**. The proposed project would be required to comply with all water conservation standards of CALGreen that are in effect at that time. The project would include plumbing fixtures with low-flow and WaterSense Labled, which meets EPA's specifications for water efficiency and performance. |

Source: BAAQMD 2017b

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

**Impact AQ-2 PROJECT CONSTRUCTION AND OPERATION WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

## Construction Emissions

Project construction would involve the reinforcement and seismic work activities that have the potential to generate air pollutant emissions. Table 9 summarizes the estimated maximum daily emissions of ROG, $NO_X$, CO, $PM_{10}$ exhaust, $PM_{2.5}$ exhaust, and sulfur oxide ($SO_x$) during project construction. As shown in Table 9, project construction emissions for all criteria pollutants would be below the BAAQMD average daily thresholds of significance and therefore would be less than significant.

### Table 9 Project Construction Emissions

| | Average Daily Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_X$ | $PM_{10}$ (exhaust) | $PM_{2.5}$ (exhaust) |
| Average Daily Emissions | 7 | 10 | 14 | <1 | <1 | <1 |
| BAAQMD Thresholds (average daily emissions) | 54 | 54 | N/A | N/A | 82 | 54 |
| **Threshold Exceeded?** | **No** | **No** | **N/A** | **N/A** | **No** | **No** |

N/A = not applicable (no BAAQMD threshold for CO or $SO_X$)

Source: See CalEEMod worksheets in Appendices A.

The BAAQMD does not have quantitative thresholds for fugitive dust emissions during construction. Instead, the BAAQMD recommends Best Management Practices (BMPs) be implemented to reduce fugitive dust emissions. The City of Santa Clara requires projects to implement BMPs consistent with the BAAQMD *Basic Construction Mitigation Measures*, which would be part of standard City conditions of approval for project construction. With the implementation of this Standard Permit Condition, construction air quality impacts would be less than significant.

## Operational Emissions

Long-term emissions associated with project operation are shown in Table 10. Emissions would not exceed BAAQMD daily or annual thresholds for any criteria pollutant. Since project emissions would not exceed BAAQMD thresholds for construction or operation, the project would not violate an air quality standard or result in a cumulatively considerable net increase in criteria pollutants and impacts would be less than significant.

**Table 10 Project Operational Emissions**

| | Average Daily Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| **Sources** | **ROG** | **$NO_X$** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** | **$SO_X$** |
| Mobile | 3 | 3 | 26 | 7 | 2 | <1 |
| Area | 7 | <1 | 8 | <1 | <1 | <1 |
| Energy | <1 | 1 | 1 | <1 | <1 | <1 |
| Total Project Emissions | 10 | 4 | 35 | 7 | 2 | <1 |
| **BAAQMD Thresholds** | **54** | **54** | **N/A** | **82** | **54** | **N/A** |
| **Threshold Exceeded?** | **No** | **No** | **N/A** | **No** | **No** | **N/A** |
| | **Annual Emissions (tons/yr)** | | | | | |
| Project Emissions | 2 | 1 | 6 | 1 | <1 | <1 |
| BAAQMD Thresholds | 10 | 10 | N/A | 15 | 10 | N/A |
| **Threshold Exceeded?** | **No** | **No** | **N/A** | **No** | **No** | **N/A** |

Source: Average daily and annual emissions. See Table 2.6 "Operations Emissions by Sector, Mitigated". See CalEEMod worksheets in Appendix A. Numbers may not add up due to rounding.

N/A = not applicable (no BAAQMD threshold for CO or $SO_X$)

| **Threshold 3** | Would the project expose sensitive receptors to substantial pollutant concentrations? |
|---|---|

**Impact AQ-3** **THE PROJECT WOULD NOT INCREASE CARBON MONOXIDE CONCENTRATIONS SUCH THAT IT WOULD CREATE CARBON MONOXIDE HOTSPOTS, AND THE PROJECT IS NOT CONSIDERED A LAND USE THAT WOULD GENERATE SUBSTANTIAL TOXIC AIR CONTAMINANTS EMISSIONS. PROJECT CONSTRUCTION COULD POTENTIALLY EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL TOXIC AIR CONTAINMENTS EMISSIONS GIVEN THE PROXIMITY TO SURROUNDING SENSITIVE RECEPTORS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

## Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

BAAQMD recommends comparing project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of carbon monoxide concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The project would result in a less than significant impact to localized carbon monoxide concentrations if:

1. The project is consistent with an applicable congestion management program for designated roads or highways, regional transportation plan, and local congestion management agency plans
2. The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

3. The project traffic would not increase traffic volumes at the affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage).

The project would demolish a vacant research and development center, and construct a data center, new research and development area, laboratory, subterranean parking garage, and surface parking lot. The project would generate 1,866 daily vehicle trips and the existing development and research center generates 1,012 daily vehicle trips. Therefore, the development of the project would generate 854 net new daily vehicle trips. According to the City of Santa Clara General Plan's Appendix 8.7 Transportation and Mobility Assumptions, the existing (2008) and future (2035) traffic volumes for Tasman Drive between City Limits and Great America Parkway are 12,790 and 25,910 average daily traffic, respectively (City of Santa Clara 2014b). The project site is approximately 800 feet north of Tasman Drive. Therefore, the project would not increase vehicle traffic at any intersections above the screening thresholds listed above and the impact of localized carbon monoxide emissions would not be significant.

## Toxic Air Contaminants

### *Construction Impacts*

Construction-related activities would result in temporary project-generated DPM exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. Generation of DPM, which was identified as a TAC by CARB in 1998, from construction projects typically occurs in a single area for a short period. The proposed project's construction would occur in phases over approximately 23 months with sensitive receptors located approximately 925 feet to the south. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, and a more extended exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a more extended period.

The proposed project would be consistent with the applicable AQMP requirements and control strategies intended to reduce emissions from construction equipment and activities. The proposed project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. BAAQMD identifies that projects may have significant TAC cumulative impacts when constructed within 1,000 feet of sensitive receptors. Therefore, it is conservatively assumed that project construction could result in potentially significant TAC emissions. Mitigation Measure AQ-1 would implement construction measures, such as use of Tier 4 engines, which would reduce impacts to less than significant impact.

### *Operational Impacts*

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). CARB guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new

TAC sources in proximity to existing sensitive land uses. Data center, research and development, a and laboratory land uses are not considered land uses that generate substantial TAC emissions based on reviewing the air toxic sources listed in CARB's guidelines. Therefore, the expected hazardous TACs generated on site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the proposed land uses would be below thresholds warranting further study under the California Accidental Release Program. Project operation would not expose off-site sensitive receptors to significant amounts of carcinogenic or TACs. Therefore, operational impacts would be less than significant.

## Mitigation Measure

### *AQ-1 Construction Emissions Reduction*

Prior to issuance of grading permits, the City shall confirm that the grading plan, building plans, and specifications stipulate that the following measures shall be implemented:

- All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the U.S. EPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 Final standards.
- Alternative fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site.
- Unpaved demolition and construction areas shall be wetted at least three times per day during excavation and construction.
- Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used.
- The project shall comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction.

## Significance After Mitigation

With incorporation of Mitigation Measure AQ-1, the project would reduce DPM emissions by approximately 81 to 96 percent as compared to standard CalEEMod assumptions for engine tier. With these reductions, toxic air contaminant concentrations at sensitive receptors would not be substantial, and construction-related health impacts would be less than significant.

| | |
|---|---|
| **Threshold 4** | Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? |

**Impact AQ-4** **THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The project would generate oil and diesel fuel odors during construction from equipment use. The odors would be limited to the construction period and would be temporary. With respect to operation, the BAAQMD's 2022 *CEQA Guidelines* (2023) identifies land uses associated with odor complaints to include, but not limited to, wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. Data centers, research and development uses, and laboratory uses are not identified on this list shown in Table 7. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people, and impacts would be less than significant.

## Greenhouse Gas Emissions

| | |
|---|---|
| **Threshold 1:** | Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? |
| **Threshold 2:** | Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? |

### Impact GHG-1 THE PROPOSED PROJECT WOULD GENERATE TEMPORARY AND LONG-TERM INCREASES IN GHG EMISSIONS. THE PROJECT WOULD BE CONSISTENT WITH THE CITY OF SANTA CLARA'S CAP. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Pursuant to the BAAQMD methodology, a project that complies with a qualified GHG reduction strategy would be considered to have less than significant GHG impact. As mentioned in Section 3.2, *Significance Thresholds,* the City of Santa Clara CAP meets the criteria for a qualified GHG reduction strategy. The CAP includes numerous measures to reduce GHG emissions associated with the projects operations and therefore demonstrate if new developments are consistent with reduction strategies. The project's consistency with the applicable CAP measures is shown in Table 11.

### Table 11 Consistency with Santa Clara Emissions Reduction Strategies

| Goals, Targets, and Policies | Consistency |
|---|---|
| **City of Santa Clara General Plan Consistency** | |
| Policy 5.10.2-P2: Encourage development patterns that reduce vehicle miles traveled and air pollution. | **Consistent.** The project would include a cafeteria on the ground floor of the building, which would potentially reduce employee needs for outside meals and vehicle miles traveled. In addition, the project site is within half a mile walking distance to bus transit, and the Old Ironsides light rail station, which promotes alternative modes of transportation. |
| **City of Santa Clara's Climate Action Plan** | |
| ***Strategy B1:*** Shift to electric fuels in new and existing buildings to achieve net-zero carbon buildings. | |
| Action B-1-7: Carbon-neutral data centers: Require all new data centers to operate on 100% carbon neutral energy, with offsets as needed. This requirement does not apply to data centers with planning application approval within six months of the CAP adoption date (June 7, 2022). | **Consistent**. The proposed project's data center area would be designed to operate on 100% carbon neutral energy; therefore, the project would be consistent with this measure. |
| ***Strategy B2***: Improve Energy Efficiency | **Consistent.** The proposed project would be consistent with the latest iteration of the Title 24 Standards that would include energy efficient lighting and appliances. |
| ***Strategy T1:*** Transition vehicles to electric alternatives | **Consistent.** The proposed project would include 71 electric vehicle charging stations consistent with pursuant Santa Clara City Code Chapter 15.38.080. In addition, install 22 electric vehicle capable stalls. |

| Goals, Targets, and Policies | Consistency |
|---|---|
| ***Strategy N3:*** Improve water supply and conservation | **Consistent.** The proposed project would include plumbing fixtures that would be low-flow and WaterSense Labeled, which are products and services certified to use at least 20 percent less water and save energy. |

Source: City of Santa Clara 2014a and 2022

As shown in Table 11, the project would be consistent with the City of Santa Clara CAP. Therefore, the project would be consistent with a qualified GHG reduction strategy, and impacts would be less than significant.

## GHG Emissions for Information Purposes

the construction and operational GHG emissions for the project are described below for informational purposes only.

### *Construction Emissions*

Construction of the proposed project would generate temporary GHG emissions primarily as a result of operation of construction equipment on-site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building materials and soil export.. As shown in Table 12, construction of the project would generate an estimated total of 1,186 MT of $CO_2$e. Amortized over a 30-year period, construction of the project would generate an estimated total of 40 MT of $CO_2$e per year.

**Table 12 Estimated GHG Emissions during Construction**

| Year | Annual Emissions (MT of $CO_2$e) |
|---|---|
| 2023 | 217 |
| 2024 | 598 |
| 2025 | 371 |
| **Total** | **1,186** |
| **Amortized over 30 years** | **40** |

MT = metric tons; $CO_2$e = carbon dioxide equivalents
See Appendix A for modeling results.

### *Operational Emissions*

Operation of the proposed project would generate GHG emissions associated with area sources (e.g., landscape maintenance), energy and water usage, wastewater and solid waste generation, and off-road equipment. As shown in Table 13, total combined annual GHG emissions generated by the project would be approximately 15,749 MT of $CO_2$e per year.

**Table 13 Estimated Annual Operational GHG Emissions**

| Source | Annual Emissions (MT of $CO_2e$ per year) |
|---|---|
| Mobile | 1,141 |
| Area | 5 |
| Energy | 14,263 |
| Water | 287 |
| Waste | 12 |
| Refrigerant | 1 |
| Total | 15,709 |
| Amortized construction Emissions | 40 |
| **Total Project Emissions** | **15,749** |

MT = metric tons; $CO_2e$ = carbon dioxide equivalents

See Appendix A for modeling results.

## Energy

| | |
|---|---|
| **Threshold 1** | Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? |

**Impact ENE-1** THE PROPOSED PROJECT WOULD TEMPORARY CONSUME ENERGY IN THE FORM OF PETROLEUM AND WOULD INCREASE THE PROJECT'S OPERATIONAL ENERGY CONSUMPTION FROM EXISTING CONDITIONS. HOWEVER, THE PROJECT WOULD BE CONSISTENT WITH THE LATEST ITERATION TITLE 24 STANDARDS AND WOULD CONSUME ENERGY WITHIN SILICON VALLEY POWER AND PACIFIC GAS AND ELECTRIC PRODUCTION CAPACITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

### Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction workers travel to and from the project site, and vehicles used to deliver materials. In addition, the project would require hauling material offsite during demolition; vendor trips during building construction; and worker trips for all phases of construction, such as demolition, site preparation, grading, paving, building construction, and architectural coating.

The total gasoline and diesel fuel consumption during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions (Appendix A). Table 14 presents the estimated construction phase energy consumption, indicating construction equipment and hauling and vendor trips would consume 86,103 gallons of diesel fuel, and worker trips would consume about 20,531 gallons of other petroleum fuel over the project construction period.

### Table 14 Estimated Fuel Consumption during Construction

| Fuel Type | Gallons of Fuel | MMBtu |
|---|---|---|
| Diesel Fuel (Construction Equipment) | 61,727 | 7,868 |
| Diesel Fuel (Hauling & Vendor Trips) | 24,376 | 3,107 |
| Other Petroleum Fuel (Worker Trips) | 20,531 | 2,617 |
| **Total** | **106,634** | **13,592** |

See Appendix B for calculation details

The construction energy estimates represent a conservative estimate as the construction equipment used in each construction phase was assumed to operate every day of construction. Construction equipment would be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Therefore, the project would not involve inefficient, wasteful, and unnecessary energy use during construction, and the construction-phase impact related to energy consumption would be less than significant.

## Operational Energy Demand

The operation of the project would increase area energy demand from greater electricity and natural gas consumption. Natural gas and electricity would be used for heating and cooling systems, lighting, appliances, water use. As stated in Section 3.1, *Methodology,* the project would result in a net increase of daily vehicle trips compared to existing conditions. This is due to the proposed project developing a larger data center and research and development center than existing conditions. Gasoline consumption is typically attributed to the trips generated from people employed by the project.

Operation of the proposed project would consume approximately 78.74 GWh of electricity per year (Appendix A). As mentioned, the project would be served by Silicon Valley Power, which provided more than 4,382GWh of electricity in 2021. Therefore, Silicon Valley Power would have sufficient supplies for the project and would not place a significant demand on the electrical supply. Estimated natural gas consumption for the project would be 0.057 MMthm per year (Appendix A). The project's natural gas demand would be serviced by PG&E, which provided 4,467 MMthm of natural gas in 2021; therefore, PG&E would have sufficient supplies for the project.

The project would also comply with all standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation**.** California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2022 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. As the name implies, these standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. Furthermore, the project would further reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by SCE continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 60 percent by 2030 and 100 percent by 2045. In addition, the project's data center use would comply with City of Santa Clara CAP Action B-1-7for 100 percent carbon-neutral energy.

In conclusion, the construction of the project would be temporary and typical of similar projects and would not result in wasteful use energy. The operation of the project would increase the use of electricity on-site. However, the increase would be in conformance with the latest version of California's Green Building Standards Code and Building Energy Efficiency Standards. In addition, Silicon Valley Power and PG&E have sufficient supplies to serve the project. Therefore, the operation would not result in wasteful or unnecessary energy consumption.

| | |
|---|---|
| **Threshold 2** | Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? |

### Impact ENE-2 THE PROPOSED PROJECT WOULD BE CONSISTENT WITH THE CITY OF SANTA CLARA'S GENERAL PLAN AND CLIMATE ACTION PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

*Local Plans*

As discussed in Section 2.3, *Regulatory Setting*, the City's General Plan and Climate Action Plan include several goals and policies related to renewable energy and energy efficiency. The project's consistency with these goals and policies is evaluated in Table 15. As shown therein, the proposed project would be consistent with renewable energy and energy efficiency plans.

### Table 15 Project Consistency with Plans for Renewable Energy and Energy Efficiency

| Energy Efficiency Goal or Policy | Project Consistency |
|---|---|
| **Santa Clara General Plan** | |
| Goal 5.10.3-G1. Energy supply and distribution maximizes the use of renewable resources.<br>▪ Policy 5.10.3-P1. Promote the use of renewable energy resources, conservation and recycling programs. | **Consistent.** The proposed project would source its electricity from Silicon Valley Power, which has a renewable energy procurement portfolio of 35.9 percent renewable resources. Silicon Valley Power would be subject to the provisions of SB 100, which requires utility providers to increase their renewable energy procurement portfolios to 60 percent by 2030 and 100 percent by 2045. In addition, the project's data center use would comply with City of Santa Clara CAP Action B-1-7for 100 percent carbon-neutral energy Therefore, the project would be consistent with Goal 5.10.3-G1. |
| Goal 5.10.3-G2. Implementation of energy conservation measures to reduce consumption.<br>▪ Policy 5.10.3-P4. Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.<br>▪ Policy 5.10.3-P5. Reduce energy consumption through sustainable construction practices, materials and recycling.<br>▪ Policy 5.10.3-P6. Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development. | **Consistent**. The proposed building would comply with the latest iteration of Title 24 standards. The project would also be required to comply with the requirements of 2022 CALGreen, which mandates a minimum diversion rate of 65 percent for construction and demolition waste. In addition, the project would provide electric vehicle charging stations, install WaterSense bathroom utilities, and high efficiency HVAC and water heater systems. Therefore, the project would be consistent with Goal 5.10.3-G3, Policy 5.10.3-P4, Policy 5.10.3-P5, and Policy 5.10.3-P6. |

| Energy Efficiency Goal or Policy | Project Consistency |
|---|---|
| **Santa Clara Climate Action Plan** | |
| Goal: Transition to clean, renewable energy sources and reduce energy consumption.<br>▪ Action B-1-7: Carbon-neutral data centers. Require all new data centers to operate on 100 percent carbon neutral energy, with offsets as needed. This requirement does not apply to data centers with planning application approval within six months of the CAP adoption date. | **Consistent.** The project's data center would operate on 100 percent carbon neutral energy. |
| Sources: City of Santa Clara 2014a and 2022 | |

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# Appendix A

California Emissions Estimator Model Output

# 5200 Patrick Henry Drive Project Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 5200 Patrick Henry Drive Project |
| Construction Start Date | 10/2/2023 |
| Operational Year | 2025 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.70 |
| Precipitation (days) | 32.8 |
| Location | 5200 Patrick Henry Dr, Santa Clara, CA 95054, USA |
| County | Santa Clara |
| City | Santa Clara |
| Air District | Bay Area AQMD |
| Air Basin | San Francisco Bay Area |
| TAZ | 1704 |
| EDFZ | 1 |
| Electric Utility | Silicon Valley Power |
| Gas Utility | Pacific Gas & Electric |
| App Version | 2022.1.1.14 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 22.7 | 1000sqft | 0.00 | 22,668 | 0.00 | 0.00 | — | — |
| Parking Lot | 406 | Space | 3.65 | 0.00 | 0.00 | 0.00 | — | — |
| Enclosed Parking with Elevator | 235 | Space | 0.00 | 115,136 | 0.00 | 0.00 | — | — |
| Research & Development | 222 | 1000sqft | 1.98 | 222,225 | 0.00 | 0.00 | — | — |

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

| Sector | # | Measure Title |
|---|---|---|
| Construction | C-2* | Limit Heavy-Duty Diesel Vehicle Idling |
| Construction | C-10-A | Water Exposed Surfaces |
| Construction | C-11 | Limit Vehicle Speeds on Unpaved Roads |

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

# 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 116 | 13.7 | 21.5 | 0.04 | 0.52 | 6.78 | 7.26 | 0.48 | 1.69 | 2.13 | — | 5,450 | 5,450 | 0.22 | 0.30 | 9.46 | 5,554 |
| Mit. | 116 | 13.7 | 21.5 | 0.04 | 0.52 | 6.78 | 7.26 | 0.48 | 1.69 | 2.13 | — | 5,450 | 5,450 | 0.22 | 0.30 | 9.46 | 5,554 |
| % Reduced | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmit. | 4.01 | 39.8 | 36.2 | 0.08 | 1.81 | 22.1 | 23.4 | 1.66 | 10.2 | 11.9 | — | 10,114 | 10,114 | 0.86 | 1.08 | 0.36 | 10,456 |
| Mit. | 4.01 | 39.8 | 36.2 | 0.08 | 1.81 | 14.1 | 15.4 | 1.66 | 4.58 | 5.75 | — | 10,114 | 10,114 | 0.86 | 1.08 | 0.36 | 10,456 |
| % Reduced | — | — | — | — | — | 36% | 34% | — | 55% | 52% | — | — | — | — | — | — | — |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 7.00 | 10.0 | 13.5 | 0.02 | 0.38 | 4.19 | 4.57 | 0.35 | 1.55 | 1.79 | — | 3,542 | 3,542 | 0.16 | 0.21 | 2.64 | 3,610 |
| Mit. | 7.00 | 10.0 | 13.5 | 0.02 | 0.38 | 4.02 | 4.40 | 0.35 | 1.03 | 1.38 | — | 3,542 | 3,542 | 0.16 | 0.21 | 2.64 | 3,610 |
| % Reduced | — | — | — | — | — | 4% | 4% | — | 34% | 23% | — | — | — | — | — | — | — |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.28 | 1.83 | 2.47 | < 0.005 | 0.07 | 0.76 | 0.83 | 0.06 | 0.28 | 0.33 | — | 586 | 586 | 0.03 | 0.03 | 0.44 | 598 |
| Mit. | 1.28 | 1.83 | 2.47 | < 0.005 | 0.07 | 0.73 | 0.80 | 0.06 | 0.19 | 0.25 | — | 586 | 586 | 0.03 | 0.03 | 0.44 | 598 |
| % Reduced | — | — | — | — | — | 4% | 4% | — | 34% | 23% | — | — | — | — | — | — | — |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 1.71 | 13.7 | 19.8 | 0.03 | 0.52 | 5.90 | 6.42 | 0.48 | 1.47 | 1.95 | — | 5,143 | 5,143 | 0.22 | 0.30 | 9.06 | 5,248 |
| 2025 | 116 | 13.7 | 21.5 | 0.04 | 0.48 | 6.78 | 7.26 | 0.44 | 1.69 | 2.13 | — | 5,450 | 5,450 | 0.21 | 0.30 | 9.46 | 5,554 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 4.01 | 39.8 | 36.2 | 0.08 | 1.81 | 22.1 | 23.4 | 1.66 | 10.2 | 11.9 | — | 10,114 | 10,114 | 0.86 | 1.08 | 0.36 | 10,456 |
| 2024 | 1.95 | 18.3 | 19.4 | 0.03 | 0.84 | 7.59 | 8.43 | 0.77 | 3.55 | 4.32 | — | 5,061 | 5,061 | 0.23 | 0.30 | 0.23 | 5,157 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2025 | 1.60 | 13.0 | 18.6 | 0.03 | 0.45 | 5.90 | 6.35 | 0.42 | 1.47 | 1.89 | — | 5,015 | 5,015 | 0.21 | 0.29 | 0.22 | 5,107 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.59 | 6.49 | 5.46 | 0.01 | 0.26 | 3.47 | 3.73 | 0.23 | 1.55 | 1.79 | — | 1,278 | 1,278 | 0.09 | 0.09 | 0.51 | 1,309 |
| 2024 | 1.21 | 10.0 | 13.5 | 0.02 | 0.38 | 4.19 | 4.57 | 0.35 | 1.11 | 1.46 | — | 3,542 | 3,542 | 0.16 | 0.21 | 2.64 | 3,610 |
| 2025 | 7.00 | 5.84 | 8.39 | 0.02 | 0.21 | 2.48 | 2.69 | 0.19 | 0.62 | 0.81 | — | 2,203 | 2,203 | 0.09 | 0.12 | 1.58 | 2,243 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.11 | 1.18 | 1.00 | < 0.005 | 0.05 | 0.63 | 0.68 | 0.04 | 0.28 | 0.33 | — | 212 | 212 | 0.01 | 0.02 | 0.08 | 217 |
| 2024 | 0.22 | 1.83 | 2.47 | < 0.005 | 0.07 | 0.76 | 0.83 | 0.06 | 0.20 | 0.27 | — | 586 | 586 | 0.03 | 0.03 | 0.44 | 598 |
| 2025 | 1.28 | 1.07 | 1.53 | < 0.005 | 0.04 | 0.45 | 0.49 | 0.04 | 0.11 | 0.15 | — | 365 | 365 | 0.02 | 0.02 | 0.26 | 371 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 1.71 | 13.7 | 19.8 | 0.03 | 0.52 | 5.90 | 6.42 | 0.48 | 1.47 | 1.95 | — | 5,143 | 5,143 | 0.22 | 0.30 | 9.06 | 5,248 |
| 2025 | 116 | 13.7 | 21.5 | 0.04 | 0.48 | 6.78 | 7.26 | 0.44 | 1.69 | 2.13 | — | 5,450 | 5,450 | 0.21 | 0.30 | 9.46 | 5,554 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 4.01 | 39.8 | 36.2 | 0.08 | 1.81 | 14.1 | 15.4 | 1.66 | 4.58 | 5.75 | — | 10,114 | 10,114 | 0.86 | 1.08 | 0.36 | 10,456 |
| 2024 | 1.95 | 18.3 | 19.4 | 0.03 | 0.84 | 5.90 | 6.42 | 0.77 | 1.47 | 2.23 | — | 5,061 | 5,061 | 0.23 | 0.30 | 0.23 | 5,157 |
| 2025 | 1.60 | 13.0 | 18.6 | 0.03 | 0.45 | 5.90 | 6.35 | 0.42 | 1.47 | 1.89 | — | 5,015 | 5,015 | 0.21 | 0.29 | 0.22 | 5,107 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.59 | 6.49 | 5.46 | 0.01 | 0.26 | 1.82 | 2.08 | 0.23 | 0.71 | 0.94 | — | 1,278 | 1,278 | 0.09 | 0.09 | 0.51 | 1,309 |
| 2024 | 1.21 | 10.0 | 13.5 | 0.02 | 0.38 | 4.02 | 4.40 | 0.35 | 1.03 | 1.38 | — | 3,542 | 3,542 | 0.16 | 0.21 | 2.64 | 3,610 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2025 | 7.00 | 5.84 | 8.39 | 0.02 | 0.21 | 2.48 | 2.69 | 0.19 | 0.62 | 0.81 | — | 2,203 | 2,203 | 0.09 | 0.12 | 1.58 | 2,243 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.11 | 1.18 | 1.00 | < 0.005 | 0.05 | 0.33 | 0.38 | 0.04 | 0.13 | 0.17 | — | 212 | 212 | 0.01 | 0.02 | 0.08 | 217 |
| 2024 | 0.22 | 1.83 | 2.47 | < 0.005 | 0.07 | 0.73 | 0.80 | 0.06 | 0.19 | 0.25 | — | 586 | 586 | 0.03 | 0.03 | 0.44 | 598 |
| 2025 | 1.28 | 1.07 | 1.53 | < 0.005 | 0.04 | 0.45 | 0.49 | 0.04 | 0.11 | 0.15 | — | 365 | 365 | 0.02 | 0.02 | 0.26 | 371 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 11.6 | 4.12 | 45.8 | 0.08 | 0.17 | 6.53 | 6.71 | 0.18 | 1.66 | 1.83 | 240 | 93,719 | 93,959 | 32.2 | 1.68 | 33.8 | 95,299 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 8.86 | 4.43 | 27.6 | 0.07 | 0.15 | 6.53 | 6.69 | 0.15 | 1.66 | 1.81 | 240 | 93,220 | 93,460 | 32.2 | 1.71 | 6.41 | 94,781 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 10.1 | 4.32 | 34.8 | 0.08 | 0.16 | 6.53 | 6.70 | 0.16 | 1.66 | 1.82 | 240 | 93,311 | 93,551 | 32.2 | 1.70 | 17.8 | 94,881 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.84 | 0.79 | 6.35 | 0.01 | 0.03 | 1.19 | 1.22 | 0.03 | 0.30 | 0.33 | 39.7 | 15,449 | 15,488 | 5.34 | 0.28 | 2.95 | 15,709 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Area | 8.45 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 11.6 | 4.12 | 45.8 | 0.08 | 0.17 | 6.53 | 6.71 | 0.18 | 1.66 | 1.83 | 240 | 93,719 | 93,959 | 32.2 | 1.68 | 33.8 | 95,299 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |
| Area | 5.88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 8.86 | 4.43 | 27.6 | 0.07 | 0.15 | 6.53 | 6.69 | 0.15 | 1.66 | 1.81 | 240 | 93,220 | 93,460 | 32.2 | 1.71 | 6.41 | 94,781 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.87 | 2.83 | 25.9 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,788 | 6,788 | 0.28 | 0.28 | 12.2 | 6,891 |
| Area | 7.15 | 0.07 | 7.72 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 31.8 | 31.8 | < 0.005 | < 0.005 | — | 31.9 |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 10.1 | 4.32 | 34.8 | 0.08 | 0.16 | 6.53 | 6.70 | 0.16 | 1.66 | 1.82 | 240 | 93,311 | 93,551 | 32.2 | 1.70 | 17.8 | 94,881 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |
| Area | 1.30 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| Energy | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 14,190 | 14,190 | 1.21 | 0.14 | — | 14,263 |
| Water | — | — | — | — | — | — | — | — | — | — | 36.3 | 130 | 166 | 3.74 | 0.09 | — | 287 |
| Waste | — | — | — | — | — | — | — | — | — | — | 3.41 | 0.00 | 3.41 | 0.34 | 0.00 | — | 11.9 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |
| Total | 1.84 | 0.79 | 6.35 | 0.01 | 0.03 | 1.19 | 1.22 | 0.03 | 0.30 | 0.33 | 39.7 | 15,449 | 15,488 | 5.34 | 0.28 | 2.95 | 15,709 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Area | 8.45 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 11.6 | 4.12 | 45.8 | 0.08 | 0.17 | 6.53 | 6.71 | 0.18 | 1.66 | 1.83 | 240 | 93,719 | 93,959 | 32.2 | 1.68 | 33.8 | 95,299 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |
| Area | 5.88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 8.86 | 4.43 | 27.6 | 0.07 | 0.15 | 6.53 | 6.69 | 0.15 | 1.66 | 1.81 | 240 | 93,220 | 93,460 | 32.2 | 1.71 | 6.41 | 94,781 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.87 | 2.83 | 25.9 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,788 | 6,788 | 0.28 | 0.28 | 12.2 | 6,891 |
| Area | 7.15 | 0.07 | 7.72 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 31.8 | 31.8 | < 0.005 | < 0.005 | — | 31.9 |
| Energy | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 85,706 | 85,706 | 7.32 | 0.87 | — | 86,149 |
| Water | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Waste | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | 10.1 | 4.32 | 34.8 | 0.08 | 0.16 | 6.53 | 6.70 | 0.16 | 1.66 | 1.82 | 240 | 93,311 | 93,551 | 32.2 | 1.70 | 17.8 | 94,881 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |
| Area | 1.30 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| Energy | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 14,190 | 14,190 | 1.21 | 0.14 | — | 14,263 |
| Water | — | — | — | — | — | — | — | — | — | — | 36.3 | 130 | 166 | 3.74 | 0.09 | — | 287 |
| Waste | — | — | — | — | — | — | — | — | — | — | 3.41 | 0.00 | 3.41 | 0.34 | 0.00 | — | 11.9 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |
| Total | 1.84 | 0.79 | 6.35 | 0.01 | 0.03 | 1.19 | 1.22 | 0.03 | 0.30 | 0.33 | 39.7 | 15,449 | 15,488 | 5.34 | 0.28 | 2.95 | 15,709 |

# 3. Construction Emissions Details

## 3.1. Demolition (2023) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.84 | 27.3 | 23.5 | 0.03 | 1.20 | — | 1.20 | 1.10 | — | 1.10 | — | 3,425 | 3,425 | 0.14 | 0.03 | — | 3,437 |
| Dust From Material Movement | — | — | — | — | — | 13.2 | 13.2 | — | 6.75 | 6.75 | — | — | — | — | — | — | — |
| Demolitio n | — | — | — | — | — | 3.18 | 3.18 | — | 0.48 | 0.48 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.23 | 2.25 | 1.93 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 282 | 282 | 0.01 | < 0.005 | — | 282 |
| Dust From Material Movement | — | — | — | — | — | 1.09 | 1.09 | — | 0.56 | 0.56 | — | — | — | — | — | — | — |
| Demolitio n | — | — | — | — | — | 0.26 | 0.26 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.41 | 0.35 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 46.6 | 46.6 | < 0.005 | < 0.005 | — | 46.8 |
| Dust From Material Movement | — | — | — | — | — | 0.20 | 0.20 | — | 0.10 | 0.10 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Demolitio | — | — | — | — | — | 0.05 | 0.05 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.06 | 0.61 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 124 | 124 | < 0.005 | 0.01 | 0.02 | 125 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.26 | 11.9 | 6.27 | 0.04 | 0.11 | 5.19 | 5.30 | 0.07 | 1.34 | 1.41 | — | 6,565 | 6,565 | 0.71 | 1.04 | 0.34 | 6,894 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 10.3 | 10.3 | < 0.005 | < 0.005 | 0.02 | 10.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.02 | 0.96 | 0.51 | < 0.005 | 0.01 | 0.42 | 0.43 | 0.01 | 0.11 | 0.11 | — | 539 | 539 | 0.06 | 0.09 | 0.46 | 567 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.70 | 1.70 | < 0.005 | < 0.005 | < 0.005 | 1.73 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.18 | 0.09 | < 0.005 | < 0.005 | 0.08 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 89.3 | 89.3 | 0.01 | 0.01 | 0.08 | 93.8 |

## 3.2. Demolition (2023) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 2.84 | 27.3 | 23.5 | 0.03 | 1.20 | — | 1.20 | 1.10 | — | 1.10 | — | 3,425 | 3,425 | 0.14 | 0.03 | — | 3,437 |
| Dust From Material Movement | — | — | — | — | — | 5.16 | 5.16 | — | 2.63 | 2.63 | — | — | — | — | — | — | — |
| Demolition | — | — | — | — | — | 3.18 | 3.18 | — | 0.48 | 0.48 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.23 | 2.25 | 1.93 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 282 | 282 | 0.01 | < 0.005 | — | 282 |
| Dust From Material Movement | — | — | — | — | — | 0.42 | 0.42 | — | 0.22 | 0.22 | — | — | — | — | — | — | — |
| Demolition | — | — | — | — | — | 0.26 | 0.26 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.41 | 0.35 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 46.6 | 46.6 | < 0.005 | < 0.005 | — | 46.8 |
| Dust From Material Movement | — | — | — | — | — | 0.08 | 0.08 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Demolition | — | — | — | — | — | 0.05 | 0.05 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.06 | 0.61 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 124 | 124 | < 0.005 | 0.01 | 0.02 | 125 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.26 | 11.9 | 6.27 | 0.04 | 0.11 | 5.19 | 5.30 | 0.07 | 1.34 | 1.41 | — | 6,565 | 6,565 | 0.71 | 1.04 | 0.34 | 6,894 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 10.3 | 10.3 | < 0.005 | < 0.005 | 0.02 | 10.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.02 | 0.96 | 0.51 | < 0.005 | 0.01 | 0.42 | 0.43 | 0.01 | 0.11 | 0.11 | — | 539 | 539 | 0.06 | 0.09 | 0.46 | 567 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.70 | 1.70 | < 0.005 | < 0.005 | < 0.005 | 1.73 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | 0.18 | 0.09 | < 0.005 | < 0.005 | 0.08 | 0.08 | < 0.005 | 0.02 | 0.02 | — | 89.3 | 89.3 | 0.01 | 0.01 | 0.08 | 93.8 |

## 3.3. Site Preparation (2023) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.95 | 39.7 | 35.5 | 0.05 | 1.81 | — | 1.81 | 1.66 | — | 1.66 | — | 5,295 | 5,295 | 0.21 | 0.04 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.32 | 3.27 | 2.92 | < 0.005 | 0.15 | — | 0.15 | 0.14 | — | 0.14 | — | 435 | 435 | 0.02 | < 0.005 | — | 437 |
| Dust From Material Movement | — | — | — | — | — | 1.62 | 1.62 | — | 0.83 | 0.83 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.60 | 0.53 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 72.1 | 72.1 | < 0.005 | < 0.005 | — | 72.3 |
| Dust From Material Movement | — | — | — | — | — | 0.29 | 0.29 | — | 0.15 | 0.15 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.71 | 0.00 | 0.00 | 0.60 | 0.60 | 0.00 | 0.15 | 0.15 | — | 144 | 144 | < 0.005 | 0.01 | 0.02 | 146 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | < 0.005 | 0.06 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 12.0 | 12.0 | < 0.005 | < 0.005 | 0.03 | 12.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.99 | 1.99 | < 0.005 | < 0.005 | < 0.005 | 2.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.4. Site Preparation (2023) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.95 | 39.7 | 35.5 | 0.05 | 1.81 | — | 1.81 | 1.66 | — | 1.66 | — | 5,295 | 5,295 | 0.21 | 0.04 | — | 5,314 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | 7.67 | 7.67 | — | 3.94 | 3.94 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.32 | 3.27 | 2.92 | < 0.005 | 0.15 | — | 0.15 | 0.14 | — | 0.14 | — | 435 | 435 | 0.02 | < 0.005 | — | 437 |
| Dust From Material Movement | — | — | — | — | — | 0.63 | 0.63 | — | 0.32 | 0.32 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.60 | 0.53 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 72.1 | 72.1 | < 0.005 | < 0.005 | — | 72.3 |
| Dust From Material Movement | — | — | — | — | — | 0.11 | 0.11 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.71 | 0.00 | 0.00 | 0.60 | 0.60 | 0.00 | 0.15 | 0.15 | — | 144 | 144 | < 0.005 | 0.01 | 0.02 | 146 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | < 0.005 | 0.06 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 12.0 | 12.0 | < 0.005 | < 0.005 | 0.03 | 12.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.99 | 1.99 | < 0.005 | < 0.005 | < 0.005 | 2.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.5. Grading (2024) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.90 | 18.2 | 18.8 | 0.03 | 0.84 | — | 0.84 | 0.77 | — | 0.77 | — | 2,958 | 2,958 | 0.12 | 0.02 | — | 2,969 |
| Dust From Material Movement | — | — | — | — | — | 7.08 | 7.08 | — | 3.42 | 3.42 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.70 | 0.72 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 113 | 113 | < 0.005 | < 0.005 | — | 114 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | 0.27 | 0.27 | — | 0.13 | 0.13 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.13 | 0.13 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 18.8 | 18.8 | < 0.005 | < 0.005 | — | 18.9 |
| Dust From Material Movement | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.57 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 121 | 121 | < 0.005 | 0.01 | 0.01 | 123 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | 0.01 | 4.78 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.78 | 0.78 | < 0.005 | < 0.005 | < 0.005 | 0.79 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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

## 3.6. Grading (2024) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.90 | 18.2 | 18.8 | 0.03 | 0.84 | — | 0.84 | 0.77 | — | 0.77 | — | 2,958 | 2,958 | 0.12 | 0.02 | — | 2,969 |
| Dust From Material Movement | — | — | — | — | — | 2.76 | 2.76 | — | 1.34 | 1.34 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.70 | 0.72 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 113 | 113 | < 0.005 | < 0.005 | — | 114 |
| Dust From Material Movement | — | — | — | — | — | 0.11 | 0.11 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.13 | 0.13 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 18.8 | 18.8 | < 0.005 | < 0.005 | — | 18.9 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | 0.02 | 0.02 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.57 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 121 | 121 | < 0.005 | 0.01 | 0.01 | 123 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 4.71 | 4.71 | < 0.005 | < 0.005 | 0.01 | 4.78 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.78 | 0.78 | < 0.005 | < 0.005 | < 0.005 | 0.79 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Building Construction (2024) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.81 | 7.58 | 8.85 | 0.02 | 0.34 | — | 0.34 | 0.31 | — | 0.31 | — | 1,619 | 1,619 | 0.07 | 0.01 | — | 1,624 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 1.38 | 1.62 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 268 | 268 | 0.01 | < 0.005 | — | 269 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.45 | 0.35 | 5.67 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,128 | 1,128 | 0.02 | 0.04 | 4.81 | 1,145 |
| Vendor | 0.06 | 2.14 | 1.02 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,618 | 1,618 | 0.10 | 0.24 | 4.25 | 1,696 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.43 | 0.44 | 4.88 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,044 | 1,044 | 0.03 | 0.04 | 0.12 | 1,059 |
| Vendor | 0.06 | 2.26 | 1.05 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,619 | 1,619 | 0.10 | 0.24 | 0.11 | 1,693 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.29 | 0.27 | 3.24 | 0.00 | 0.00 | 2.90 | 2.90 | 0.00 | 0.71 | 0.71 | — | 713 | 713 | 0.02 | 0.03 | 1.39 | 724 |
| Vendor | 0.04 | 1.50 | 0.70 | 0.01 | 0.01 | 1.00 | 1.01 | 0.01 | 0.26 | 0.27 | — | 1,093 | 1,093 | 0.07 | 0.16 | 1.23 | 1,144 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.59 | 0.00 | 0.00 | 0.53 | 0.53 | 0.00 | 0.13 | 0.13 | — | 118 | 118 | < 0.005 | < 0.005 | 0.23 | 120 |
| Vendor | 0.01 | 0.27 | 0.13 | < 0.005 | < 0.005 | 0.18 | 0.18 | < 0.005 | 0.05 | 0.05 | — | 181 | 181 | 0.01 | 0.03 | 0.20 | 189 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.8. Building Construction (2024) - 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.81 | 7.58 | 8.85 | 0.02 | 0.34 | — | 0.34 | 0.31 | — | 0.31 | — | 1,619 | 1,619 | 0.07 | 0.01 | — | 1,624 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 1.38 | 1.62 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 268 | 268 | 0.01 | < 0.005 | — | 269 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.45 | 0.35 | 5.67 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,128 | 1,128 | 0.02 | 0.04 | 4.81 | 1,145 |
| Vendor | 0.06 | 2.14 | 1.02 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,618 | 1,618 | 0.10 | 0.24 | 4.25 | 1,696 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.43 | 0.44 | 4.88 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,044 | 1,044 | 0.03 | 0.04 | 0.12 | 1,059 |
| Vendor | 0.06 | 2.26 | 1.05 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,619 | 1,619 | 0.10 | 0.24 | 0.11 | 1,693 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.29 | 0.27 | 3.24 | 0.00 | 0.00 | 2.90 | 2.90 | 0.00 | 0.71 | 0.71 | — | 713 | 713 | 0.02 | 0.03 | 1.39 | 724 |
| Vendor | 0.04 | 1.50 | 0.70 | 0.01 | 0.01 | 1.00 | 1.01 | 0.01 | 0.26 | 0.27 | — | 1,093 | 1,093 | 0.07 | 0.16 | 1.23 | 1,144 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.59 | 0.00 | 0.00 | 0.53 | 0.53 | 0.00 | 0.13 | 0.13 | — | 118 | 118 | < 0.005 | < 0.005 | 0.23 | 120 |
| Vendor | 0.01 | 0.27 | 0.13 | < 0.005 | < 0.005 | 0.18 | 0.18 | < 0.005 | 0.05 | 0.05 | — | 181 | 181 | 0.01 | 0.03 | 0.20 | 189 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | 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 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 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 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.47 | 4.35 | 5.44 | 0.01 | 0.18 | — | 0.18 | 0.17 | — | 0.17 | — | 999 | 999 | 0.04 | 0.01 | — | 1,003 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 0.09 | 0.79 | 0.99 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 165 | 165 | 0.01 | < 0.005 | — | 166 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.43 | 0.31 | 5.27 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,105 | 1,105 | 0.02 | 0.04 | 4.37 | 1,123 |
| Vendor | 0.06 | 2.04 | 0.99 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,592 | 1,592 | 0.09 | 0.23 | 4.22 | 1,667 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.41 | 0.40 | 4.52 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,024 | 1,024 | 0.03 | 0.04 | 0.11 | 1,038 |
| Vendor | 0.06 | 2.15 | 1.00 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,593 | 1,593 | 0.09 | 0.23 | 0.11 | 1,663 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.17 | 0.15 | 1.86 | 0.00 | 0.00 | 1.79 | 1.79 | 0.00 | 0.44 | 0.44 | — | 431 | 431 | 0.01 | 0.02 | 0.79 | 438 |
| Vendor | 0.02 | 0.88 | 0.42 | < 0.005 | 0.01 | 0.62 | 0.62 | 0.01 | 0.16 | 0.17 | — | 664 | 664 | 0.04 | 0.10 | 0.76 | 694 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.00 | 0.33 | 0.33 | 0.00 | 0.08 | 0.08 | — | 71.4 | 71.4 | < 0.005 | < 0.005 | 0.13 | 72.5 |
| Vendor | < 0.005 | 0.16 | 0.08 | < 0.005 | < 0.005 | 0.11 | 0.11 | < 0.005 | 0.03 | 0.03 | — | 110 | 110 | 0.01 | 0.02 | 0.13 | 115 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.10. 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | 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 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 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 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.47 | 4.35 | 5.44 | 0.01 | 0.18 | — | 0.18 | 0.17 | — | 0.17 | — | 999 | 999 | 0.04 | 0.01 | — | 1,003 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.79 | 0.99 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 165 | 165 | 0.01 | < 0.005 | — | 166 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.43 | 0.31 | 5.27 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,105 | 1,105 | 0.02 | 0.04 | 4.37 | 1,123 |
| Vendor | 0.06 | 2.04 | 0.99 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,592 | 1,592 | 0.09 | 0.23 | 4.22 | 1,667 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.41 | 0.40 | 4.52 | 0.00 | 0.00 | 4.39 | 4.39 | 0.00 | 1.08 | 1.08 | — | 1,024 | 1,024 | 0.03 | 0.04 | 0.11 | 1,038 |
| Vendor | 0.06 | 2.15 | 1.00 | 0.01 | 0.02 | 1.51 | 1.53 | 0.02 | 0.39 | 0.41 | — | 1,593 | 1,593 | 0.09 | 0.23 | 0.11 | 1,663 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.17 | 0.15 | 1.86 | 0.00 | 0.00 | 1.79 | 1.79 | 0.00 | 0.44 | 0.44 | — | 431 | 431 | 0.01 | 0.02 | 0.79 | 438 |
| Vendor | 0.02 | 0.88 | 0.42 | < 0.005 | 0.01 | 0.62 | 0.62 | 0.01 | 0.16 | 0.17 | — | 664 | 664 | 0.04 | 0.10 | 0.76 | 694 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.00 | 0.33 | 0.33 | 0.00 | 0.08 | 0.08 | — | 71.4 | 71.4 | < 0.005 | < 0.005 | 0.13 | 72.5 |
| Vendor | < 0.005 | 0.16 | 0.08 | < 0.005 | < 0.005 | 0.11 | 0.11 | < 0.005 | 0.03 | 0.03 | — | 110 | 110 | 0.01 | 0.02 | 0.13 | 115 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.11. 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.80 | 7.45 | 9.98 | 0.01 | 0.35 | — | 0.35 | 0.32 | — | 0.32 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,517 |
| Paving | 0.48 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.41 | 0.55 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 82.8 | 82.8 | < 0.005 | < 0.005 | — | 83.1 |
| Paving | 0.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.07 | 0.10 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.7 | 13.7 | < 0.005 | < 0.005 | — | 13.8 |
| Paving | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.04 | 0.61 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 129 | 129 | < 0.005 | < 0.005 | 0.51 | 131 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 6.60 | 6.60 | < 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.09 | 1.09 | < 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.12. 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.80 | 7.45 | 9.98 | 0.01 | 0.35 | — | 0.35 | 0.32 | — | 0.32 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,517 |
| Paving | 0.48 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.41 | 0.55 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 82.8 | 82.8 | < 0.005 | < 0.005 | — | 83.1 |
| Paving | 0.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.07 | 0.10 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.7 | 13.7 | < 0.005 | < 0.005 | — | 13.8 |
| Paving | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.04 | 0.61 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.13 | 0.13 | — | 129 | 129 | < 0.005 | < 0.005 | 0.51 | 131 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 6.60 | 6.60 | < 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.09 | 1.09 | < 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 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.13. Architectural Coating (2025) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 0.13 | 0.88 | 1.14 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | 114 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.05 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 7.32 | 7.32 | < 0.005 | < 0.005 | — | 7.34 |
| Architectural Coatings | 6.26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.21 | 1.21 | < 0.005 | < 0.005 | — | 1.22 |
| Architectural Coatings | 1.14 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.06 | 1.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.22 | 0.22 | — | 221 | 221 | < 0.005 | 0.01 | 0.87 | 225 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 11.3 | 11.3 | < 0.005 | < 0.005 | 0.02 | 11.5 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.88 | 1.88 | < 0.005 | < 0.005 | < 0.005 | 1.91 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.14. Architectural Coating (2025) - Mitigated

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

| Location | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.13 | 0.88 | 1.14 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | 114 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 0.01 | 0.05 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 7.32 | 7.32 | < 0.005 | < 0.005 | — | 7.34 |
| Architectural Coatings | 6.26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.21 | 1.21 | < 0.005 | < 0.005 | — | 1.22 |
| Architectural Coatings | 1.14 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.06 | 1.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.22 | 0.22 | — | 221 | 221 | < 0.005 | 0.01 | 0.87 | 225 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 11.3 | 11.3 | < 0.005 | < 0.005 | 0.02 | 11.5 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 1.88 | 1.88 | < 0.005 | < 0.005 | < 0.005 | 1.91 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Total | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehou Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |
| Total | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |
| Total | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Total | 3.05 | 2.57 | 29.0 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 7,162 | 7,162 | 0.27 | 0.27 | 28.2 | 7,276 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |
| Total | 2.90 | 3.01 | 26.4 | 0.07 | 0.04 | 6.53 | 6.58 | 0.04 | 1.66 | 1.70 | — | 6,728 | 6,728 | 0.30 | 0.29 | 0.73 | 6,823 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |
| Total | 0.52 | 0.52 | 4.72 | 0.01 | 0.01 | 1.19 | 1.20 | 0.01 | 0.30 | 0.31 | — | 1,124 | 1,124 | 0.05 | 0.05 | 2.01 | 1,141 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 83,417 | 83,417 | 7.12 | 0.86 | — | 83,852 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 148 | 148 | 0.01 | < 0.005 | — | 148 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 450 | 450 | 0.04 | < 0.005 | — | 453 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 84,015 | 84,015 | 7.17 | 0.87 | — | 84,453 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 83,417 | 83,417 | 7.12 | 0.86 | — | 83,852 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 148 | 148 | 0.01 | < 0.005 | — | 148 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 450 | 450 | 0.04 | < 0.005 | — | 453 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 84,015 | 84,015 | 7.17 | 0.87 | — | 84,453 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 13,811 | 13,811 | 1.18 | 0.14 | — | 13,883 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 24.5 | 24.5 | < 0.005 | < 0.005 | — | 24.6 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 74.5 | 74.5 | 0.01 | < 0.005 | — | 74.9 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 13,910 | 13,910 | 1.19 | 0.14 | — | 13,982 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 83,417 | 83,417 | 7.12 | 0.86 | — | 83,852 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 148 | 148 | 0.01 | < 0.005 | — | 148 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 450 | 450 | 0.04 | < 0.005 | — | 453 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 84,015 | 84,015 | 7.17 | 0.87 | — | 84,453 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehou Rail | — | — | — | — | — | — | — | — | — | — | — | 83,417 | 83,417 | 7.12 | 0.86 | — | 83,852 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 148 | 148 | 0.01 | < 0.005 | — | 148 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 450 | 450 | 0.04 | < 0.005 | — | 453 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 84,015 | 84,015 | 7.17 | 0.87 | — | 84,453 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 13,811 | 13,811 | 1.18 | 0.14 | — | 13,883 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 24.5 | 24.5 | < 0.005 | < 0.005 | — | 24.6 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 74.5 | 74.5 | 0.01 | < 0.005 | — | 74.9 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 13,910 | 13,910 | 1.19 | 0.14 | — | 13,982 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Total | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Total | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |
| Total | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research & Development | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Total | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Total | 0.08 | 1.42 | 1.19 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,691 | 1,691 | 0.15 | < 0.005 | — | 1,696 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research & Development | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |
| Total | 0.01 | 0.26 | 0.22 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 280 | 280 | 0.02 | < 0.005 | — | 281 |

# 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 5.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.63 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.57 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Total | 8.45 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 5.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.63 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 5.88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.96 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.11 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.23 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| Total | 1.30 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 5.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.63 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.57 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Total | 8.45 | 0.13 | 15.7 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 64.4 | 64.4 | < 0.005 | < 0.005 | — | 64.6 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumer | 5.25 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.63 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 5.88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.96 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.11 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.23 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| Total | 1.30 | 0.01 | 1.41 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 10.0 | 36.0 | 46.0 | 1.03 | 0.02 | — | 79.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 209 | 750 | 959 | 21.5 | 0.52 | — | 1,652 |
| Total | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 10.0 | 36.0 | 46.0 | 1.03 | 0.02 | — | 79.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 209 | 750 | 959 | 21.5 | 0.52 | — | 1,652 |
| Total | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 1.66 | 5.95 | 7.62 | 0.17 | < 0.005 | — | 13.1 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 34.7 | 124 | 159 | 3.57 | 0.09 | — | 273 |
| Total | — | — | — | — | — | — | — | — | — | — | 36.3 | 130 | 166 | 3.74 | 0.09 | — | 287 |

### 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 10.0 | 36.0 | 46.0 | 1.03 | 0.02 | — | 79.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 209 | 750 | 959 | 21.5 | 0.52 | — | 1,652 |
| Total | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehou Rail | — | — | — | — | — | — | — | — | — | — | 10.0 | 36.0 | 46.0 | 1.03 | 0.02 | — | 79.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 209 | 750 | 959 | 21.5 | 0.52 | — | 1,652 |
| Total | — | — | — | — | — | — | — | — | — | — | 219 | 786 | 1,005 | 22.6 | 0.54 | — | 1,731 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 1.66 | 5.95 | 7.62 | 0.17 | < 0.005 | — | 13.1 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 34.7 | 124 | 159 | 3.57 | 0.09 | — | 273 |
| Total | — | — | — | — | — | — | — | — | — | — | 36.3 | 130 | 166 | 3.74 | 0.09 | — | 287 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 11.5 | 0.00 | 11.5 | 1.15 | 0.00 | — | 40.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 9.10 | 0.00 | 9.10 | 0.91 | 0.00 | — | 31.8 |
| Total | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 11.5 | 0.00 | 11.5 | 1.15 | 0.00 | — | 40.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 9.10 | 0.00 | 9.10 | 0.91 | 0.00 | — | 31.8 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 1.90 | 0.00 | 1.90 | 0.19 | 0.00 | — | 6.65 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 1.51 | 0.00 | 1.51 | 0.15 | 0.00 | — | 5.27 |
| Total | — | — | — | — | — | — | — | — | — | — | 3.41 | 0.00 | 3.41 | 0.34 | 0.00 | — | 11.9 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 11.5 | 0.00 | 11.5 | 1.15 | 0.00 | — | 40.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research & Development | — | — | — | — | — | — | — | — | — | — | 9.10 | 0.00 | 9.10 | 0.91 | 0.00 | — | 31.8 |
| Total | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 11.5 | 0.00 | 11.5 | 1.15 | 0.00 | — | 40.2 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Research & Development | — | — | — | — | — | — | — | — | — | — | 9.10 | 0.00 | 9.10 | 0.91 | 0.00 | — | 31.8 |
| Total | — | — | — | — | — | — | — | — | — | — | 20.6 | 0.00 | 20.6 | 2.06 | 0.00 | — | 72.0 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | 1.90 | 0.00 | 1.90 | 0.19 | 0.00 | — | 6.65 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research & Development | — | — | — | — | — | — | — | — | — | — | 1.51 | 0.00 | 1.51 | 0.15 | 0.00 | — | 5.27 |
| Total | — | — | — | — | — | — | — | — | — | — | 3.41 | 0.00 | 3.41 | 0.34 | 0.00 | — | 11.9 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |

### 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.68 | 5.68 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.94 | 0.94 |

## 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 | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

### 4.7.2. Mitigated

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

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

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

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

| Equipment Type | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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

### 4.8.2. Mitigated

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

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

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

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

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

## 4.9.2. Mitigated

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

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

## 4.10. Soil Carbon Accumulation By Vegetation Type

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

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

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

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

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

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

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

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

| Species | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

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

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

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

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

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

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

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

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

| Species | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Demolition | Demolition | 10/2/2023 | 11/10/2023 | 5.00 | 30.0 | — |
| Site Preparation | Site Preparation | 11/13/2023 | 12/22/2023 | 5.00 | 30.0 | — |
| Grading | Grading | 1/2/2024 | 1/19/2024 | 5.00 | 14.0 | — |
| Building Construction | Building Construction | 1/22/2024 | 8/1/2025 | 5.00 | 400 | — |
| Paving | Paving | 8/4/2025 | 8/30/2025 | 5.00 | 20.0 | — |
| Architectural Coating | Architectural Coating | 7/7/2025 | 8/1/2025 | 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 | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Excavators | Diesel | Average | 3.00 | 8.00 | 36.0 | 0.38 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | Diesel | Average | 1.00 | 8.00 | 33.0 | 0.73 |
| 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 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| 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 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.2.2. Mitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Rubber Tired Dozers | Diesel | Average | 2.00 | 8.00 | 367 | 0.40 |
| Demolition | Excavators | Diesel | Average | 3.00 | 8.00 | 36.0 | 0.38 |
| Demolition | Concrete/Industrial Saws | Diesel | Average | 1.00 | 8.00 | 33.0 | 0.73 |
| 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 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| 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 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 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 | 319 | 5.20 | 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 |
| Grading | — | — | — | — |
| Grading | Worker | 15.0 | 11.7 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 8.40 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 129 | 11.7 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 59.0 | 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 |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 25.8 | 11.7 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 8.40 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 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 | 319 | 5.20 | 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 |
| Grading | — | — | — | — |
| Grading | Worker | 15.0 | 11.7 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 8.40 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 129 | 11.7 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 59.0 | 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 |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 25.8 | 11.7 | LDA,LDT1,LDT2 |

| | | | | |
|---|---|---|---|---|
| Architectural Coating | Vendor | — | 8.40 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 0.00 | 0.00 | 362,174 | 120,725 | 9,550 |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (Building Square Footage) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 67,789 | 30.0 | 95,573 | — |
| Site Preparation | 0.00 | 0.00 | 45.0 | 0.00 | — |
| Grading | 0.00 | 0.00 | 14.0 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 3.65 |

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|

| | | |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.00 | 0% |
| Parking Lot | 3.65 | 100% |
| Enclosed Parking with Elevator | 0.00 | 100% |
| Research & Development | 0.00 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2023 | 0.00 | 185 | 0.03 | < 0.005 |
| 2024 | 0.00 | 203 | 0.03 | < 0.005 |
| 2025 | 0.00 | 222 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 854 | 854 | 854 | 311,710 | 9,264 | 9,264 | 9,264 | 3,381,492 |

### 5.9.2. Mitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Research & Development | 854 | 854 | 854 | 311,710 | 9,264 | 9,264 | 9,264 | 3,381,492 |

# 5.10. Operational Area Sources

## 5.10.1. Hearths

### 5.10.1.1. Unmitigated

### 5.10.1.2. Mitigated

## 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 0 | 0.00 | 362,174 | 120,725 | 9,550 |

## 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 $CO_2$ and $CH_4$ and $N_2O$ and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 78,740,000 | 387 | 0.0330 | 0.0040 | 0.00 |
| Parking Lot | 139,431 | 387 | 0.0330 | 0.0040 | 0.00 |
| Enclosed Parking with Elevator | 425,017 | 387 | 0.0330 | 0.0040 | 0.00 |
| Research & Development | 0.00 | 387 | 0.0330 | 0.0040 | 5,277,908 |

### 5.11.2. Mitigated

Electricity (kWh/yr) and $CO_2$ and $CH_4$ and $N_2O$ and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 78,740,000 | 387 | 0.0330 | 0.0040 | 0.00 |
| Parking Lot | 139,431 | 387 | 0.0330 | 0.0040 | 0.00 |
| Enclosed Parking with Elevator | 425,017 | 387 | 0.0330 | 0.0040 | 0.00 |
| Research & Development | 0.00 | 387 | 0.0330 | 0.0040 | 5,277,908 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 5,241,975 | 0.00 |
| Parking Lot | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 |
| Research & Development | 109,266,687 | 0.00 |

### 5.12.2. Mitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 5,241,975 | 0.00 |
| Parking Lot | 0.00 | 0.00 |
| Enclosed Parking with Elevator | 0.00 | 0.00 |
| Research & Development | 109,266,687 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 21.3 | — |
| Parking Lot | 0.00 | — |
| Enclosed Parking with Elevator | 0.00 | — |
| Research & Development | 16.9 | — |

### 5.13.2. Mitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Unrefrigerated Warehouse-No Rail | 21.3 | — |
| Parking Lot | 0.00 | — |
| Enclosed Parking with Elevator | 0.00 | — |
| Research & Development | 16.9 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Research & Development | Household refrigerators and/or freezers | R-134a | 1,430 | 0.45 | 0.60 | 0.00 | 1.00 |
| Research & Development | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

### 5.14.2. Mitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Research & Development | Household refrigerators and/or freezers | R-134a | 1,430 | 0.45 | 0.60 | 0.00 | 1.00 |
| Research & Development | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

## 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 | 12.2 | annual days of extreme heat |
| Extreme Precipitation | 2.50 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |
| Wildfire | 10.5 | 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 | 1 | 0 | 0 | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | N/A |

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

## 6.3. Adjusted Climate Risk Scores

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

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

### 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

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

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 16.8 |
| AQ-PM | 19.6 |
| AQ-DPM | 73.9 |
| Drinking Water | 50.2 |
| Lead Risk Housing | 12.0 |
| Pesticides | 0.00 |
| Toxic Releases | 38.1 |
| Traffic | 88.8 |
| Effect Indicators | — |
| CleanUp Sites | 99.3 |
| Groundwater | 93.5 |
| Haz Waste Facilities/Generators | 96.1 |
| Impaired Water Bodies | 43.8 |
| Solid Waste | 75.7 |
| Sensitive Population | — |
| Asthma | 17.8 |
| Cardio-vascular | 31.2 |
| Low Birth Weights | 62.9 |
| Socioeconomic Factor Indicators | — |

| | |
|---|---|
| Education | 26.9 |
| Housing | 25.3 |
| Linguistic | 48.7 |
| Poverty | 14.7 |
| Unemployment | 45.8 |

## 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 | 68.7925061 |
| Employed | 79.36609778 |
| Median HI | 89.15693571 |
| Education | — |
| Bachelor's or higher | 88.31002181 |
| High school enrollment | 100 |
| Preschool enrollment | 64.42961632 |
| Transportation | — |
| Auto Access | 56.16578981 |
| Active commuting | 48.06877967 |
| Social | — |
| 2-parent households | 36.23764917 |
| Voting | 66.09778006 |
| Neighborhood | — |
| Alcohol availability | 46.61876043 |
| Park access | 62.01719492 |
| Retail density | 89.61888875 |

| | |
|---|---|
| Supermarket access | 23.44411651 |
| Tree canopy | 61.86321057 |
| Housing | — |
| Homeownership | 33.00397793 |
| Housing habitability | 71.61555242 |
| Low-inc homeowner severe housing cost burden | 73.55318876 |
| Low-inc renter severe housing cost burden | 86.48787373 |
| Uncrowded housing | 43.11561658 |
| Health Outcomes | — |
| Insured adults | 78.54484794 |
| Arthritis | 97.3 |
| Asthma ER Admissions | 87.5 |
| High Blood Pressure | 94.2 |
| Cancer (excluding skin) | 87.6 |
| Asthma | 98.2 |
| Coronary Heart Disease | 97.8 |
| Chronic Obstructive Pulmonary Disease | 98.8 |
| Diagnosed Diabetes | 93.4 |
| Life Expectancy at Birth | 91.5 |
| Cognitively Disabled | 94.6 |
| Physically Disabled | 87.9 |
| Heart Attack ER Admissions | 63.3 |
| Mental Health Not Good | 95.0 |
| Chronic Kidney Disease | 97.1 |
| Obesity | 97.1 |
| Pedestrian Injuries | 39.7 |
| Physical Health Not Good | 97.7 |

| | |
|---|---|
| Stroke | 97.8 |
| Health Risk Behaviors | — |
| Binge Drinking | 73.8 |
| Current Smoker | 92.2 |
| No Leisure Time for Physical Activity | 82.1 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 13.7 |
| Children | 14.8 |
| Elderly | 73.9 |
| English Speaking | 66.5 |
| Foreign-born | 91.6 |
| Outdoor Workers | 78.1 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 26.4 |
| Traffic Density | 75.6 |
| Traffic Access | 56.3 |
| Other Indices | — |
| Hardship | 22.1 |
| Other Decision Support | — |
| 2016 Voting | 71.9 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 44.0 |
| Healthy Places Index Score for Project Location (b) | 81.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |

| | |
|---|---|
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| 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 |
|---|---|
| Land Use | Based on applicant provided data |
| Construction: Construction Phases | Based on applicant provided information |
| Construction: Dust From Material Movement | Based on applicant provided data |
| Construction: Trips and VMT | Based on applicant provided data, hauling material would be transported to Green Waste Zanker Resource Recovery Facility at 705 Los Esteros Road |
| Construction: On-Road Fugitive Dust | Based on 2022 BAAQMD CEQA Guidelines |
| Construction: Architectural Coatings | Based on BAAQMD Reg 8 Rule 3 |
| Operations: Vehicle Data | 854 net new daily vehicle trips based on the Traffic Memo provided by Hexagon Transportation Consultants, Inc. |
| Operations: Architectural Coatings | Based on BAAQMD Reg 8 Rule 3 |
| Operations: Energy Use | Based on applicant provided data |

# Appendix B

Energy Calculations

# 5200 Patrick Henry Drive

Last Updated: 5/18/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

| | | | |
|---|---|---|---|
| HP: 0 to 100 | 0.0588 | HP: Greater than 100 | 0.0529 |

*Values above are expressed in gallons per horsepower-hour/BSFC.*

**CONSTRUCTION EQUIPMENT**

| Construction Equipment | # | Hours per Day | Horsepower | Load Factor | Construction Phase | Fuel Used (gallons) |
|---|---|---|---|---|---|---|
| Rubber Tired Dozers | 2 | 8 | 367 | 0.4 | Demolition Phase | 3,725 |
| Excavators | 3 | 8 | 36 | 0.38 | Demolition Phase | 579 |
| Concrete/Industrial Saws | 1 | 8 | 33 | 0.73 | Demolition Phase | 340 |
| Rubber Tired Dozers | 3 | 8 | 367 | 0.4 | Site Preparation Phase | 5,587 |
| Tractors/Loaders/Backhoes | 4 | 8 | 84 | 0.37 | Site Preparation Phase | 1,753 |
| Graders | 1 | 8 | 148 | 0.41 | Grading Phase | 359 |
| Excavators | 1 | 8 | 36 | 0.38 | Grading Phase | 90 |
| Rubber Tired Dozers | 1 | 8 | 367 | 0.4 | Grading Phase | 869 |
| Tractors/Loaders/Backhoes | 3 | 8 | 84 | 0.37 | Grading Phase | 614 |
| Forklifts | 3 | 8 | 82 | 0.2 | Building Construction Phase | 9,252 |
| Generator Sets | 1 | 8 | 14 | 0.74 | Building Construction Phase | 1,948 |
| Cranes | 1 | 7 | 367 | 0.29 | Building Construction Phase | 15,752 |
| Welders | 1 | 8 | 46 | 0.45 | Building Construction Phase | 3,893 |
| Tractors/Loaders/Backhoes | 3 | 7 | 84 | 0.37 | Building Construction Phase | 15,342 |
| Air Compressors | 1 | 6 | 37 | 0.48 | Architectural Coating Phase | 125 |
| Pavers | 2 | 8 | 81 | 0.42 | Paving Phase | 640 |
| Paving Equipment | 2 | 8 | 89 | 0.36 | Paving Phase | 602 |
| Rollers | 2 | 8 | 36 | 0.38 | Paving Phase | 257 |
| | | | | | **Total Fuel Used** | **61,727 (Gallons)** |

| Construction Phase | Days of Operation |
|---|---|
| Demolition Phase | 30 |
| Site Preparation Phase | 30 |
| Grading Phase | 14 |
| Building Construction Phase | 400 |
| Paving Phase | 20 |
| Architectural Coating Phase | 20 |
| Total Days | 514 |

**WORKER TRIPS**

| Constuction Phase | MPG [2] | Trips | | Trip Length (miles) | Fuel Used (gallons) |
|---|---|---|---|---|---|
| Demolition Phase | 24.1 | 15 | | 11.7 | 218.46 |
| Site Preparation Phase | 24.1 | 18 | | 11.7 | 254.88 |
| Grading Phase | 24.1 | 15 | | 11.7 | 101.95 |
| Building Construction Phase | 24.1 | 101 | | 11.7 | 19613.28 |
| Paving Phase | 24.1 | 15 | | 11.7 | 145.64 |
| Architectural Coating Phase | 24.1 | 20 | | 11.7 | 197.10 |
| | | | **Total** | | **20,531.32** |

## HAULING AND VENDOR TRIPS

| Trip Class | MPG [2] | Trips | Trip Length (miles) | Fuel Used (gallons) |
|---|---|---|---|---|
| | | **HAULING TRIPS** | | |
| Demolition Phase | 7.5 | 319 | 5.2 | 6635.20 |
| Site Preparation Phase | 7.5 | 0 | 20.0 | 0.00 |
| Grading Phase | 7.5 | 0 | 20.0 | 0.00 |
| Building Construction Phase | 7.5 | 0 | 20.0 | 0.00 |
| Paving Phase | 7.5 | 0 | 20.0 | 0.00 |
| Architectural Coating Phase | 7.5 | 0 | 20.0 | 0.00 |
| | | | **Total** | **6,635.20** |
| | | **VENDOR TRIPS** | | |
| Demolition Phase | 7.5 | 0 | 14.7 | 0.00 |
| Site Preparation Phase | 7.5 | 0 | 14.7 | 0.00 |
| Grading Phase | 7.5 | 0 | 14.7 | 0.00 |
| Building Construction Phase | 7.5 | 40 | 8.4 | 17740.80 |
| Paving Phase | 7.5 | 0 | 14.7 | 0.00 |
| Architectural Coating Phase | 7.5 | 0 | 14.7 | 0.00 |
| | | | **Total** | **17,740.80** |

| | |
|---|---|
| **Total Gasoline Consumption (gallons)** | **20,531** |
| **Total Diesel Consumption (gallons)** | **86,103** |

**Sources:**

**[1]** United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

**[2]** United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

# 5200 Patrick Henry Drive

Last Updated: 5/18/2023

**Populate one of the following tables (Leave the other blank):**

| Annual VMT | |
|---|---|
| Annual VMT: | 3,381,492 |

**OR**

| Daily Vehicle Trips | |
|---|---|
| Daily Vehicle Trips: | |
| Average Trip Distance: | |

| Fleet Class | Fleet Mix |
|---|---|
| Light Duty Auto (LDA) | 0.528224 |
| Light Duty Truck 1 (LDT1) | 0.040360 |
| Light Duty Truck 2 (LDT2) | 0.230100 |
| Medium Duty Vehicle (MDV) | 0.128600 |
| Light Heavy Duty 1 (LHD1) | 0.023275 |
| Light Heavy Duty 2 (LHD2) | 0.005740 |
| Medium Heavy Duty (MHD) | 0.009425 |
| Heavy Heavy Duty (HHD) | 0.007439 |
| Other Bus (OBUS) | 0.001057 |
| Urban Bus (UBUS) | 0.000413 |
| Motorcycle (MCY) | 0.022095 |
| School Bus (SBUS) | 0.000684 |
| Motorhome (MH) | 0.002585 |

| Fuel Economy (MPG) [1] | |
|---|---|
| Passenger Vehicles | 24.1 |
| Light-Med Duty Trucks | 17.6 |
| Heavy Trucks/Other | 7.5 |
| Motorcycles | 44 |

**Fleet Mix**

| Vehicle Type | Percent | Fuel Type | Annual VMT: VMT | Vehicle Trips: VMT | Fuel Consumption (Gallons) |
|---|---|---|---|---|---|
| Passenger Vehicles | *52.82%* | *Gasoline* | 1,786,186 | 0.00 | 74,116 |
| Light-Medium Duty Trucks | *39.91%* | *Gasoline* | 1,349,418 | 0.00 | 76,671 |
| Heavy Trucks/Other | *5.06%* | *Diesel* | 171,163 | 0.00 | 22,822 |
| Motorcycle | *2.21%* | *Gasoline* | 74,714 | 0.00 | 1,698 |

| | |
|---|---|
| **Total Gasoline Consumption (gallons)** | **152,485** |
| **Total Diesel Consumption (gallons)** | **22,822** |

**Sources:**

**[1]** United States Department of Transportation, Bureau of Transportation Statistics. 2021. National Transportation Statistics. Available at: https://www.bts.gov/topics/national-transportation-statistics.