# 11011 Torreyana Road Project

## Air Quality Technical Report

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# Acronyms and Abbreviations

| | |
|---|---|
| ADT | average daily trips |
| BMP | best management practice |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CEQA | California Environmental Quality Act |
| CO | carbon monoxide |
| CY | cubic yard(s) |
| DPM | diesel particulate matter |
| I- | Interstate |
| LLG | Linscott, Law, & Greenspan Engineers |
| LOS | level of service |
| mph | miles per hour |
| NAAQS | National Ambient Air Quality Standards |
| NO | nitrogen monoxide |
| $NO_2$ | nitrogen dioxide |
| $NO_X$ | nitrogen oxides |
| $O_3$ | ozone |
| Pb | lead |
| PM | particulate matter |
| $PM_{10}$ | particulate matter 10 microns or less in diameter |
| $PM_{2.5}$ | particulate matter 2.5 microns or less in diameter |
| ROG | reactive organic gas |
| SANDAG | San Diego Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SDAB | San Diego Air Basin |
| SDAPCD | San Diego County Air Pollution Control District |
| SIP | State Implementation Plan |
| SMAQMD | Sacramento Metropolitan Air Quality Management District |
| $SO_2$ | sulfur dioxide |

# Acronyms and Abbreviations (cont.)

| | |
|---|---|
| TAC | toxic air contaminant |
| USEPA | U.S. Environmental Protection Agency |
| VOC | volatile organic compound |

# EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts during construction and operation of the proposed 11011 Torreyana Road Project (Project), which proposes to demolish an existing research and development building and construct a larger life science building in the City of San Diego.

The Project would result in emissions of air pollutants during both construction and operations. Construction best management practices (BMPs) would be implemented as part of the Project, including measures to minimize fugitive dust control emissions, such as watering twice per day during grading and stabilizing storage piles. The Project would comply with San Diego County Air Pollution Control District (SDAPCD) Rule 55, which requires that no visible dust is emitted beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period and would incorporate measures to minimize the track-out/carry-out of visible roadway dust. Emissions of all criteria pollutants would be below the daily thresholds during construction, and short-term construction air quality impacts would be less than significant.

Operationally, the Project would replace existing uses and would not result in a net increase in emissions that would exceed thresholds from area, energy, transportation, and stationary sources. Operational air quality impacts would be less than significant.

Development of the Project would be consistent with SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County and would not result in cumulatively considerable emissions of nonattainment air pollutants that would exceed the screening level thresholds.

The Project would not result in an increase in traffic that could result in a carbon monoxide hot spot. Construction and operation of the Project also would not result in exposure of sensitive receptors to significant quantities of toxic air contaminants. In addition, evaluation of potential odors from the Project indicated that associated impacts would be less than significant.

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# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

This report analyzes potential air quality impacts associated with the proposed 11011 Torreyana Road Project (Project) and includes an evaluation of existing conditions in the Project vicinity and assessment of potential impacts associated with Project construction and operations.

## 1.2 PROJECT LOCATION

The approximately 10-acre Project site is in the University Community Planning area in the northern portion of the City of San Diego (City), San Diego County (County), California (Figure 1, *Regional Location*). More specifically, the Project site is located at 11011 Torreyana Road (Assessor's Parcel Number 340-010-29-00) northeast of the intersection of Torreyana Road and Callan Road (Figure 2, *Aerial Photograph*).

## 1.3 PROJECT DESCRIPTION

The Project consists of the redevelopment of the current property, which is comprised of an existing 76,694 square foot (SF) research lab/office building and associated appurtenances (parking, mechanical yard buildings, landscaping). The current building, parking structure, and auxiliary buildings would be demolished, and a new 203,096 SF life science building would be constructed in its place (Figure 3, *Site Plan*). The Project also includes a subterranean parking garage. One existing driveway along Torreyana Road currently provides access to the existing uses. The Project proposes to retain the exiting driveway for site access and add another driveway on the southwest corner of the site at the intersection of Callan Road and Torreyana Road. Grading is estimated to require 117,500 cubic yards (CY) of cut and 5,400 CY of fill, for a total export quantity of 112,100 CY.

Discretionary actions required by the project include a Coastal Development Permit, a Neighborhood Development Permit, and a Site Development Permit to allow for development of the research and development building. The Project is proposed to be constructed in one phase, with construction assumed to be completed in 2027.

### 1.3.1 Construction Best Management Practices

The Project would incorporate best management practices (BMPs) during construction to reduce emissions of fugitive dust. SDAPCD Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line. SDAPCD Rule 55 requires the following:

1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

   a) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the Project or operation:

      i) track-out grates or gravel beds at each egress point;

      ii) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;

      iii) using secured tarps or cargo covering, watering, or treating of transported material; and

   b) be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only $PM_{10}$-efficient (particulate matter less than 10 microns) street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

The Project would implement the BMP control measures listed below:

- A minimum of two applications of water during grading between dozer/scraper passes;
- Paving, chip sealing, or chemical stabilization of internal roadways after completion of grading;
- Termination of grading if winds exceed 25 miles per hour (mph);
- Maintenance of a minimum soil moisture of 12 percent in all exposed surfaces;
- Stabilization of dirt storage piles by chemical binders, tarps, fencing, or other erosion control; and
- Vehicle speeds would be limited on unpaved roads to 15 mph.

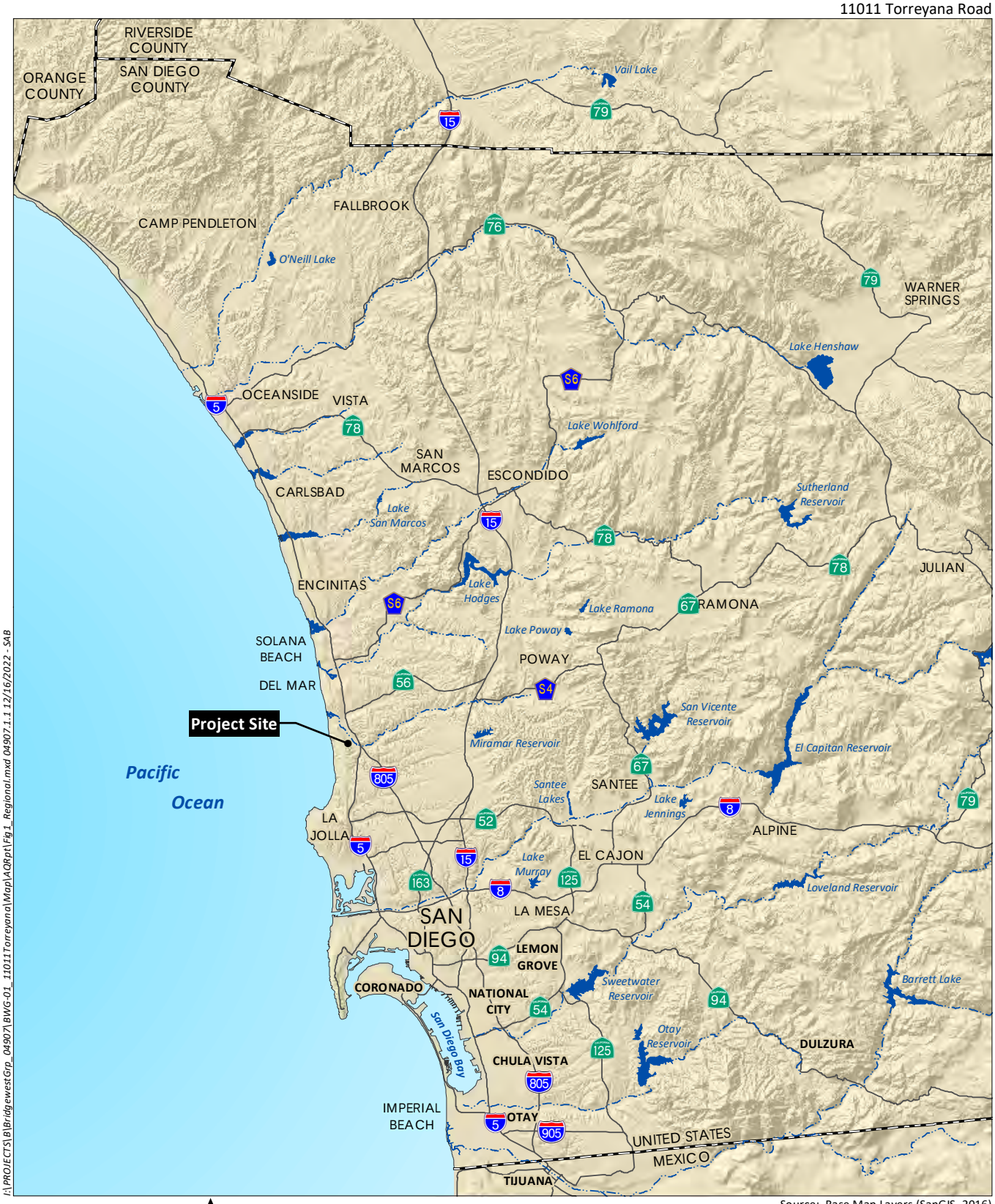
# 2.0 REGULATORY SETTING

## 2.1 CRITERIA POLLUTANTS

### 2.1.1 Pollutants of Concern

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone ($O_3$)
- Reactive Organic Gases (ROGs) or Volatile Organic Compounds (VOCs)
- Carbon Monoxide (CO)
- Nitrogen Dioxide ($NO_2$)
- Respirable Particulate Matter ($PM_{10}$) and Fine Particulate Matter ($PM_{2.5}$)
- Sulfur Dioxide ($SO_2$)
- Lead (Pb)

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Source: Base Map Layers (SanGIS, 2016)

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# Regional Location

Figure 1


Source: Aerial (NearMap, 2019)

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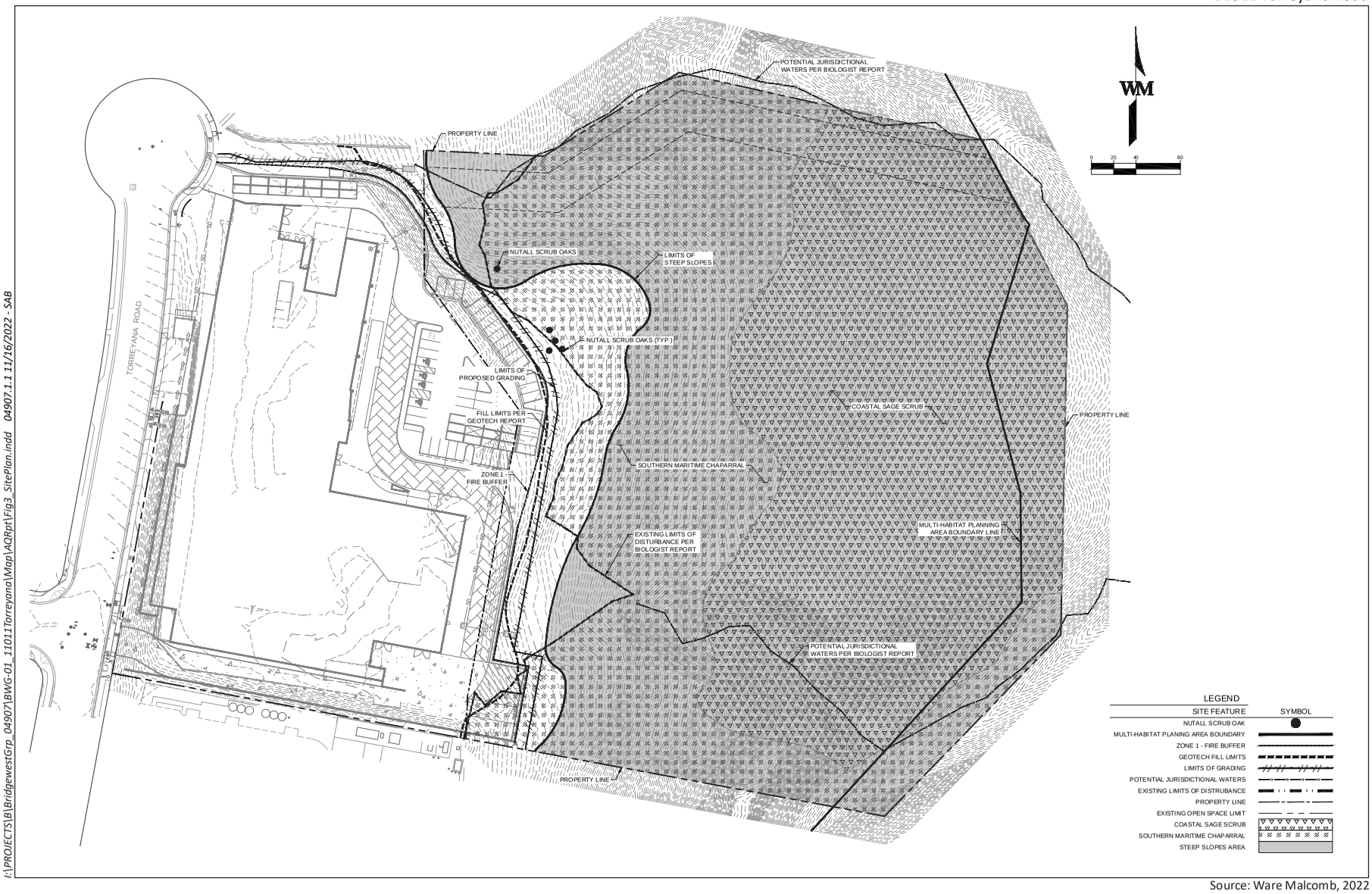
# Aerial Photograph

Figure 2

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Source: Ware Malcomb, 2022

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# Site Plan

Figure 3

The following specific descriptions of health effects for each air pollutant associated with Project construction and operation are based on information available through U.S. Environmental Protection Agency (USEPA; 2022a) and California Air Resources Board (CARB; 2022a).

**Ozone.** Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and nitrogen oxides ($NO_X$), both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

**Reactive Organic Gases.** ROGs (also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but by reactions of ROGs to form secondary pollutants such as ozone.

**Carbon Monoxide.** CO is a product of fuel combustion. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

**Nitrogen Dioxide.** $NO_2$ is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen monoxide with oxygen. $NO_2$ is a respiratory irritant and may affect those with existing respiratory illness, including asthma. $NO_2$ can also increase the risk of respiratory illness.

**Respirable Particulate Matter and Fine Particulate Matter.** $PM_{10}$ refers to particulate matter (PM) with an aerodynamic diameter of 10 microns or less. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. $PM_{10}$ and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. $PM_{10}$ and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter (DPM) is classified a carcinogen by CARB.

**Sulfur Dioxide.** $SO_2$ is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of $SO_2$ are found near large industrial sources. $SO_2$ is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to $SO_2$ can cause respiratory illness and aggravate existing cardiovascular disease.

**Lead.** Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen. Because emissions of lead are found only in projects that are permitted by the local air district, lead is not an air pollutant of concern for the proposed Project.

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for the criteria pollutants, which are discussed above. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Table 1, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988, and has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are "nonattainment areas" for that pollutant. On July 2, 2021, the San Diego Air Basin (SDAB) was classified as a severe-15 nonattainment area for the 8-hour NAAQS for ozone (USEPA 2022b). The SDAB is currently classified as a nonattainment area under the CAAQS for ozone, $PM_{10}$, and $PM_{2.5}$. The SDAB is an attainment area for the NAAQS and CAAQS for all other criteria pollutants (SDAPCD 2022).

**Table 1**
**AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | California Standards | Federal Standards Primary[1] | Federal Standards Secondary[2] |
|---|---|---|---|---|
| $O_3$ | 1 Hour | 0.09 ppm (180 µg/m$^3$) | – | – |
| | 8 Hour | 0.070 ppm (137 µg/m$^3$) | 0.070 ppm (137 µg/m$^3$) | Same as Primary |
| $PM_{10}$ | 24 Hour | 50 µg/m$^3$ | 150 µg/m$^3$ | Same as Primary |
| | AAM | 20 µg/m$^3$ | – | Same as Primary |
| $PM_{2.5}$ | 24 Hour | – | 35 µg/m$^3$ | Same as Primary |
| | AAM | 12 µg/m$^3$ | 9.0 µg/m$^3$ | 15.0 µg/m$^3$ |
| CO | 1 Hour | 20 ppm (23 mg/m$^3$) | 35 ppm (40 mg/m$^3$) | – |
| | 8 Hour | 9.0 ppm (10 mg/m$^3$) | 9 ppm (10 mg/m$^3$) | – |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m$^3$) | – | – |
| $NO_2$ | 1 Hour | 0.18 ppm (339 µg/m$^3$) | 0.100 ppm (188 µg/m$^3$) | – |
| | AAM | 0.030 ppm (57 µg/m$^3$) | 0.053 ppm (100 µg/m$^3$) | Same as Primary |
| $SO_2$ | 1 Hour | 0.25 ppm (655 µg/m$^3$) | 0.075 ppm (196 µg/m$^3$) | – |
| | 3 Hour | – | – | 0.5 ppm (1,300 µg/m$^3$) |
| | 24 Hour | 0.04 ppm (105 µg/m$^3$) | – | – |

| Pollutant | Averaging Time | California Standards | Federal Standards Primary[1] | Federal Standards Secondary[2] |
|---|---|---|---|---|
| Lead | 30-day Avg. | 1.5 µg/m$^3$ | – | – |
| | Calendar Quarter | – | 1.5 µg/m$^3$ | Same as Primary |
| | Rolling 3-month Avg. | – | 0.15 µg/m$^3$ | Same as Primary |
| Visibility Reducing Particles | 8 Hour | Extinction coefficient of 0.23 per km – visibility ≥ 10 miles | **No Federal Standards** | **No Federal Standards** |
| Sulfates | 24 Hour | 25 µg/m$^3$ | **No Federal Standards** | **No Federal Standards** |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/m$^3$) | **No Federal Standards** | **No Federal Standards** |
| Vinyl Chloride | 24 Hour | 0.01 ppm (26 µg/m$^3$) | **No Federal Standards** | **No Federal Standards** |

Source: CARB 2016; USEPA 2024

[1] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information of the data presented in this table can be found at the CARB website (www.arb.ca.gov).
$O_3$ = ozone; ppm = parts per million; µg/m$^3$ = micrograms per cubic meter; $PM_{10}$ = large particulate matter;
AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; mg/m$^3$ = milligrams per cubic meter;
$NO_2$ = nitrogen dioxide; $SO_2$ = sulfur dioxide; km= kilometer; – = No Standard.

CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the County.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The current regional air quality plan for San Diego County to attain the NAAQS is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). The Attainment Plan, which would be a revision to the state implementation plan (SIP), outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. The regional air quality plan to achieve the CAAQS for ozone is SDAPCD's 2022 Regional Air Quality Strategy (RAQS; SDAPCD 2023). These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of their respective general plans. Projects which are consistent with the growth

assumptions used in the Attainment Plan and RAQS and do not conflict with the control measures in the Attainment Plan or RAQS, and which do not result in criteria pollutant and precursor emissions in excess of the thresholds adopted by the City (as described in Section 4.2, below), would not hinder the goal of the Attainment Plan or RAQS to bring the SDAB into compliance with the NAAQS and CAAQS for the protection of public health.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The current federal and state attainment status for San Diego County is presented in Table 2, *San Diego Air Basin Attainment Status*.

**Table 2**
**SAN DIEGO AIR BASIN ATTAINMENT STATUS**

| Criteria Pollutant | Federal Designation | State of California Designation |
|---|---|---|
| Ozone (1-hour) | No Federal Standard | Nonattainment |
| Ozone (8-hour) | Nonattainment | Nonattainment |
| Coarse Particulate Matter ($PM_{10}$) | Unclassifiable[1] | Nonattainment |
| Fine Particulate Matter ($PM_{2.5}$) | Attainment | Nonattainment[2] |
| Carbon Monoxide (CO) | Attainment | Attainment |
| Nitrogen Dioxide ($NO_2$) | Attainment | Attainment |
| Lead | Attainment | Attainment |
| Sulfur Dioxide ($SO_2$) | Attainment | Attainment |
| Sulfates | No Federal Standard | Attainment |
| Hydrogen Sulfide | No Federal Standard | Unclassified |
| Visibility Reducing Particles | No Federal Standard | Unclassified |

Source: SDAPCD 2022

1 At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

2 While data collected does meet the requirements for designation of attainment with federal $PM_{2.5}$ standards, the data completeness requirements for state $PM_{2.5}$ standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources.

## 2.2 TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Public exposure to TACs is a significant environmental health issue in California.

## 2.3 ODORS

The State of California Health and Safety Code Sections 41700 and 41705 and SDAPCD Rule 51 (commonly referred to as public nuisance law) prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance

to the public health or damage to property. The provisions of these regulations do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor complaints from a "considerable" number of persons or businesses in the area will be considered to be a significant, adverse odor impact.

The San Diego Municipal Code also addresses odor impacts at Chapter 14, Article 2, Division 7 paragraph 142.0710, "Air Contaminant Regulations," which states:

> Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or cause soiling, shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.

# 3.0 EXISTING CONDITIONS

## 3.1 CLIMATE AND METEOROLOGY

The climate in southern California, including the SDAB, is controlled by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity.

The predominant wind direction in the vicinity of Project site is from the northwest and the average wind speed is 4.7 miles per hour (mph; Iowa Environmental Mesonet 2022). The annual average maximum temperature in the Project area is approximately 67°F, and the annual average minimum temperature is approximately 56°F. Total precipitation in the Project area averages approximately 10 inches annually. Precipitation occurs primarily during the winter and infrequently during the summer (Western Regional Climate Center 2016).

Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and $NO_2$ react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to CO and $NO_2$ emissions. High $NO_2$ levels usually occur during autumn or winter, on days with summer-like conditions.

# 3.2 EXISTING AIR QUALITY

## 3.2.1 Criteria Pollutants

### 3.2.1.1 Attainment Designations

Attainment designations are discussed in Section 2.1.1 and shown in Table 2. The SDAB is classified as a nonattainment area under the NAAQS for 8-hour ozone and as a nonattainment area under the CAAQS for 1-hour ozone, 8-hour ozone, $PM_{10}$, and $PM_{2.5}$. The SDAB is an attainment area for all other criteria pollutants.

### 3.2.1.2 Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the Project site for which recent data is available is the San Diego-Kearny Villa Road monitoring station located near Marine Corps Air Station Miramar, approximately 7.7 miles southeast of the Project site. Air quality data for this monitoring station are shown in Table 3, *Air Quality Monitoring Data.*

**Table 3**
**AIR QUALITY MONITORING DATA**

| Pollutant | 2019 | 2020 | 2021 |
|---|---|---|---|
| **Ozone ($O_3$)** | | | |
| Maximum 1-hour concentration (ppm) | 0.083 | 0.123 | 0.095 |
| Days above 1-hour state standard (>0.09 ppm) | 0 | 2 | 1 |
| Maximum 8-hour concentration (ppm) | 0.075 | 0.102 | 0.071 |
| Days above 8-hour state standard (>0.070 ppm) | 1 | 10 | 1 |
| Days above 8-hour federal standard (>0.070 ppm) | 1 | 10 | 1 |
| **Carbon Monoxide (CO)** | | | |
| Maximum 8-hour concentration (ppm) | * | * | * |
| Days above state or federal standard (>9.0 ppm) | * | * | * |
| **Respirable Particulate Matter ($PM_{10}$)** | | | |
| Maximum 24-hour concentration (µg/$m^3$) | * | * | * |
| Days above state standard (>50 µg/$m^3$) | * | * | * |
| Days above federal standard (>150 µg/$m^3$) | * | * | * |
| **Fine Particulate Matter ($PM_{2.5}$)** | | | |
| Maximum 24-hour concentration (µg/$m^3$) | 16.2 | 47.5 | 20.9 |
| Days above federal standard (>35 µg/$m^3$) | 0 | 2 | 0 |
| **Nitrogen Dioxide ($NO_2$)** | | | |
| Maximum 1-hour concentration (ppm) | 0.046 | 0.052 | 0.060 |
| Days above state 1-hour standard (>0.18 ppm) | 0 | 0 | 0 |

Source: CARB 2022b
ppm = parts per million, µg/$m^3$ = micrograms per cubic meter
* Insufficient data available

From 2019 to 2021, monitoring data at the San Diego-Kearny Villa Road station show acceptable levels of $NO_2$. Insufficient data were available for $PM_{10}$ and CO concentrations. The state and federal 8-hour ozone standards were violated once in 2019, ten times in 2020, and one time in 2021. The state 1-hour ozone standard was violated twice in 2020 and once in 2021. The federal 24-hour $PM_{2.5}$ standard was violated twice in 2020.

#### 3.2.1.3 Existing Project Site Emissions

The Project site is currently developed with a 76,694 SF research and development building. Existing emissions at the Project site occur in association with the on-site uses, specifically mobile source emissions from vehicle trips to and from the site; area source emissions generated by maintenance equipment, landscape equipment, and use of products that contain solvents; stationary source emissions generated by the on-site emergency generator testing; and energy source emissions from natural gas usage. According to the Local Mobility Analysis prepared for the Project by Linscott, Law & Greenspan Engineers (LLG; 2023), the existing on-site use generates 614 average daily trips (ADT). Model calculated defaults for area sources and historical utility bills for energy sources were used to estimate existing emissions. The emergency generator size and usage time was provided by the applicant, as described further in Section 4.1.2. Table 4, *Estimated Existing Daily Operational Emissions,* shows the model-calculated emissions associated with the existing uses at the Project site.

**Table 4**
**ESTIMATED EXISTING DAILY OPERATIONAL EMISSIONS**

| Category | Pollutant Emissions (pounds per day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| Area | 1.7 | - | - | - | - | - |
| Energy | <0.1 | 0.7 | 0.6 | <0.1 | 0.1 | 0.1 |
| Mobile | 2.3 | 1.6 | 16.2 | <0.1 | 3.7 | 1.0 |
| Stationary | 3.3 | 14.7 | 8.4 | <0.1 | 0.5 | 0.5 |
| **Maximum Daily Emissions[1]** | **7.3** | **17.0** | **25.1** | **0.1** | **4.2** | **1.5** |

Source: CalEEMod (output data is provided in Appendix A)

[1] Totals may not sum due to rounding.

VOC = volatile organic compound; $NO_X$ = nitrogen oxides; CO = carbon monoxide; $SO_2$ = sulfur dioxide; $PM_{10}$ = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

## 3.3 SENSITIVE RECEPTORS

The City's California Environmental Quality Act (CEQA) Significance Determination Thresholds (City 2022) indicate that a sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant compared to the population at large. Sensitive receptors in proximity to localized CO sources, TACs, or odors are of particular concern. Examples of sensitive receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities. The nearest sensitive receptors to the Project site are a hotel and golf course located west of North Torrey Pines Road, approximately 0.3 mile from the Project site. As such, there are no sensitive receptors in the vicinity of the Project site that would be affected by the Project.

# 4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

## 4.1 METHODOLOGY

Criteria pollutant emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1 (California Air Pollution Control Officers Association [CAPCOA] 2022). CalEEMod is a computer model used to estimate criteria air pollutant emissions resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by CAPCOA with the input of several air quality management and pollution control districts. The input data and subsequent construction and operation emission estimates for the proposed Project are discussed below. CalEEMod output files are included in Appendix A.

### 4.1.1 Construction Emissions

As described above, construction emissions are assessed using the CalEEMod, Version 2022.1. CalEEMod contains OFFROAD2011 and EMFAC2021 emission factors from CARB's models for off-road equipment and on-road vehicles, respectively. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities of earth and debris to be moved. The model calculates emissions of CO, $PM_{10}$, $PM_{2.5}$, $SO_2$, and the ozone precursors VOC and $NO_X$.

Construction input data for CalEEMod include, but are not limited to, (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the Project area. The analysis assessed maximum daily emissions from individual construction activities associated with Project implementation, which are expected to include site preparation, demolition, grading, utility undergrounding, building construction, paving, and architectural coating.

Construction would require heavy equipment during these various construction activities. Construction equipment estimates are based on assumptions provided by the construction contractor, Project applicant, and model defaults. Table 5, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

**Table 5**
**CONSTRUCTION EQUIPMENT ASSUMPTIONS**

| Construction Activity | Equipment | Number | Usage Hours | Horsepower |
|---|---|---|---|---|
| Site Preparation | Excavators | 1 | 8 | 36 |
| | Off-Highway Trucks | 1 | 8 | 376 |
| | Tractors/Loaders/Backhoes | 1 | 8 | 84 |
| Demolition | Concrete/Industrial Saws | 1 | 8 | 33 |
| | Excavators | 2 | 8 | 36 |
| | Off-Highway Tractors | 1 | 8 | 38 |
| | Off-Highway Trucks | 1 | 8 | 376 |
| | Rubber Tired Dozers | 2 | 8 | 367 |
| | Sweepers/Scrubbers | 1 | 8 | 36 |
| Grading | Bore/Drill Rigs | 2 | 8 | 83 |
| | Concrete/Industrial Saws | 4 | 8 | 33 |
| | Excavators | 2 | 8 | 36 |
| | Off-Highway Trucks | 1 | 8 | 376 |
| | Pumps | 1 | 8 | 11 |
| | Rubber Tired Dozers | 1 | 8 | 367 |
| | Sweepers/Scrubbers | 1 | 8 | 36 |
| | Tractors/Loaders/Backhoes | 2 | 8 | 84 |
| Utility Undergrounding | Plate Compactors | 2 | 8 | 8 |
| | Tractors/Loaders/Backhoes | 2 | 8 | 84 |
| Building Construction | Aerial Lifts | 36 | 2 | 46 |
| | Air Compressors | 2 | 8 | 37 |
| | Cement and Mortar Mixers | 10 | 8 | 10 |
| | Concrete/Industrial Saws | 2 | 8 | 33 |
| | Cranes | 1 | 7 | 367 |
| | Excavators | 1 | 8 | 36 |
| | Forklifts | 2 | 8 | 82 |
| | Off-Highway Trucks | 1 | 8 | 376 |
| | Other Construction Equipment | 1 | 8 | 82 |
| | Plate Compactors | 2 | 8 | 8 |
| | Pumps | 1 | 8 | 11 |
| | Tractors/Loaders/Backhoes | 3 | 7 | 84 |
| | Trenchers | 2 | 8 | 40 |
| | Welders | 2 | 8 | 46 |
| Architectural Coating | Air Compressor | 1 | 6 | 37 |
| Paving | Cement and Mortar Mixers | 4 | 8 | 10 |
| | Graders | 1 | 8 | 148 |
| | Off-Highway Tractors | 1 | 8 | 38 |
| | Pavers | 1 | 8 | 81 |
| | Pumps | 1 | 8 | 11 |
| | Rollers | 1 | 8 | 36 |
| | Rubber Tired Loaders | 1 | 8 | 150 |
| | Sweepers/Scrubbers | 1 | 8 | 36 |

Source: CalEEMod (complete model input provided in Appendix A)

The construction schedule was determined by input provided by the construction contractor. Table 6, *Anticipated Construction Schedule*, shows the anticipated construction schedule that was assumed for modeling purposes.

**Table 6**
**ANTICIPATED CONSTRUCTION SCHEDULE**

| Construction Activity | Construction Period Start | Construction Period End | Number of Working Days |
|---|---|---|---|
| Site Preparation | 3/1/2025 | 3/14/2025 | 10 |
| Demolition | 3/15/2025 | 5/30/2025 | 55 |
| Grading | 6/1/2025 | 8/29/2025 | 65 |
| Utility Undergrounding | 6/1/2025 | 7/11/2025 | 30 |
| Building Construction | 9/1/2025 | 5/31/2027 | 456 |
| Architectural Coating | 2/1/2027 | 5/31/2027 | 86 |
| Paving | 6/1/2027 | 8/23/2027 | 60 |

Project construction would involve the demolition of 76,694 SF of existing structures, 26,630 SF of concrete, and 44,550 SF of asphalt; export of 4,920 CY of vegetation material during site preparation; and 117,500 CY of cut and 5,400 CY of fill for a net export of 112,100 CY of soil material during grading. The export of demolition materials and cut soil would require the use of on-road haul trucks that would generate air pollutant emissions.

The quantity, duration, and the intensity of construction activity influence the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a large amount of construction is occurring in an intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod; and (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, and other selected emissions reduction measures. Construction emission calculations presented herein assume the implementation of standard dust control measures listed in Section 1.3.1, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 mph.

The Project would also comply with the requirements of SDAPCD Rule 67 by using low-VOC coatings with a VOC content of 50 grams per liter for building coating and 100 grams per liter for parking lot coatings. The quantities of coatings that would be applied to the interior and exterior of the new buildings were estimated according to CalEEMod default assumptions.

### 4.1.2 Operational Emissions

Operational emissions associated with the existing use of the Project site and the Project's development of a new research and development building were estimated using CalEEMod. Operational sources of emissions include area, energy, transportation, and stationary. Operational emissions from area sources include engine emissions from landscape maintenance equipment and VOC emissions from repainting of buildings and consumer products. As discussed above, the Project would use low-VOC coatings in accordance with SDAPCD Rule 67. Energy source emissions include the combustion of natural gas for heating and hot water. The model-calculated default for natural gas usage was used for the emissions estimates.

Operational emissions from mobile sources are associated with Project-generated vehicle trips. According to the Local Mobility Analysis prepared for the Project by LLG (2023), the Project would generate a total of 1,625 ADT, resulting in a net increase of 1,011 ADT compared to existing conditions. CalEEMod default vehicle speeds, trip purpose, and trip distances were applied to the trips. Model output data sheets are included in Appendix A.

The existing Project site includes a 1,000-horsepower backup generator. The Project is assumed to include three 1,000-horsepower backup generators, scaled for the increased building size. According to the Project applicant, the generators are tested once per month for 30 minutes and once per year for two hours, for a total of 7.5 hours of operating time per year for routine testing.

## 4.2 SIGNIFICANCE CRITERIA

The City (2022) has approved guidelines for determining significance based on Appendix G of the CEQA Guidelines, which provide guidance that a project would have a significant air quality environmental impact if it would:

(1) Conflict with or obstruct implementation of the Attainment Plan or applicable portions of the SIP;

(2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

(4) Expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations including air toxins such as diesel particulates; or

(5) Create objectionable odors affecting a substantial number of people; or

(6) Release substantial quantities of air contaminants beyond the boundaries of the premises upon which the stationary source emitting the contaminants is located.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, (b) result in a cumulatively considerable net increase of $PM_{10}$, $PM_{10}$, or exceed quantitative thresholds for ozone precursors ($NO_X$ and VOCs), or (c) have an adverse effect on human health, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rules 20.2 and 20.3 for the preparation of Air Quality Impact Assessments. In the absence of SDAPCD adopted thresholds for VOCs, the City's screening threshold of 137 pounds per day or 15 tons per year is used (City 2022).

The screening criteria were developed by SDAPCD with the purpose of attaining the NAAQS and CAAQS. The NAAQS and CAAQS, as discussed in Section 2.1.1, identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. Therefore, for CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality or have an adverse effect on human health. The screening thresholds are included in Table 7, *Screening-Level Thresholds for Air Quality Impact Analysis*.

**Table 7**
**SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS**

| Pollutant | | Total Emissions | |
|---|---|---|---|
| **Construction Emissions (Pounds per Day)** | | | |
| Respirable Particulate Matter ($PM_{10}$) | | 100 | |
| Fine Particulate Matter ($PM_{2.5}$) | | 67 | |
| Oxides of Nitrogen ($NO_X$) | | 250 | |
| Oxides of Sulfur ($SO_X$) | | 250 | |
| Carbon Monoxide (CO) | | 550 | |
| Volatile Organic Compounds (VOCs) | | 137 | |
| **Operational Emissions** | | | |
| | **Pounds per Hour** | **Pounds per Day** | **Tons per Year** |
| Respirable Particulate Matter ($PM_{10}$) | --- | 100 | 15 |
| Fine Particulate Matter ($PM_{2.5}$) | --- | 67 | 10 |
| Oxides of Nitrogen ($NO_X$) | 25 | 250 | 40 |
| Oxides of Sulfur ($SO_X$) | 25 | 250 | 40 |
| Carbon Monoxide (CO) | 100 | 550 | 100 |
| Lead and Lead Compounds | --- | 3.2 | 0.6 |
| Volatile Organic Compounds (VOC) | --- | 137 | 15 |
| **Toxic Air Contaminant Emissions** | | | |
| Excess Cancer Risk | 1 in 1 million<br>10 in 1 million<br>with T-BACT | | |
| Non-Cancer Hazard | 1.0 | | |

Source: City 2022
T-BACT = Toxics-Best Available Control Technology

Per the City's Significance Determination Thresholds, determining the significance of potential odor impacts should be based on what is known about the quantity of the odor compound(s) that would result from the Project's proposed use(s), the type of neighboring uses potentially affected, the distance(s) between the Project's point source(s) and the neighboring uses such as sensitive receptors, and the resultant concentrations at receptors.

# 5.0 IMPACT ANALYSIS

This section evaluates potential direct impacts of the proposed Project related to air pollutant emissions.

## 5.1 CONSISTENCY WITH AIR QUALITY PLANS

The SDAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the Attainment Plan, RAQS, and SIP, prepared by the SDAPCD for the region. Both the Attainment Plan and RAQS are based on SANDAG population projections, as well as land use designations and population projections included in general plans for cities located within the County. Population growth is typically associated with the construction of residential units or large employment centers.

Projects that propose development that is consistent with the growth anticipated by the local jurisdictions' general plans would be consistent with the Attainment Plan. If a project proposes development that is less intensive than anticipated within the General Plan, the project would likewise be consistent with the Attainment Plan. If a project proposes development that is greater than that anticipated in the General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project would conflict with the Attainment Plan and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine whether the project and the surrounding projects exceed the growth projections used in the Attainment Plan for the specific subregional area.

The Project site has a City General Plan land use designation of Industrial Employment and a University Community Plan generalized land use designation of Industrial with a specific designation of Scientific Research within the Torrey Pines Subarea #1 of the University Community Plan. The Project would maintain the existing research and development use of the site and would not involve an amendment to the General Plan or University Community Plan. As the Project would be consistent with the General Plan and University Community Plan, it would not result in development that is greater than that anticipated in the General Plan or SANDAG's growth projections upon which the Attainment Plan and RAQS are based. Furthermore, as detailed in Section 5.2, below, the Project would not result in a significant air quality impact with regards to construction- and operation-related emissions of ozone precursors or criteria air pollutants. The Project would also comply with existing and new rules and regulations as they are implemented by the SDAPCD, CARB, and/or USEPA related to emissions generated during construction. Impacts associated with conformance to regional air quality plans would be less than significant.

## 5.2 CONFORMANCE TO FEDERAL AND STATE AIR QUALITY STANDARDS

The Project would generate criteria pollutants in the short-term during construction and the long-term during operation. To determine whether a project would result in emissions that would violate an air quality standard, contribute to an existing or projected air quality violation, or have an adverse effect on human health, the Project's emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD and City (as shown in Table 7).

### 5.2.1 Construction

The Project's construction emissions were estimated using CalEEMod as described in Section 4.1.1. Project-specific input was based on information provided by the construction contractor, Project applicant, and default model settings to estimate conservative conditions. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A.

The results of the calculations for Project construction are shown in Table 8, *Estimated Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds. Refer to Appendix A for detailed emissions calculations.

**Table 8**
**ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS**

| Construction Phase and Year | Pollutant Emissions (pounds per day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| Site Preparation – 2025 | 0.8 | 10.7 | 8.4 | <0.1 | 1.5 | 0.6 |
| Demolition – 2025 | 3.2 | 31.3 | 27.2 | 0.1 | 4.0 | 1.6 |
| Grading – 2025 | 3.7 | 59.4 | 43.5 | 0.2 | 11.3 | 4.7 |
| Utility Undergrounding – 2025 | 0.3 | 2.7 | 4.6 | <0.1 | 0.2 | 0.1 |
| Building Construction – 2025 | 4.6 | 38.1 | 47.6 | 0.1 | 2.8 | 1.5 |
| Building Construction – 2026 | 4.4 | 36.8 | 47.0 | 0.1 | 2.7 | 1.4 |
| Building Construction – 2027 | 4.3 | 35.8 | 46.5 | 0.1 | 2.6 | 1.3 |
| Architectural Coatings – 2027 | 8.5 | 0.9 | 2.3 | <0.1 | 0.3 | 0.1 |
| Paving – 2027 | 1.6 | 11.4 | 17.4 | <0.1 | 0.8 | 0.5 |
| **Maximum Daily Emissions[1]** | **12.8** | **62.2** | **48.8** | **0.2** | **11.5** | **4.8** |
| *SDAPCD/City Thresholds* | *137* | *250* | *550* | *250* | *100* | *67* |
| ***Significant Impact?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: CalEEMod (output data is provided in Appendix A)

[1] Maximum daily emissions of VOC and CO would occur during concurrent building construction and architectural coatings in 2027 and maximum daily emissions of $NO_X$, $SO_X$, $PM_{10}$, and $PM_{2.5}$ would occur during concurrent grading and utility undergrounding in 2025.

VOC = volatile organic compound; $NO_X$ = nitrogen oxides; CO = carbon monoxide; $SO_X$ = sulfur oxides;
$PM_{10}$ = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 8, emissions of all criteria pollutants and ozone precursors from Project construction would be below the SDAPCD's significance thresholds. Therefore, direct impacts from criteria pollutants generated during Project construction would be less than significant.

### 5.2.2 Operation

The Project's net increase in operational emissions over existing conditions was estimated using CalEEMod as described in Section 4.1.2. Operational emissions calculations and model outputs are provided in Appendix A. Table 9, *Estimated Net Daily Operational Emissions*, presents the summary of the net increase in operational emissions for the Project.

**Table 9**
**ESTIMATED NET DAILY OPERATIONAL EMISSIONS**

| Category | Pollutant Emissions (pounds per day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| Area | 7.4 | 0.1 | 17.1 | <0.1 | <0.1 | <0.1 |
| Energy | 0.1 | 1.7 | 1.5 | <0.1 | 0.1 | 0.1 |
| Mobile | 6.0 | 4.3 | 42.8 | 0.1 | 9.7 | 2.5 |
| Stationary | 9.8 | 44.0 | 25.1 | <0.1 | 1.4 | 1.4 |
| **Total Daily Emissions[1]** | **23.3** | **50.1** | **86.5** | **0.2** | **11.4** | **4.1** |
| Existing Daily Emissions | 7.3 | 17.0 | 25.1 | 0.1 | 4.2 | 1.5 |
| **Net Daily Emissions[1]** | **16.0** | **33.1** | **61.4** | **0.1** | **7.1** | **2.6** |
| *SDAPCD/City Thresholds* | *137* | *250* | *550* | *250* | *100* | *67* |
| ***Significant Impact?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals and differences may not compute due to rounding.
VOC = volatile organic compound; $NO_X$ = nitrogen oxides; CO = carbon monoxide; $SO_2$ = sulfur dioxide;
$PM_{10}$ = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 9, the net increase in emissions of all criteria pollutants and ozone precursors associated with operation of the Project would be below the daily thresholds. Therefore, operation of the Project would not result in a significant impact on air quality.

## 5.3 CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

The region is a federal and/or state nonattainment area for $PM_{10}$, $PM_{2.5}$, and ozone. The Project would contribute particulates and the ozone precursors VOC and $NO_X$ to the area during Project construction and operation. As described in Section 5.2, emissions during both construction and operations would not exceed regional thresholds and would not violate an air quality standard or contribute to an existing or projected air quality violation. Therefore, emissions would not be cumulatively considerable, and impacts would be less than significant.

## 5.4 IMPACTS TO SENSITIVE RECEPTORS

Impacts to sensitive receptors are typically analyzed for operational period CO hotspots and exposure to TACs. An analysis of the Project's potential to expose sensitive receptors to these pollutants is provided below.

### 5.4.1 Carbon Monoxide Hotspots

Localized air quality effects occur when emissions from vehicular traffic increase in local areas. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. If a project generates

vehicular traffic that increases average delay at signalized intersections operating at Level of Service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E of F with the project, the project could result in significant CO hotspot-related effects to sensitive receptors.

According to the Local Mobility Analysis prepared for the Project (LLG 2023), two intersections, Genesee Avenue at the Interstate- (I-) 5 Southbound Ramps and Genesee Avenue at the I-5 Northbound ramps, under the Near-Term (2026) With Project scenario would operate at LOS F and experience an increase in delay from the Project. As discussed in the Local Mobility Analysis, potential intersection improvements that the Project could implement would result in increased delays at other nearby intersections and were not recommended for implementation. To provide a conservative analysis related to CO hotspots, it is assumed that intersection improvements would not be implemented prior to Project opening, and these two intersections would operate at LOS F and experience increased delays with the Project. Therefore, consistent with the CO Protocol, these findings indicate that further screening is required. Although the SDAPCD has not, various air quality agencies in California have developed conservative screening methods. The screening methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD; 2009) are used for this project because ambient CO concentrations within the SMAQMD jurisdiction are higher than for the project area, as measured by CARB, resulting in a more conservative analysis. The SMAQMD states that a project will not result in a significant impact to local CO concentrations if it meets the below criteria:

- The affected intersection carries less than 31,600 vehicles per hour;
- The project does not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other location where horizontal or vertical mixing of air would be limited; and
- The affected intersection, which includes a mix of vehicle types, is not anticipated to be different from the county average, as identified by EMFAC or CalEEMod models.

The traffic volumes at the affected intersections under the Near-Term (2026) With Project scenario are estimated to be the following during the highest peak hour:

1. 6,322 vehicles (AM peak hour) at Genesee Avenue and I-5 Southbound Ramps
2. 5,993 vehicles (AM peak hour) at Genesee Avenue and I-5 Northbound Ramps

These intersections are not located in a tunnel, urban canyon, or similar area that would limit the mixing of air, nor is the vehicle mix anticipated to be different than the San Diego County average. There would be no potential for a CO hot spot or exceedance of State or Federal CO ambient air quality standard because the maximum traffic volumes would be less than the 31,600 vehicles per hour screening level; because the congested intersections are located where mixing of air would not be limited; and because the vehicle mix would not be uncommon. Therefore, air quality impacts related to the exposure of sensitive receptors to substantial pollutant concentrations related to intersection operations would be less than significant.

### 5.4.2 Exposure to Toxic Air Contaminants

#### 5.4.2.1 Construction

Diesel engines emit a complex mixture of air pollutants, including gaseous material and DPM. DPM emissions would be released from the on-site construction equipment associated with the Project. CARB has declared that DPM from diesel engine exhaust is a TAC. Additionally, the Office of Environmental Health Hazard Assessment has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects. For this reason, although other pollutants would be generated, DPM would be the primary TAC of concern.

The dose to which 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 duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with a project.

There would be few pieces of off-road, heavy-duty diesel equipment operating at a given time during Project construction, and the construction period would be short, especially when compared to 30 years. Further, construction equipment would not be operating in a single location throughout the construction period with the potential to affect a given receptor for the entire duration of Project construction. As shown above in Table 8, the highest daily emission of $PM_{10}$ (which includes equipment emissions of DPM) during construction would be approximately 12 pounds per day during the concurrent grading and utility undergrounding phases, which would be well below the 100 pounds per day significance level threshold. As discussed above in Section 2.1.1, these significance level thresholds were developed with the purpose of attaining the NAAQS and CAAQS, which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. Combined with the highly dispersive properties of DPM, construction-related emissions would not expose sensitive receptors to substantial emissions of TACs. Impacts from construction emissions would be less than significant.

#### 5.4.2.2 Operation

CARB siting recommendations within the *Air Quality and Land Use Handbook* suggest a detailed health risk assessment should be conducted for sensitive receptors within 1,000 feet of a warehouse distribution center, within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet of a typical gas dispensing facilities, or within 300 feet of a dry cleaning facility that uses perchloroethylene, among other siting recommendations (CARB 2005). The Project does not include these types of sources and would not represent a substantial source of TACs.

The Project, as a research and development facility, may include laboratory uses that could involve operations with the potential to lead to TAC vapor emissions; however, such operations would be performed under fume hoods that would function to capture emissions at the source, dilute the emissions in the hood, and then expel the emissions where they can disperse in the atmosphere. Use of

the fume hoods would minimize TAC-related risk to both on-site and off-site receptors. As such, impacts are considered less than significant.

## 5.5 ODORS

As discussed above in Section 2.3, the State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line of the Project site will be considered a significant odor impact.

The Project could produce odors during proposed construction activities from construction equipment exhaust, application of asphalt, and the application of architectural coatings; however, standard construction practices would minimize the odor emissions and their associated impacts. Furthermore, odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of the respective phase of construction. Accordingly, the proposed Project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

During Project operation, the temporary storage of refuse could be a potential source of odor; however, Project-generated refuse is required to be stored in covered containers and removed at regular intervals in compliance with the City's Municipal Code solid waste regulations, thereby precluding significant odor impacts. Furthermore, the proposed Project would be required to comply with the SDAPCD Rule 51 which prohibits the discharge of odorous emissions that would create a public nuisance. As such, long-term operation of the proposed Project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

## 5.6 OFF-SITE POLLUTANTS

As described in Section 4.1.2, the Project proposes the use of backup generator power, and is assumed to require three 1,000-horsepower backup generators powered by diesel. The generators are tested once per month for 30 minutes and once per year for two hours, for a total of 7.5 hours of operating time per year for routine testing. The maximum daily operational emissions calculated in CalEEMod consider the use of these generators for two hours per day, as this is the maximum daily testing time each year. Therefore, the operational emissions presented in Table 9 present a conservative daily scenario for emissions resulting from stationary sources at the Project site. As shown in Table 9, air contaminants released by stationary sources and the Project as a whole, would not exceed SDAPCD thresholds. Therefore, the Project would not release substantial quantities of air contaminants beyond the boundaries of the Project site and impacts would be less than significant.

# 6.0 CONCLUSION

The proposed Project would not result in significant impacts related to air quality from construction or operations, and no mitigation would be required.

# 7.0 LIST OF PREPARERS

| | |
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# Appendix A

## CalEEMod Outputs

# 11011 Torreyana Road - Existing Use Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 11011 Torreyana Road - Existing Use |
| Operational Year | 2028 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.60 |
| Precipitation (days) | 15.4 |
| Location | 32.90557634362813, -117.23782224803956 |
| County | San Diego |
| City | San Diego |
| Air District | San Diego County APCD |
| Air Basin | San Diego |
| TAZ | 6902 |
| EDFZ | 12 |
| Electric Utility | San Diego Gas & Electric |
| Gas Utility | San Diego Gas & Electric |
| App Version | 2022.1.1.21 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| Research & Development | 76.7 | 1000sqft | 1.76 | 76,700 | — | — | — | — |

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

No measures selected

# 2. Emissions Summary

## 2.4. Operations Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 6.13 | 7.32 | 16.8 | 25.1 | 0.06 | 0.56 | 3.65 | 4.21 | 0.56 | 0.93 | 1.49 | 6.79 | 6,736 | 6,743 | 1.13 | 0.19 | 13.2 | 6,841 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 6.10 | 7.27 | 17.0 | 24.2 | 0.06 | 0.56 | 3.65 | 4.21 | 0.56 | 0.93 | 1.49 | 6.79 | 6,554 | 6,560 | 1.14 | 0.20 | 2.25 | 6,651 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.81 | 3.37 | 1.96 | 11.5 | 0.03 | 0.08 | 2.58 | 2.66 | 0.07 | 0.65 | 0.73 | 6.79 | 3,789 | 3,796 | 1.01 | 0.14 | 5.44 | 3,869 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.33 | 0.62 | 0.36 | 2.10 | 0.01 | 0.01 | 0.47 | 0.48 | 0.01 | 0.12 | 0.13 | 1.12 | 627 | 628 | 0.17 | 0.02 | 0.90 | 640 |

## 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mobile | 2.46 | 2.26 | 1.49 | 16.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 4,111 | 4,111 | 0.19 | 0.15 | 11.3 | 4,173 |
| Area | — | 1.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 944 | 944 | 0.18 | 0.02 | — | 954 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Stationary | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |
| Total | 6.13 | 7.32 | 16.8 | 25.1 | 0.06 | 0.56 | 3.65 | 4.21 | 0.56 | 0.93 | 1.49 | 6.79 | 6,736 | 6,743 | 1.13 | 0.19 | 13.2 | 6,841 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 2.42 | 2.22 | 1.63 | 15.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 3,929 | 3,929 | 0.20 | 0.16 | 0.29 | 3,983 |
| Area | — | 1.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 944 | 944 | 0.18 | 0.02 | — | 954 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Stationary | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |
| Total | 6.10 | 7.27 | 17.0 | 24.2 | 0.06 | 0.56 | 3.65 | 4.21 | 0.56 | 0.93 | 1.49 | 6.79 | 6,554 | 6,560 | 1.14 | 0.20 | 2.25 | 6,651 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.71 | 1.56 | 1.15 | 10.9 | 0.03 | 0.02 | 2.58 | 2.60 | 0.02 | 0.65 | 0.67 | — | 2,826 | 2,826 | 0.14 | 0.12 | 3.48 | 2,867 |
| Area | — | 1.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 944 | 944 | 0.18 | 0.02 | — | 954 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stationar | 0.04 | 0.03 | 0.15 | 0.09 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 17.3 | 17.3 | < 0.005 | < 0.005 | 0.00 | 17.3 |
| Total | 1.81 | 3.37 | 1.96 | 11.5 | 0.03 | 0.08 | 2.58 | 2.66 | 0.07 | 0.65 | 0.73 | 6.79 | 3,789 | 3,796 | 1.01 | 0.14 | 5.44 | 3,869 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.31 | 0.29 | 0.21 | 1.98 | 0.01 | < 0.005 | 0.47 | 0.47 | < 0.005 | 0.12 | 0.12 | — | 468 | 468 | 0.02 | 0.02 | 0.58 | 475 |
| Area | — | 0.32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.01 | 0.01 | 0.12 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 156 | 156 | 0.03 | < 0.005 | — | 158 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 0.60 | 0.26 | 0.87 | 0.06 | < 0.005 | — | 2.87 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 0.52 | 0.00 | 0.52 | 0.05 | 0.00 | — | 1.82 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.32 | 0.32 |
| Stationar y | 0.01 | 0.01 | 0.03 | 0.02 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 2.86 | 2.86 | < 0.005 | < 0.005 | 0.00 | 2.87 |
| Total | 0.33 | 0.62 | 0.36 | 2.10 | 0.01 | 0.01 | 0.47 | 0.48 | 0.01 | 0.12 | 0.13 | 1.12 | 627 | 628 | 0.17 | 0.02 | 0.90 | 640 |

# 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Researc h & Development | 2.46 | 2.26 | 1.49 | 16.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 4,111 | 4,111 | 0.19 | 0.15 | 11.3 | 4,173 |
| Total | 2.46 | 2.26 | 1.49 | 16.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 4,111 | 4,111 | 0.19 | 0.15 | 11.3 | 4,173 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 2.42 | 2.22 | 1.63 | 15.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 3,929 | 3,929 | 0.20 | 0.16 | 0.29 | 3,983 |
| Total | 2.42 | 2.22 | 1.63 | 15.2 | 0.04 | 0.03 | 3.65 | 3.68 | 0.03 | 0.93 | 0.95 | — | 3,929 | 3,929 | 0.20 | 0.16 | 0.29 | 3,983 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.31 | 0.29 | 0.21 | 1.98 | 0.01 | < 0.005 | 0.47 | 0.47 | < 0.005 | 0.12 | 0.12 | — | 468 | 468 | 0.02 | 0.02 | 0.58 | 475 |
| Total | 0.31 | 0.29 | 0.21 | 1.98 | 0.01 | < 0.005 | 0.47 | 0.47 | < 0.005 | 0.12 | 0.12 | — | 468 | 468 | 0.02 | 0.02 | 0.58 | 475 |

## 4.2. Energy

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

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 157 | 157 | 0.12 | 0.01 | — | 164 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 157 | 157 | 0.12 | 0.01 | — | 164 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 157 | 157 | 0.12 | 0.01 | — | 164 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 157 | 157 | 0.12 | 0.01 | — | 164 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 26.0 | 26.0 | 0.02 | < 0.005 | — | 27.2 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 26.0 | 26.0 | 0.02 | < 0.005 | — | 27.2 |

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

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 787 | 787 | 0.07 | < 0.005 | — | 789 |
| Total | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 787 | 787 | 0.07 | < 0.005 | — | 789 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 787 | 787 | 0.07 | < 0.005 | — | 789 |
| Total | 0.07 | 0.04 | 0.66 | 0.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 787 | 787 | 0.07 | < 0.005 | — | 789 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research | 0.01 | 0.01 | 0.12 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 130 | 130 | 0.01 | < 0.005 | — | 131 |
| Total | 0.01 | 0.01 | 0.12 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 130 | 130 | 0.01 | < 0.005 | — | 131 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

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

| Source | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.64 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 1.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.64 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 1.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 0.30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architect Coatings | — | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 0.32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

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

| Land Use | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 3.65 | 1.60 | 5.25 | 0.38 | 0.01 | — | 17.3 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.60 | 0.26 | 0.87 | 0.06 | < 0.005 | — | 2.87 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.60 | 0.26 | 0.87 | 0.06 | < 0.005 | — | 2.87 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

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

| Land Use | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 3.14 | 0.00 | 3.14 | 0.31 | 0.00 | — | 11.0 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 0.52 | 0.00 | 0.52 | 0.05 | 0.00 | — | 1.82 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.52 | 0.00 | 0.52 | 0.05 | 0.00 | — | 1.82 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.96 | 1.96 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.32 | 0.32 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.32 | 0.32 |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

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

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

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

## 4.8. 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |
| Total | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 3.61 | 3.28 | 14.7 | 8.37 | 0.02 | 0.48 | 0.00 | 0.48 | 0.48 | 0.00 | 0.48 | 0.00 | 1,679 | 1,679 | 0.07 | 0.01 | 0.00 | 1,685 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 0.01 | 0.01 | 0.03 | 0.02 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 2.86 | 2.86 | < 0.005 | < 0.005 | 0.00 | 2.87 |
| Total | 0.01 | 0.01 | 0.03 | 0.02 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 2.86 | 2.86 | < 0.005 | < 0.005 | 0.00 | 2.87 |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

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

| Equipment Type | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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)

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

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

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

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

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

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

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

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

# 5. Activity Data

## 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 |
|---|---|---|---|---|---|---|---|---|
| Research & Development | 614 | 0.00 | 0.00 | 159,974 | 5,168 | 0.00 | 0.00 | 1,347,271 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 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 | 115,050 | 38,350 | — |

### 5.10.3. Landscape Equipment

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

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

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

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Research & Development | 1,272,803 | 45.1 | 0.0330 | 0.0040 | 2,456,166 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Research & Development | 1,902,912 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Research & Development | 5.83 | — |

## 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 |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

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

## 5.16. 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 |
|---|---|---|---|---|---|---|
| Emergency Generator | Diesel | 1.00 | 2.00 | 7.50 | 1,000 | 0.73 |

### 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. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| 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) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 11.3 | annual days of extreme heat |
| Extreme Precipitation | 2.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 1.34 | annual hectares burned |

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

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | 0 | 0 | 0 | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

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

## 6.3. Adjusted Climate Risk Scores

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

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

### 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

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

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 42.6 |
| AQ-PM | 44.1 |
| AQ-DPM | 91.5 |
| Drinking Water | 29.0 |
| Lead Risk Housing | 13.7 |
| Pesticides | 0.00 |
| Toxic Releases | 17.0 |
| Traffic | 79.7 |
| Effect Indicators | — |
| CleanUp Sites | 20.7 |
| Groundwater | 66.9 |
| Haz Waste Facilities/Generators | 97.0 |
| Impaired Water Bodies | 90.1 |
| Solid Waste | 52.9 |
| Sensitive Population | — |
| Asthma | 0.02 |
| Cardio-vascular | 0.01 |
| Low Birth Weights | 99.3 |
| Socioeconomic Factor Indicators | — |

| | |
|---|---|
| Education | 15.2 |
| Housing | 92.2 |
| Linguistic | 36.0 |
| Poverty | 78.8 |
| Unemployment | 80.4 |

## 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 | 22.46888233 |
| Employed | 27.11407674 |
| Median HI | 42.55100731 |
| Education | — |
| Bachelor's or higher | 94.6875401 |
| High school enrollment | 100 |
| Preschool enrollment | 58.3472347 |
| Transportation | — |
| Auto Access | 36.95624278 |
| Active commuting | 91.99281406 |
| Social | — |
| 2-parent households | 75.90145002 |
| Voting | 23.45694854 |
| Neighborhood | — |
| Alcohol availability | 93.69947389 |
| Park access | 81.35506224 |
| Retail density | 96.93314513 |

| | |
|---|---|
| Supermarket access | 10.38111125 |
| Tree canopy | 78.67316823 |
| Housing | — |
| Homeownership | 7.391248556 |
| Housing habitability | 49.48030284 |
| Low-inc homeowner severe housing cost burden | 99.12742205 |
| Low-inc renter severe housing cost burden | 33.86372385 |
| Uncrowded housing | 62.10701912 |
| Health Outcomes | — |
| Insured adults | 72.20582574 |
| Arthritis | 99.3 |
| Asthma ER Admissions | 99.5 |
| High Blood Pressure | 99.3 |
| Cancer (excluding skin) | 98.7 |
| Asthma | 72.9 |
| Coronary Heart Disease | 99.1 |
| Chronic Obstructive Pulmonary Disease | 98.1 |
| Diagnosed Diabetes | 99.1 |
| Life Expectancy at Birth | 95.3 |
| Cognitively Disabled | 99.4 |
| Physically  Disabled | 99.0 |
| Heart Attack ER Admissions | 99.7 |
| Mental Health Not Good | 68.6 |
| Chronic Kidney Disease | 99.2 |
| Obesity | 97.4 |
| Pedestrian Injuries | 81.5 |
| Physical Health Not Good | 98.5 |

| | |
|---|---|
| Stroke | 99.1 |
| Health Risk Behaviors | — |
| Binge Drinking | 7.0 |
| Current Smoker | 75.7 |
| No Leisure Time for Physical Activity | 84.4 |
| Climate Change Exposures | — |
| Wildfire Risk | 85.4 |
| SLR Inundation Area | 0.0 |
| Children | 78.7 |
| Elderly | 98.1 |
| English Speaking | 64.9 |
| Foreign-born | 70.0 |
| Outdoor Workers | 56.8 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 77.6 |
| Traffic Density | 83.9 |
| Traffic Access | 74.6 |
| Other Indices | — |
| Hardship | 33.1 |
| Other Decision Support | — |
| 2016 Voting | 72.2 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 56.0 |
| Healthy Places Index Score for Project Location (b) | 60.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |

| | |
|---|---|
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Operations: Vehicle Data | LMA prepared by LLG (2023) provided weekday trip rate of 8 trips per KSF. |
| Operations: Water and Waste Water | Water use provided by City billing from 9/15/22. |

# 11011 Torreyana Road - Proposed Use Detailed Report

## Table of Contents

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | 11011 Torreyana Road - Proposed Use |
| Construction Start Date | 3/1/2025 |
| Operational Year | 2028 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.60 |
| Precipitation (days) | 15.4 |
| Location | 32.90565255506168, -117.23781171990784 |
| County | San Diego |
| City | San Diego |
| Air District | San Diego County APCD |
| Air Basin | San Diego |
| TAZ | 6902 |
| EDFZ | 12 |
| Electric Utility | San Diego Gas & Electric |
| Gas Utility | San Diego Gas & Electric |
| App Version | 2022.1.1.21 |

## 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 |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Research & Development | 203 | 1000sqft | 3.00 | 203,096 | 29,176 | — | — | — |
| Enclosed Parking Structure | 476 | Space | 0.41 | 190,400 | — | — | — | — |

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

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 6.07 | 12.8 | 62.2 | 48.8 | 0.23 | 1.56 | 9.95 | 11.5 | 1.48 | 3.32 | 4.80 | — | 33,451 | 33,451 | 1.70 | 4.28 | 60.5 | 34,831 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.55 | 12.8 | 38.1 | 47.9 | 0.09 | 1.18 | 2.89 | 4.04 | 1.09 | 0.57 | 1.64 | — | 10,631 | 10,631 | 0.45 | 0.71 | 0.26 | 10,744 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.79 | 3.52 | 26.3 | 33.1 | 0.07 | 0.76 | 2.61 | 3.34 | 0.70 | 0.78 | 1.46 | — | 9,887 | 9,887 | 0.48 | 0.96 | 6.32 | 10,192 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.69 | 0.64 | 4.80 | 6.03 | 0.01 | 0.14 | 0.48 | 0.61 | 0.13 | 0.14 | 0.27 | — | 1,637 | 1,637 | 0.08 | 0.16 | 1.05 | 1,687 |

### 2.2. Construction Emissions by Year, Unmitigated

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

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 6.07 | 4.64 | 62.2 | 48.1 | 0.23 | 1.56 | 9.95 | 11.5 | 1.48 | 3.32 | 4.80 | — | 33,451 | 33,451 | 1.70 | 4.28 | 60.5 | 34,831 |
| 2026 | 5.35 | 4.43 | 36.7 | 47.0 | 0.09 | 1.07 | 1.64 | 2.71 | 0.98 | 0.40 | 1.39 | — | 10,377 | 10,377 | 0.43 | 0.34 | 8.58 | 10,496 |
| 2027 | 5.37 | 12.8 | 36.5 | 48.8 | 0.09 | 0.98 | 1.88 | 2.87 | 0.91 | 0.46 | 1.37 | — | 10,718 | 10,718 | 0.44 | 0.34 | 8.61 | 10,838 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 5.55 | 4.63 | 38.1 | 46.8 | 0.09 | 1.18 | 2.89 | 4.04 | 1.09 | 0.57 | 1.64 | — | 10,358 | 10,358 | 0.44 | 0.71 | 0.26 | 10,471 |
| 2026 | 5.30 | 4.42 | 36.8 | 46.2 | 0.09 | 1.07 | 1.64 | 2.71 | 0.98 | 0.40 | 1.39 | — | 10,303 | 10,303 | 0.43 | 0.34 | 0.22 | 10,415 |
| 2027 | 5.36 | 12.8 | 36.7 | 47.9 | 0.09 | 0.98 | 1.88 | 2.87 | 0.91 | 0.46 | 1.37 | — | 10,631 | 10,631 | 0.45 | 0.34 | 0.22 | 10,744 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 3.01 | 2.29 | 25.1 | 23.6 | 0.07 | 0.73 | 2.61 | 3.34 | 0.68 | 0.78 | 1.46 | — | 9,887 | 9,887 | 0.48 | 0.96 | 6.32 | 10,192 |
| 2026 | 3.79 | 3.15 | 26.3 | 33.1 | 0.06 | 0.76 | 1.16 | 1.92 | 0.70 | 0.28 | 0.99 | — | 7,367 | 7,367 | 0.31 | 0.24 | 2.65 | 7,450 |
| 2027 | 1.87 | 3.52 | 12.7 | 16.9 | 0.03 | 0.37 | 0.58 | 0.95 | 0.34 | 0.14 | 0.48 | — | 3,571 | 3,571 | 0.15 | 0.10 | 1.14 | 3,607 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 0.55 | 0.42 | 4.59 | 4.31 | 0.01 | 0.13 | 0.48 | 0.61 | 0.12 | 0.14 | 0.27 | — | 1,637 | 1,637 | 0.08 | 0.16 | 1.05 | 1,687 |
| 2026 | 0.69 | 0.58 | 4.80 | 6.03 | 0.01 | 0.14 | 0.21 | 0.35 | 0.13 | 0.05 | 0.18 | — | 1,220 | 1,220 | 0.05 | 0.04 | 0.44 | 1,233 |
| 2027 | 0.34 | 0.64 | 2.31 | 3.08 | 0.01 | 0.07 | 0.11 | 0.17 | 0.06 | 0.03 | 0.09 | — | 591 | 591 | 0.02 | 0.02 | 0.19 | 597 |

## 2.4. Operations Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 20.6 | 23.3 | 49.9 | 86.5 | 0.17 | 1.69 | 9.66 | 11.4 | 1.68 | 2.45 | 4.13 | 200 | 18,660 | 18,860 | 21.8 | 0.97 | 35.0 | 19,728 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 17.4 | 20.4 | 50.1 | 66.9 | 0.16 | 1.66 | 9.66 | 11.3 | 1.65 | 2.45 | 4.10 | 200 | 18,107 | 18,307 | 21.8 | 1.00 | 5.96 | 19,154 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 6.32 | 10.3 | 5.31 | 39.0 | 0.08 | 0.22 | 6.83 | 7.05 | 0.21 | 1.73 | 1.94 | 200 | 10,236 | 10,436 | 21.4 | 0.83 | 14.4 | 11,234 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.15 | 1.89 | 0.97 | 7.11 | 0.02 | 0.04 | 1.25 | 1.29 | 0.04 | 0.32 | 0.35 | 33.1 | 1,695 | 1,728 | 3.55 | 0.14 | 2.38 | 1,860 |

## 2.5. Operations Emissions by Sector, Unmitigated

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

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 6.50 | 5.98 | 3.93 | 42.8 | 0.11 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,885 | 10,885 | 0.49 | 0.41 | 29.9 | 11,049 |
| Area | 3.05 | 7.42 | 0.14 | 17.1 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 70.4 | 70.4 | < 0.005 | < 0.005 | — | 70.6 |
| Energy | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,583 | 2,583 | 0.55 | 0.05 | — | 2,611 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Stationary | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Total | 20.6 | 23.3 | 49.9 | 86.5 | 0.17 | 1.69 | 9.66 | 11.4 | 1.68 | 2.45 | 4.13 | 200 | 18,660 | 18,860 | 21.8 | 0.97 | 35.0 | 19,728 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 6.40 | 5.87 | 4.32 | 40.4 | 0.10 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,403 | 10,403 | 0.52 | 0.43 | 0.77 | 10,546 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | — | 4.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,583 | 2,583 | 0.55 | 0.05 | — | 2,611 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Stationary | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Total | 17.4 | 20.4 | 50.1 | 66.9 | 0.16 | 1.66 | 9.66 | 11.3 | 1.65 | 2.45 | 4.10 | 200 | 18,107 | 18,307 | 21.8 | 1.00 | 5.96 | 19,154 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 4.51 | 4.14 | 3.04 | 28.8 | 0.07 | 0.06 | 6.83 | 6.89 | 0.05 | 1.73 | 1.79 | — | 7,483 | 7,483 | 0.37 | 0.31 | 9.21 | 7,592 |
| Area | 1.50 | 5.99 | 0.07 | 8.44 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 34.7 | 34.7 | < 0.005 | < 0.005 | — | 34.8 |
| Energy | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,583 | 2,583 | 0.55 | 0.05 | — | 2,611 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Stationary | 0.11 | 0.10 | 0.45 | 0.26 | < 0.005 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 51.8 | 51.8 | < 0.005 | < 0.005 | 0.00 | 51.9 |
| Total | 6.32 | 10.3 | 5.31 | 39.0 | 0.08 | 0.22 | 6.83 | 7.05 | 0.21 | 1.73 | 1.94 | 200 | 10,236 | 10,436 | 21.4 | 0.83 | 14.4 | 11,234 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.82 | 0.76 | 0.56 | 5.26 | 0.01 | 0.01 | 1.25 | 1.26 | 0.01 | 0.32 | 0.33 | — | 1,239 | 1,239 | 0.06 | 0.05 | 1.52 | 1,257 |
| Area | 0.27 | 1.09 | 0.01 | 1.54 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.75 | 5.75 | < 0.005 | < 0.005 | — | 5.77 |
| Energy | 0.04 | 0.02 | 0.32 | 0.27 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 428 | 428 | 0.09 | 0.01 | — | 432 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 31.7 | 14.0 | 45.6 | 3.26 | 0.08 | — | 150 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 1.38 | 0.00 | 1.38 | 0.14 | 0.00 | — | 4.82 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.86 | 0.86 |
| Stationary | 0.02 | 0.02 | 0.08 | 0.05 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 8.57 | 8.57 | < 0.005 | < 0.005 | 0.00 | 8.60 |
| Total | 1.15 | 1.89 | 0.97 | 7.11 | 0.02 | 0.04 | 1.25 | 1.29 | 0.04 | 0.32 | 0.35 | 33.1 | 1,695 | 1,728 | 3.55 | 0.14 | 2.38 | 1,860 |

# 3. Construction Emissions Details

## 3.1. Demolition (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.67 | 3.08 | 26.3 | 24.6 | 0.05 | 1.09 | — | 1.09 | 1.00 | — | 1.00 | — | 4,960 | 4,960 | 0.20 | 0.04 | — | 4,977 |
| Demolition | — | — | — | — | — | — | 1.71 | 1.71 | — | 0.26 | 0.26 | — | — | — | — | — | — | — |
| 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.67 | 3.08 | 26.3 | 24.6 | 0.05 | 1.09 | — | 1.09 | 1.00 | — | 1.00 | — | 4,960 | 4,960 | 0.20 | 0.04 | — | 4,977 |
| Demolition | — | — | — | — | — | — | 1.71 | 1.71 | — | 0.26 | 0.26 | — | — | — | — | — | — | — |
| 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.55 | 0.46 | 3.96 | 3.71 | 0.01 | 0.16 | — | 0.16 | 0.15 | — | 0.15 | — | 747 | 747 | 0.03 | 0.01 | — | 750 |
| 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.72 | 0.68 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 124 | 124 | 0.01 | < 0.005 | — | 124 |
| 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.06 | 0.93 | 0.00 | 0.00 | 0.17 | 0.17 | 0.00 | 0.04 | 0.04 | — | 190 | 190 | 0.01 | 0.01 | 0.71 | 193 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.28 | 0.07 | 4.76 | 1.66 | 0.02 | 0.07 | 1.00 | 1.08 | 0.07 | 0.27 | 0.35 | — | 3,849 | 3,849 | 0.20 | 0.61 | 8.46 | 4,043 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.07 | 0.81 | 0.00 | 0.00 | 0.17 | 0.17 | 0.00 | 0.04 | 0.04 | — | 179 | 179 | 0.01 | 0.01 | 0.02 | 182 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.27 | 0.07 | 4.92 | 1.67 | 0.02 | 0.07 | 1.00 | 1.08 | 0.07 | 0.27 | 0.35 | — | 3,850 | 3,850 | 0.20 | 0.61 | 0.22 | 4,035 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.12 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 27.2 | 27.2 | < 0.005 | < 0.005 | 0.05 | 27.6 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.04 | 0.01 | 0.74 | 0.25 | < 0.005 | 0.01 | 0.15 | 0.16 | 0.01 | 0.04 | 0.05 | — | 580 | 580 | 0.03 | 0.09 | 0.55 | 609 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.51 | 4.51 | < 0.005 | < 0.005 | 0.01 | 4.58 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.01 | < 0.005 | 0.14 | 0.05 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | — | 96.0 | 96.0 | 0.01 | 0.02 | 0.09 | 101 |

## 3.3. Site Preparation (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.78 | 0.65 | 4.67 | 5.88 | 0.02 | 0.17 | — | 0.17 | 0.15 | — | 0.15 | — | 1,764 | 1,764 | 0.07 | 0.01 | — | 1,770 |
| Dust From Material Movement | — | — | — | — | — | — | 0.01 | 0.01 | — | < 0.005 | < 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.13 | 0.16 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 48.3 | 48.3 | < 0.005 | < 0.005 | — | 48.5 |
| Dust From Material Movement | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.02 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.00 | 8.00 | < 0.005 | < 0.005 | — | 8.03 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.30 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | — | 67.2 | 67.2 | < 0.005 | < 0.005 | 0.01 | 68.1 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.34 | 0.09 | 6.00 | 2.19 | 0.03 | 0.08 | 1.14 | 1.22 | 0.08 | 0.31 | 0.39 | — | 4,420 | 4,420 | 0.24 | 0.70 | 0.25 | 4,634 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.86 | 1.86 | < 0.005 | < 0.005 | < 0.005 | 1.88 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.01 | < 0.005 | 0.16 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | — | 121 | 121 | 0.01 | 0.02 | 0.11 | 127 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.31 | 0.31 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.03 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 20.0 | 20.0 | < 0.005 | < 0.005 | 0.02 | 21.0 |

## 3.5. Grading (2025) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.63 | 3.03 | 26.2 | 30.3 | 0.06 | 0.96 | — | 0.96 | 0.88 | — | 0.88 | — | 5,569 | 5,569 | 0.23 | 0.05 | — | 5,588 |
| Dust From Material Movement | — | — | — | — | — | — | 2.59 | 2.59 | — | 1.32 | 1.32 | — | — | — | — | — | — | — |
| 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.65 | 0.54 | 4.66 | 5.39 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 992 | 992 | 0.04 | 0.01 | — | 995 |
| Dust From Material Movement | — | — | — | — | — | — | 0.46 | 0.46 | — | 0.23 | 0.23 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.12 | 0.10 | 0.85 | 0.98 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 164 | 164 | 0.01 | < 0.005 | — | 165 |
| Dust From Material Movement | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.14 | 0.11 | 1.62 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.07 | 0.07 | — | 332 | 332 | 0.02 | 0.01 | 1.25 | 337 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 1.92 | 0.48 | 33.2 | 11.6 | 0.17 | 0.50 | 6.99 | 7.49 | 0.50 | 1.92 | 2.41 | — | 26,829 | 26,829 | 1.43 | 4.22 | 59.0 | 28,181 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.02 | 0.26 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 56.3 | 56.3 | < 0.005 | < 0.005 | 0.10 | 57.2 |
| 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 | 0.00 |
| Hauling | 0.34 | 0.08 | 6.12 | 2.07 | 0.03 | 0.09 | 1.24 | 1.33 | 0.09 | 0.34 | 0.43 | — | 4,778 | 4,778 | 0.25 | 0.75 | 4.53 | 5,013 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 9.33 | 9.33 | < 0.005 | < 0.005 | 0.02 | 9.46 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.06 | 0.02 | 1.12 | 0.38 | 0.01 | 0.02 | 0.23 | 0.24 | 0.02 | 0.06 | 0.08 | — | 791 | 791 | 0.04 | 0.12 | 0.75 | 830 |

## 3.7. Building Construction (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.79 | 3.99 | 35.4 | 39.9 | 0.08 | 1.16 | — | 1.16 | 1.06 | — | 1.06 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,470 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.79 | 3.99 | 35.4 | 39.9 | 0.08 | 1.16 | — | 1.16 | 1.06 | — | 1.06 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,470 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.14 | 0.95 | 8.45 | 9.53 | 0.02 | 0.28 | — | 0.28 | 0.25 | — | 0.25 | — | 1,777 | 1,777 | 0.07 | 0.01 | — | 1,784 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.17 | 1.54 | 1.74 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 294 | 294 | 0.01 | < 0.005 | — | 295 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.64 | 0.58 | 0.44 | 6.71 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,375 | 1,375 | 0.06 | 0.05 | 5.16 | 1,396 |
| Vendor | 0.14 | 0.07 | 2.15 | 1.00 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,614 | 1,614 | 0.07 | 0.23 | 4.19 | 1,688 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.63 | 0.57 | 0.49 | 5.88 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,299 | 1,299 | 0.07 | 0.05 | 0.13 | 1,316 |
| Vendor | 0.14 | 0.06 | 2.23 | 1.03 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,615 | 1,615 | 0.07 | 0.23 | 0.11 | 1,685 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.15 | 0.14 | 0.12 | 1.42 | 0.00 | 0.00 | 0.29 | 0.29 | 0.00 | 0.07 | 0.07 | — | 313 | 313 | 0.02 | 0.01 | 0.53 | 317 |
| Vendor | 0.03 | 0.02 | 0.53 | 0.24 | < 0.005 | 0.01 | 0.10 | 0.10 | 0.01 | 0.03 | 0.03 | — | 385 | 385 | 0.02 | 0.05 | 0.43 | 403 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.02 | 0.26 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | — | 51.8 | 51.8 | < 0.005 | < 0.005 | 0.09 | 52.5 |
| Vendor | 0.01 | < 0.005 | 0.10 | 0.04 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | 0.01 | — | 63.8 | 63.8 | < 0.005 | 0.01 | 0.07 | 66.6 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. Building Construction (2026) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.61 | 3.85 | 34.3 | 39.7 | 0.08 | 1.05 | — | 1.05 | 0.96 | — | 0.96 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,471 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.61 | 3.85 | 34.3 | 39.7 | 0.08 | 1.05 | — | 1.05 | 0.96 | — | 0.96 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,471 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 3.29 | 2.75 | 24.5 | 28.4 | 0.06 | 0.75 | — | 0.75 | 0.69 | — | 0.69 | — | 5,318 | 5,318 | 0.22 | 0.04 | — | 5,336 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.60 | 0.50 | 4.47 | 5.18 | 0.01 | 0.14 | — | 0.14 | 0.13 | — | 0.13 | — | 880 | 880 | 0.04 | 0.01 | — | 883 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.61 | 0.52 | 0.40 | 6.27 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,347 | 1,347 | 0.06 | 0.05 | 4.72 | 1,368 |
| Vendor | 0.13 | 0.05 | 2.04 | 0.96 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,584 | 1,584 | 0.06 | 0.23 | 3.86 | 1,658 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.57 | 0.52 | 0.45 | 5.53 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,272 | 1,272 | 0.07 | 0.05 | 0.12 | 1,289 |
| Vendor | 0.12 | 0.05 | 2.12 | 0.98 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,585 | 1,585 | 0.06 | 0.23 | 0.10 | 1,655 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.40 | 0.37 | 0.32 | 3.99 | 0.00 | 0.00 | 0.87 | 0.87 | 0.00 | 0.20 | 0.20 | — | 917 | 917 | 0.05 | 0.04 | 1.45 | 931 |
| Vendor | 0.09 | 0.04 | 1.50 | 0.69 | 0.01 | 0.02 | 0.29 | 0.31 | 0.02 | 0.08 | 0.10 | — | 1,132 | 1,132 | 0.04 | 0.16 | 1.20 | 1,183 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.07 | 0.06 | 0.73 | 0.00 | 0.00 | 0.16 | 0.16 | 0.00 | 0.04 | 0.04 | — | 152 | 152 | 0.01 | 0.01 | 0.24 | 154 |
| Vendor | 0.02 | 0.01 | 0.27 | 0.13 | < 0.005 | < 0.005 | 0.05 | 0.06 | < 0.005 | 0.01 | 0.02 | — | 187 | 187 | 0.01 | 0.03 | 0.20 | 196 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.11. Building Construction (2027) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.45 | 3.71 | 33.3 | 39.6 | 0.08 | 0.94 | — | 0.94 | 0.87 | — | 0.87 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,470 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.45 | 3.71 | 33.3 | 39.6 | 0.08 | 0.94 | — | 0.94 | 0.87 | — | 0.87 | — | 7,445 | 7,445 | 0.30 | 0.06 | — | 7,470 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.32 | 1.10 | 9.85 | 11.7 | 0.02 | 0.28 | — | 0.28 | 0.26 | — | 0.26 | — | 2,200 | 2,200 | 0.09 | 0.02 | — | 2,207 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.24 | 0.20 | 1.80 | 2.14 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 364 | 364 | 0.01 | < 0.005 | — | 365 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.56 | 0.51 | 0.36 | 5.94 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,325 | 1,325 | 0.06 | 0.05 | 4.29 | 1,345 |
| Vendor | 0.11 | 0.05 | 1.96 | 0.92 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,551 | 1,551 | 0.06 | 0.22 | 3.46 | 1,620 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.55 | 0.50 | 0.45 | 5.22 | 0.00 | 0.00 | 1.23 | 1.23 | 0.00 | 0.29 | 0.29 | — | 1,251 | 1,251 | 0.07 | 0.05 | 0.11 | 1,268 |
| Vendor | 0.11 | 0.05 | 2.03 | 0.94 | 0.01 | 0.02 | 0.41 | 0.43 | 0.02 | 0.11 | 0.14 | — | 1,552 | 1,552 | 0.06 | 0.22 | 0.09 | 1,618 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.16 | 0.15 | 0.13 | 1.56 | 0.00 | 0.00 | 0.36 | 0.36 | 0.00 | 0.08 | 0.08 | — | 373 | 373 | 0.02 | 0.01 | 0.55 | 378 |
| Vendor | 0.03 | 0.02 | 0.59 | 0.28 | < 0.005 | 0.01 | 0.12 | 0.13 | 0.01 | 0.03 | 0.04 | — | 458 | 458 | 0.02 | 0.06 | 0.44 | 478 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.02 | 0.28 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.02 | 0.02 | — | 61.8 | 61.8 | < 0.005 | < 0.005 | 0.09 | 62.6 |
| Vendor | 0.01 | < 0.005 | 0.11 | 0.05 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 75.9 | 75.9 | < 0.005 | 0.01 | 0.07 | 79.2 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.13. Paving (2027) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 1.74 | 1.46 | 11.3 | 16.2 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,469 | 2,469 | 0.10 | 0.02 | — | 2,477 |
| Paving | — | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.29 | 0.24 | 1.86 | 2.66 | < 0.005 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 406 | 406 | 0.02 | < 0.005 | — | 407 |
| 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.05 | 0.04 | 0.34 | 0.49 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 67.2 | 67.2 | < 0.005 | < 0.005 | — | 67.4 |
| 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.11 | 0.07 | 1.23 | 0.00 | 0.00 | 0.25 | 0.25 | 0.00 | 0.06 | 0.06 | — | 274 | 274 | 0.01 | 0.01 | 0.89 | 278 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.02 | 0.02 | 0.02 | 0.18 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 42.9 | 42.9 | < 0.005 | < 0.005 | 0.06 | 43.5 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 7.11 | 7.11 | < 0.005 | < 0.005 | 0.01 | 7.21 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.15. Architectural Coating (2027) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.11 | 0.83 | 1.13 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | — | 8.29 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.11 | 0.83 | 1.13 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | — | 8.29 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.03 | 0.20 | 0.27 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 31.5 | 31.5 | < 0.005 | < 0.005 | — | 31.6 |
| Architectural Coatings | — | 1.95 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | < 0.005 | 0.04 | 0.05 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.21 | 5.21 | < 0.005 | < 0.005 | — | 5.23 |
| Architectural Coatings | — | 0.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.07 | 1.19 | 0.00 | 0.00 | 0.25 | 0.25 | 0.00 | 0.06 | 0.06 | — | 265 | 265 | 0.01 | 0.01 | 0.86 | 269 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.09 | 1.04 | 0.00 | 0.00 | 0.25 | 0.25 | 0.00 | 0.06 | 0.06 | — | 250 | 250 | 0.01 | 0.01 | 0.02 | 254 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.02 | 0.25 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | — | 59.5 | 59.5 | < 0.005 | < 0.005 | 0.09 | 60.3 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 9.85 | 9.85 | < 0.005 | < 0.005 | 0.01 | 9.99 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.17. Utility Undergrounding (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.34 | 0.28 | 2.71 | 4.24 | 0.01 | 0.10 | — | 0.10 | 0.10 | — | 0.10 | — | 650 | 650 | 0.03 | 0.01 | — | 652 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.22 | 0.35 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 53.4 | 53.4 | < 0.005 | < 0.005 | — | 53.6 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | < 0.005 | 0.04 | 0.06 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.84 | 8.84 | < 0.005 | < 0.005 | — | 8.87 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.02 | 0.35 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | — | 71.2 | 71.2 | < 0.005 | < 0.005 | 0.27 | 72.2 |
| 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 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.57 | 5.57 | < 0.005 | < 0.005 | 0.01 | 5.65 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.92 | 0.92 | < 0.005 | < 0.005 | < 0.005 | 0.94 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 6.50 | 5.98 | 3.93 | 42.8 | 0.11 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,885 | 10,885 | 0.49 | 0.41 | 29.9 | 11,049 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 6.50 | 5.98 | 3.93 | 42.8 | 0.11 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,885 | 10,885 | 0.49 | 0.41 | 29.9 | 11,049 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 6.40 | 5.87 | 4.32 | 40.4 | 0.10 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,403 | 10,403 | 0.52 | 0.43 | 0.77 | 10,546 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 6.40 | 5.87 | 4.32 | 40.4 | 0.10 | 0.08 | 9.66 | 9.74 | 0.07 | 2.45 | 2.52 | — | 10,403 | 10,403 | 0.52 | 0.43 | 0.77 | 10,546 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.82 | 0.76 | 0.56 | 5.26 | 0.01 | 0.01 | 1.25 | 1.26 | 0.01 | 0.32 | 0.33 | — | 1,239 | 1,239 | 0.06 | 0.05 | 1.52 | 1,257 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.82 | 0.76 | 0.56 | 5.26 | 0.01 | 0.01 | 1.25 | 1.26 | 0.01 | 0.32 | 0.33 | — | 1,239 | 1,239 | 0.06 | 0.05 | 1.52 | 1,257 |

## 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 416 | 416 | 0.30 | 0.04 | — | 435 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | — | 82.4 | 82.4 | 0.06 | 0.01 | — | 86.1 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 499 | 499 | 0.36 | 0.04 | — | 521 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 416 | 416 | 0.30 | 0.04 | — | 435 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | — | 82.4 | 82.4 | 0.06 | 0.01 | — | 86.1 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 499 | 499 | 0.36 | 0.04 | — | 521 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | 68.9 | 68.9 | 0.05 | 0.01 | — | 72.0 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | — | 13.6 | 13.6 | 0.01 | < 0.005 | — | 14.2 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 82.6 | 82.6 | 0.06 | 0.01 | — | 86.3 |

### 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,084 | 2,084 | 0.18 | < 0.005 | — | 2,090 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,084 | 2,084 | 0.18 | < 0.005 | — | 2,090 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,084 | 2,084 | 0.18 | < 0.005 | — | 2,090 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.19 | 0.10 | 1.75 | 1.47 | 0.01 | 0.13 | — | 0.13 | 0.13 | — | 0.13 | — | 2,084 | 2,084 | 0.18 | < 0.005 | — | 2,090 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | 0.04 | 0.02 | 0.32 | 0.27 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 345 | 345 | 0.03 | < 0.005 | — | 346 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.04 | 0.02 | 0.32 | 0.27 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 345 | 345 | 0.03 | < 0.005 | — | 346 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

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

| Source | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 4.35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 3.05 | 2.81 | 0.14 | 17.1 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 70.4 | 70.4 | < 0.005 | < 0.005 | — | 70.6 |
| Total | 3.05 | 7.42 | 0.14 | 17.1 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 70.4 | 70.4 | < 0.005 | < 0.005 | — | 70.6 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 4.35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 4.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 0.79 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.05 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.27 | 0.25 | 0.01 | 1.54 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.75 | 5.75 | < 0.005 | < 0.005 | — | 5.77 |
| Total | 0.27 | 1.09 | 0.01 | 1.54 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.75 | 5.75 | < 0.005 | < 0.005 | — | 5.77 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

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

| Land Use | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Research | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 191 | 84.3 | 276 | 19.7 | 0.47 | — | 909 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 31.7 | 14.0 | 45.6 | 3.26 | 0.08 | — | 150 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 31.7 | 14.0 | 45.6 | 3.26 | 0.08 | — | 150 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

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

| Land Use | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 8.32 | 0.00 | 8.32 | 0.83 | 0.00 | — | 29.1 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | 1.38 | 0.00 | 1.38 | 0.14 | 0.00 | — | 4.82 |
| Enclosed Parking Structure | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 1.38 | 0.00 | 1.38 | 0.14 | 0.00 | — | 4.82 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.19 | 5.19 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Research & Development | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.86 | 0.86 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.86 | 0.86 |

## 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Total | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Total | 10.8 | 9.85 | 44.0 | 25.1 | 0.05 | 1.45 | 0.00 | 1.45 | 1.45 | 0.00 | 1.45 | 0.00 | 5,037 | 5,037 | 0.20 | 0.04 | 0.00 | 5,054 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 0.02 | 0.02 | 0.08 | 0.05 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 8.57 | 8.57 | < 0.005 | < 0.005 | 0.00 | 8.60 |
| Total | 0.02 | 0.02 | 0.08 | 0.05 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | 0.00 | 8.57 | 8.57 | < 0.005 | < 0.005 | 0.00 | 8.60 |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

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

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

## 4.10. Soil Carbon Accumulation By Vegetation Type

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

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

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

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

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

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

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

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

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

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 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 | 3/15/2025 | 5/30/2025 | 5.00 | 55.0 | — |
| Site Preparation | Site Preparation | 3/1/2025 | 3/14/2025 | 5.00 | 10.0 | — |

| | | | | | | |
|---|---|---|---|---|---|---|
| Grading | Grading | 6/1/2025 | 8/29/2025 | 5.00 | 65.0 | — |
| Building Construction | Building Construction | 9/1/2025 | 5/31/2027 | 5.00 | 456 | — |
| Paving | Paving | 6/1/2027 | 8/23/2027 | 5.00 | 60.0 | — |
| Architectural Coating | Architectural Coating | 2/1/2027 | 5/31/2027 | 5.00 | 86.0 | — |
| Utility Undergrounding | Trenching | 6/1/2025 | 7/11/2025 | 5.00 | 30.0 | — |

## 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 | 2.00 | 8.00 | 36.0 | 0.38 |
| Demolition | Concrete/Industrial Saws | Diesel | Average | 1.00 | 8.00 | 33.0 | 0.73 |
| Demolition | Off-Highway Tractors | Diesel | Average | 1.00 | 8.00 | 38.0 | 0.44 |
| Demolition | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |
| Demolition | Sweepers/Scrubbers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.46 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |
| Site Preparation | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Bore/Drill Rigs | Diesel | Average | 2.00 | 8.00 | 83.0 | 0.50 |
| Grading | Concrete/Industrial Saws | Diesel | Average | 4.00 | 8.00 | 33.0 | 0.73 |
| Grading | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Grading | Pumps | Diesel | Average | 1.00 | 8.00 | 11.0 | 0.74 |
| Grading | Sweepers/Scrubbers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.46 |
| Building Construction | Forklifts | Diesel | Average | 2.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 2.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| Building Construction | Aerial Lifts | Diesel | Average | 36.0 | 2.00 | 46.0 | 0.31 |
| Building Construction | Air Compressors | Diesel | Average | 2.00 | 8.00 | 37.0 | 0.48 |
| Building Construction | Cement and Mortar Mixers | Diesel | Average | 10.0 | 8.00 | 10.0 | 0.56 |
| Building Construction | Concrete/Industrial Saws | Diesel | Average | 2.00 | 8.00 | 33.0 | 0.73 |
| Building Construction | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Building Construction | Off-Highway Trucks | Diesel | Average | 1.00 | 8.00 | 376 | 0.38 |
| Building Construction | Other Construction Equipment | Diesel | Average | 1.00 | 8.00 | 82.0 | 0.42 |
| Building Construction | Plate Compactors | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Building Construction | Pumps | Diesel | Average | 1.00 | 8.00 | 11.0 | 0.74 |
| Building Construction | Trenchers | Diesel | Average | 2.00 | 8.00 | 40.0 | 0.50 |
| Paving | Pavers | Diesel | Average | 1.00 | 8.00 | 81.0 | 0.42 |
| Paving | Rollers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Paving | Cement and Mortar Mixers | Diesel | Average | 4.00 | 8.00 | 10.0 | 0.56 |
| Paving | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Paving | Off-Highway Tractors | Diesel | Average | 1.00 | 8.00 | 38.0 | 0.44 |
| Paving | Pumps | Diesel | Average | 1.00 | 8.00 | 11.0 | 0.74 |
| Paving | Rubber Tired Loaders | Diesel | Average | 1.00 | 8.00 | 150 | 0.36 |
| Paving | Sweepers/Scrubbers | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.46 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Paving | Tractors/Loaders/Backh | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |
| Utility Undergrounding | Plate Compactors | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Utility Undergrounding | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 20.0 | 12.0 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 7.63 | HHDT,MHDT |
| Demolition | Hauling | 30.9 | 35.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 7.50 | 12.0 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 7.63 | HHDT,MHDT |
| Site Preparation | Hauling | 61.5 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 35.0 | 12.0 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 7.63 | HHDT,MHDT |
| Grading | Hauling | 216 | 35.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 145 | 12.0 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 64.5 | 7.63 | HHDT,MHDT |

| | | | | |
|---|---|---|---|---|
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 30.0 | 12.0 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 7.63 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 29.0 | 12.0 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 7.63 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |
| Utility Undergrounding | — | — | — | — |
| Utility Undergrounding | Worker | 7.50 | 12.0 | LDA,LDT1,LDT2 |
| Utility Undergrounding | Vendor | — | 7.63 | HHDT,MHDT |
| Utility Undergrounding | Hauling | 0.00 | 20.0 | HHDT |
| Utility Undergrounding | 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 | 305,448 | 0.00 | 1,072 |

## 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 | 0.00 | 0.00 | 147,874 | — |
| Site Preparation | — | 4,920 | 0.00 | 0.00 | — |
| Grading | — | 112,100 | 32.5 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 1.17 |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |
| Water Demolished Area | 2 | 36% | 36% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Research & Development | 0.71 | 0% |
| Enclosed Parking Structure | 0.46 | 100% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2025 | 0.00 | 540 | 0.03 | < 0.005 |
| 2026 | 0.00 | 45.1 | 0.03 | < 0.005 |
| 2027 | 0.00 | 45.1 | 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 |
|---|---|---|---|---|---|---|---|---|
| Research & Development | 1,625 | 0.00 | 0.00 | 423,600 | 13,683 | 0.00 | 0.00 | 3,567,476 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. 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 | 305,448 | 101,637 | 1,072 |

### 5.10.3. Landscape Equipment

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

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

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

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Research & Development | 3,370,290 | 45.1 | 0.0330 | 0.0040 | 6,503,748 |
| Enclosed Parking Structure | 666,673 | 45.1 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Research & Development | 99,861,074 | 436,011 |
| Enclosed Parking Structure | 0.00 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Research & Development | 15.4 | — |
| Enclosed Parking Structure | 0.00 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

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

## 5.16. 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 |
|---|---|---|---|---|---|---|
| Emergency Generator | Diesel | 3.00 | 2.00 | 7.50 | 1,000 | 0.73 |

### 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. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| 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) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 11.3 | annual days of extreme heat |
| Extreme Precipitation | 2.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 1.34 | annual hectares burned |

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

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | 0 | 0 | 0 | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

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

## 6.3. Adjusted Climate Risk Scores

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

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

### 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

### 7.1. CalEnviroScreen 4.0 Scores

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

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 42.6 |
| AQ-PM | 44.1 |
| AQ-DPM | 91.5 |
| Drinking Water | 29.0 |
| Lead Risk Housing | 13.7 |
| Pesticides | 0.00 |
| Toxic Releases | 17.0 |
| Traffic | 79.7 |
| Effect Indicators | — |
| CleanUp Sites | 20.7 |
| Groundwater | 66.9 |
| Haz Waste Facilities/Generators | 97.0 |
| Impaired Water Bodies | 90.1 |
| Solid Waste | 52.9 |
| Sensitive Population | — |
| Asthma | 0.02 |
| Cardio-vascular | 0.01 |
| Low Birth Weights | 99.3 |
| Socioeconomic Factor Indicators | — |

| | |
|---|---|
| Education | 15.2 |
| Housing | 92.2 |
| Linguistic | 36.0 |
| Poverty | 78.8 |
| Unemployment | 80.4 |

## 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 | 22.46888233 |
| Employed | 27.11407674 |
| Median HI | 42.55100731 |
| Education | — |
| Bachelor's or higher | 94.6875401 |
| High school enrollment | 100 |
| Preschool enrollment | 58.3472347 |
| Transportation | — |
| Auto Access | 36.95624278 |
| Active commuting | 91.99281406 |
| Social | — |
| 2-parent households | 75.90145002 |
| Voting | 23.45694854 |
| Neighborhood | — |
| Alcohol availability | 93.69947389 |
| Park access | 81.35506224 |
| Retail density | 96.93314513 |

| | |
|---|---|
| Supermarket access | 10.38111125 |
| Tree canopy | 78.67316823 |
| Housing | — |
| Homeownership | 7.391248556 |
| Housing habitability | 49.48030284 |
| Low-inc homeowner severe housing cost burden | 99.12742205 |
| Low-inc renter severe housing cost burden | 33.86372385 |
| Uncrowded housing | 62.10701912 |
| Health Outcomes | — |
| Insured adults | 72.20582574 |
| Arthritis | 99.3 |
| Asthma ER Admissions | 99.5 |
| High Blood Pressure | 99.3 |
| Cancer (excluding skin) | 98.7 |
| Asthma | 72.9 |
| Coronary Heart Disease | 99.1 |
| Chronic Obstructive Pulmonary Disease | 98.1 |
| Diagnosed Diabetes | 99.1 |
| Life Expectancy at Birth | 95.3 |
| Cognitively Disabled | 99.4 |
| Physically  Disabled | 99.0 |
| Heart Attack ER Admissions | 99.7 |
| Mental Health Not Good | 68.6 |
| Chronic Kidney Disease | 99.2 |
| Obesity | 97.4 |
| Pedestrian Injuries | 81.5 |
| Physical Health Not Good | 98.5 |

| | |
|---|---|
| Stroke | 99.1 |
| Health Risk Behaviors | — |
| Binge Drinking | 7.0 |
| Current Smoker | 75.7 |
| No Leisure Time for Physical Activity | 84.4 |
| Climate Change Exposures | — |
| Wildfire Risk | 85.4 |
| SLR Inundation Area | 0.0 |
| Children | 78.7 |
| Elderly | 98.1 |
| English Speaking | 64.9 |
| Foreign-born | 70.0 |
| Outdoor Workers | 56.8 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 77.6 |
| Traffic Density | 83.9 |
| Traffic Access | 74.6 |
| Other Indices | — |
| Hardship | 33.1 |
| Other Decision Support | — |
| 2016 Voting | 72.2 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 56.0 |
| Healthy Places Index Score for Project Location (b) | 60.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |

| | |
|---|---|
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Construction: Construction Phases | Construction schedule provided by construction contractor |
| Construction: Off-Road Equipment | Equipment list provided by construction contractor. |
| Land Use | 3.41 acres of site to be graded per construction contractor. |
| Construction: Trips and VMT | Per construction contractor, demo and grading materials to be hauled 35 miles to Otay landfill. |
| Construction: Architectural Coatings | Building exterior will not be painted per project applicant. |
| Construction: Paving | Concrete and asphalt areas provided by project applicant. |
| Operations: Vehicle Data | Trip generation rate provided by Local Mobility Analysis (LLG 2023) |