Appendix B

Air Quality, Greenhouse Gas Emissions, and Energy Report



Rocas Grandes II

Air Quality, Greenhouse Gas, and Energy Study

prepared for

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1 Project Description and Impact Summary

1.1 Introduction

This study analyzes the potential air quality, greenhouse gas (GHG), and energy impacts of the proposed Rocas Grandes II project (herein referred to as "proposed project" or "project") located in the City of Moreno Valley (City) in Riverside County (County), California. Rincon Consultants, Inc. (Rincon) prepared this study under contract to the project applicant Emri Group for the City of Moreno Valley in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). A summary of the conclusions of this study are summarized in Table 1.

Table 1 Summary of Impacts

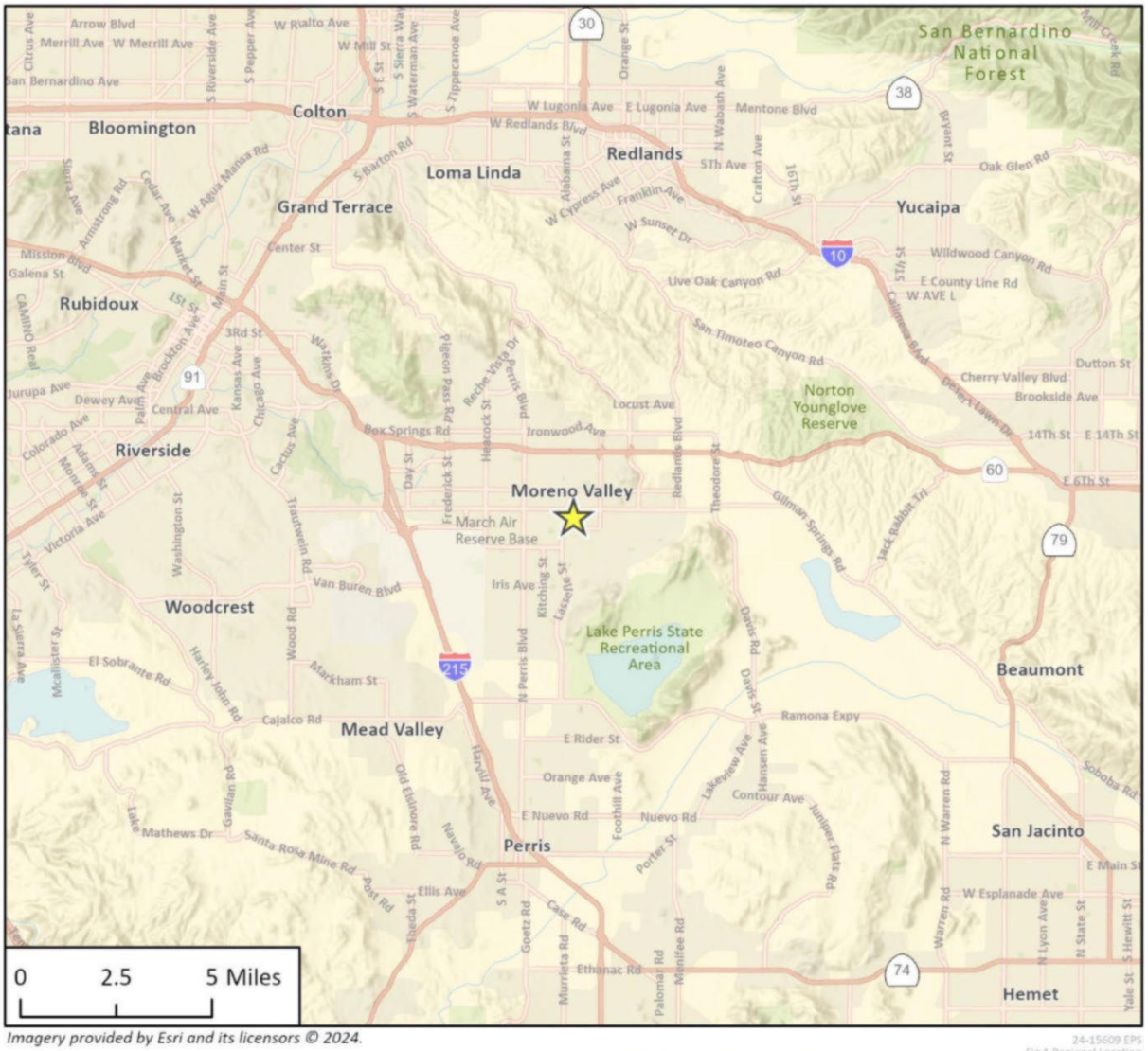
Impact Statement	Proposed Project's Level of Significance
Air Quality	
Conflict with or obstruct implementation of the applicable air quality plan?	Less than significant impact
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	Less than significant impact
Expose sensitive receptors to substantial pollutant concentrations?	Less than significant impact with Mitigation Measure AQ-1.
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than significant impact
Greenhouse Gas Emissions (GHG)	
Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant impact with Mitigation Measure GHG-1
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	Less than significant impact with Mitigation Measure GHG-1
Energy	
Result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	Less than significant impact
Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than significant impact

1.2 Project Summary

1.2.1 Project Location

The project site encompasses approximately 18 acres in the City of Moreno Valley, located on an undeveloped and vacant lot comprised of Assessor's Parcel Numbers (APNs) 486-280-062 and 486-280-063. The project site is bounded to the north by Alessandro Boulevard, to the east by vacant land, to the south by the future extension of Brodiaea Avenue, and to the west by multifamily development. Access to the site is currently available via an entrance off of Alessandro Boulevard at the northwest corner of the site. Figure 1 below shows the regional location of the project and Figure 2 shows the project boundary.

Figure 1 Regional Location



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24-15609 EPS
Fig 1 Regional Location

Project Location

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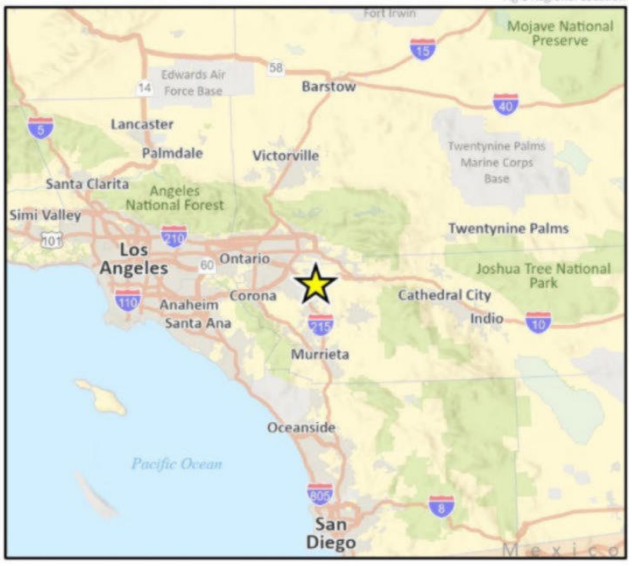
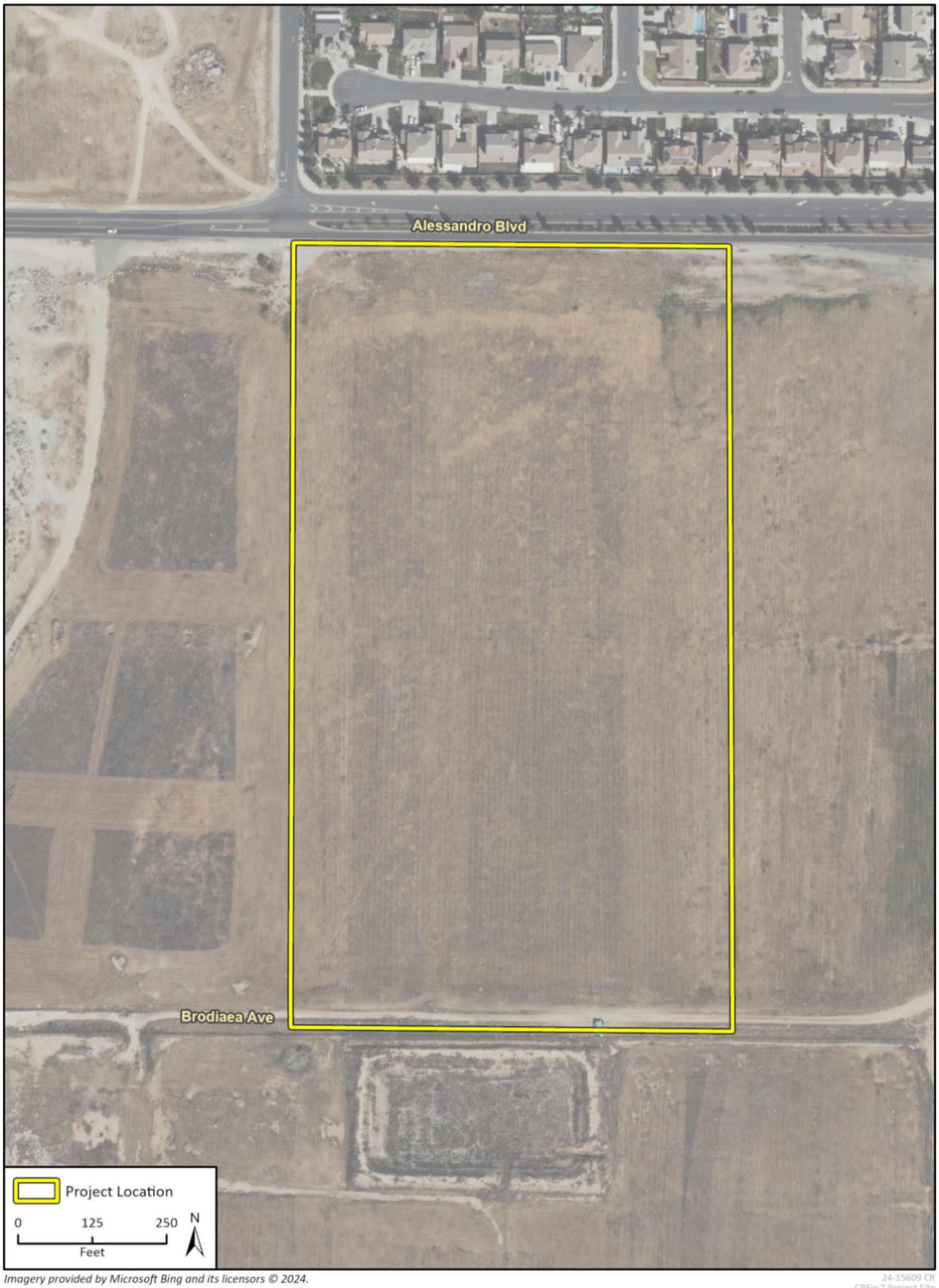


Figure 2 Project Location



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24-15609 CR
CRFig 2 Project Site

1.3 Existing Site Characteristics

1.3.1 Current Land Use Designation and Zoning

According to the City of Moreno Valley General Plan Land Use map (2006), the entire project site has a General Plan land use designation of R30. The Moreno Valley Municipal Code (MVMC) Section 9.03.020.L. states that the primary purpose of the R30 district is to provide a broadened range of housing types in an urban setting than is typically found within other areas of the city.

The proposed project is a multi-family residential development, which is consistent with the R30 General Plan land use designation and R30 zoning district.

The project site is undeveloped and vacant and consists of low-lying vegetation scattered throughout the site. The project site is rectangular in shape and is relatively flat, with elevations ranging between 1,560 to 1,580 feet above mean sea level (amsl).

1.3.2 Surrounding Land Uses

The area surrounding the project site mainly consists of residential developments and undeveloped open space. The Riverside University Heath System Medical Center is located to the southwest of the project site.

1.4 Project Characteristics

1.4.1 Project Description

The project would allow for the development of a 460-unit for rent multi-family residential community with 80 residential townhome units and 380 residential stacked flats. Project amenities would include a recreational area with a clubhouse and co-work area, swimming pool and spa, fitness center and family room, a dog park, as well as additional common open spaces. The project includes 860 parking spaces, which would be provided in garages, as well as covered carports and open surface parking. The proposed site plan for the project is shown in Figure 3.

1.4.2 Construction

The applicant anticipates that building construction would take approximately two years with construction commencing in 2026[1]. The first phase of units would be completed in approximately 14 months with project completion in 2028.

The estimated grading quantities are 10,000 cubic yards (cy) of cut and 90,000 cy of fill inclusive of off-site disturbance for roadway and infrastructure improvements. Approximately 80,000 cy of import would be required.

[1] CalEEMod was modeled for this project with a construction start date of second quarter 2025. Construction activities with a later start date than 2025 would generate lower emissions, due to CalEEMod emissions factors accounting for the state's initiative for cleaner equipment fleet (i.e. each subsequent year assumes lower emission factors for each construction equipment). Therefore, as construction would occur at a later date than identified in the CalEEMod modeling, this analysis and the CalEEMod modeling upon which it is based would provide a conservative assumption.

Figure 3 Project Site Plan



2 Background

2.1 Environmental Setting

2.1.1 Local Climate and Meteorology

The project site is located in the South Coast Air Basin (SCAB or Basin), which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego County line to the south. The regional climate in the SCAB is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality in the SCAB is primarily influenced by a wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry – and weather.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The SCAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter.

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid to late afternoons on hot summer days. Winter inversions frequently break by midmorning.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations in the SCAB. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties.

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

2.1.2 Air Quality

Air Pollutants of Primary Concern

Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere. Primary criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter with diameters 10 micrometers and smaller (PM_{10}), particulate matter with diameters 2.5 micrometers and smaller ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). Ozone (O_3) is considered a secondary criteria pollutant because it is created by atmospheric chemical and photochemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_X). The following subsections describe the characteristics, sources, and health and atmospheric effects of criteria air contaminants.

Ozone

Ozone is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between NO_X and reactive organic compounds (ROC), also referred to as volatile organic compounds [VOC] or ROG.[2] VOC is composed of non-methane hydrocarbons (with specific exclusions), and NO_X is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide (NO) and NO_2. NO_X is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with multiple different atmosphere components. Consequently, high ozone levels tend to exist only while high VOC and NO_X levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors. Depending on the level of exposure, ozone can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis (United States Environmental Protection Agency [U.S. EPA] 2025a).

Carbon Monoxide

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

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

to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (U.S. EPA 2025a).

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion. The primary sources are motor vehicles, industrial boilers, and furnaces. The principal form of NO_x produced by combustion is NO, but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2, commonly called NO_X. NO_2 is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO_2. NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of ozone/smog and acid rain (U.S. EPA 2025a).

Sulfur Dioxide

Sulfur dioxide (SO_2) is included in a group of highly reactive gases known as sulfur oxides (SO_X). The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2 (U.S. EPA 2025a).

Particulate Matter

Particulate matter with a diameter of 10 micrometers or less (PM_{10}) and particulate matter with a diameter of 2.5 micrometers or less in diameter ($PM_{2.5}$) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM_{10} and $PM_{2.5}$ are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM_{10} and $PM_{2.5}$ can be very different. PM_{10} is generally associated with dust mobilized by wind and vehicles. In contrast, $PM_{2.5}$ is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM_{10} can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, and surface soiling. For $PM_{2.5}$, short-term exposures (up to 24 hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resources Board [CARB] 2025a).

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial. However, due to the U.S. EPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred before 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (U.S. EPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of lead emissions. The highest lead level in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system, depending on exposure. Lead exposure also affects the oxygen-carrying capacity of blood. The lead effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to lead exposures, contributing to behavioral problems, learning deficits, and lowered intelligence quotient (U.S. EPA 2025a).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micrometer in diameter (about 1/70th the diameter of a human hair), and thus, is a subset of $PM_{2.5}$. Because of their extremely small size, TACs can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2025). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health issues (U.S. EPA 2025b).

Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005, OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, religious facilities, and daycare centers. The nearest sensitive receptor to the site are the residential land uses

immediately to the west, directly north across Alessandro Blvd, and the Riverside University Heath System Medical Center approximately 500 feet southeast of the project site.

2.1.3 Greenhouse Gas

Gases that trap heat in the atmosphere are known as greenhouse gas or GHGs. GHGs allow sunlight to enter the atmosphere but trap a portion of the outward-bound infrared radiation that warms the air. The process is similar to the effect greenhouses have in raising the internal temperature of the structure. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature, but emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. Scientists agree that this accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most scientists agree there is a direct link between increased emissions of GHGs and long-term global temperature increases.

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

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.

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

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

Greenhouse Gases

Carbon Dioxide

Carbon dioxide (CO_2) is the primary GHG emitted through human activities. In 2020, CO_2 accounted for about 79 percent of all U.S. GHG emissions from human activities. CO_2 is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle–both by adding more CO_2 to the atmosphere, and by influencing the ability of natural sinks, like forests and soils, to remove and store CO_2 from the atmosphere. While CO_2 emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution (U.S. EPA 2025a).

Methane

Methane (CH_4) is a colorless, odorless gas and is the major component of natural gas. In 2020, methane accounted for about 11 percent of all U.S. GHG emissions from human activities. Human activities emitting methane include leaks from natural gas systems and the raising of livestock. Methane is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove CH_4 from the atmosphere. Methane's lifetime in the atmosphere is much shorter than carbon dioxide (CO_2), but CH_4 is more efficient at trapping radiation than CO_2. Pound for pound, the comparative impact of CH_4 is 25 times greater than CO_2 over a 100-year period (U.S. EPA 2025a).

Nitrous Oxide

Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. In 2020, nitrous oxide accounted for about seven percent of all U.S. GHG emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N_2O in the atmosphere. Nitrous oxide is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of one pound of N_2O on warming the atmosphere is almost 300 times that of one pound of carbon dioxide (U.S. EPA 2025a).

Fluorinated Gases (HFCs, PFCs and SF_6)

Unlike many other GHGs, fluorinated gases have no natural sources and only come from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high GWPs relative to other GHGs, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have long atmospheric lifetimes, in some cases, lasting thousands of years. Like other long-lived GHGs, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of GHGs emitted by human activities (U.S. EPA 2025a).

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

In 2019, worldwide anthropogenic emissions totaled 48,940 billion metric tons (MT) of greenhouse gas emissions, which is a 50 percent increase from 1990 GHG levels (U.S. EPA 2025c). Specifically, 36,442 million metric tons (MMT) of CO_2e of CO_2, 8,298 MMT of CO_2e of CH_4, 3,064 MMT of CO_2e of N_2O, and 1,136 MMT of CO_2e of fluorinated gases were emitted in 2018. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 76 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed for three percent. These sources account for approximately 97 percent, because there was a net sink of three percent from land-use change and forestry (ClimateWatch 2018).

United States Emissions Inventory

U.S. GHG emissions were 6,343 MMT of CO_2e in 2022. Emissions increased by one percent from 2021 to 2022; since 2005, total U.S. emissions have decreased by 17 percent from 2005 to 2022. The increase in total GHG emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion. In 2022, CO_2 emissions from fossil fuel combustion increased by one percent relative to 2021. This increase in fossil fuel consumption emissions was from increased energy use, due in part to the continued rebound in economic activity after the height of the COVID-19 pandemic. In 2022, transportation activities accounted for the largest portion (28 percent) of total U.S. GHG emissions. Emissions from electric power accounted for the second largest portion (25 percent), while emissions from industry accounted for the third largest portion (23 percent) of total U.S. GHG emissions in 2022 (USEPA 2022).

California Emissions Inventory

Based on CARB California Greenhouse Gas Inventory for 2000-2022, California produced 371 MMT of CO_2e in 2022, which is 35 MMT of CO_2e lower than 2020 levels. The major source of GHG emissions in California is the transportation sector, which comprises 39 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 23 percent of the state's GHG emissions, while electric power accounts for approximately 16 percent (CARB 2023, 2022). The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO_2e (CARB 2023).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, with 2013 to 2021 among warmest years from 1880 to 2021. The average global land and ocean surface temperature for January to December 2021 was 0.84°C (1.51 degrees Fahrenheit [°F]) above the 20th century average of 13.9°C (57.0°F) (National Oceanic and Atmospheric Administration 2020).

Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (California Natural Resource Agency 2018). *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the State and regionally specific climate change case studies. However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy (California Natural Resource Agency 2018). A summary follows of some of the potential effects that climate change could generate in California.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C (4.3°F to 5.8°F) in the next 50 years and by 3.1 to 4.9°C (5.6°F to 8.8°F) in the next century (California Natural Resource Agency [CNRA] 2018). Higher temperatures are conducive to air pollution formation and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (CNRA 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. With increasing temperatures, shifting weather patterns, longer dry seasons, and more dry fuel loads, the frequency of large wildfires and area burned is expected to continue to increase (CNRA 2021).

Water Supply

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

precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (CNRA 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (CNRA 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (National Aeronautics and Space Administration [NASA] 2020). Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880 (NASA 2020). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise ranging between 0.25 to 1.01 meters by 2100 with the sea level ranges dependent on a low, intermediate, or high GHG emissions scenario (IPCC 2021). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (CNRA 2018). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has an over $50 billion annual agricultural industry that produces over a third of U.S. vegetables and two-thirds of the U.S. fruits and nuts (California Department of Food and Agriculture 2020). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (CNRA 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions with higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; CNRA 2018).

2.1.4 Energy

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves several system components. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Substations and transformers then lower transmission line power (voltage) to a level appropriate for on-site distribution and use. Conveyance of electricity through transmission lines typically meets market demands for electricity consumption.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

Southern California Edison (SCE) provides electricity throughout Moreno Valley and Southern California. SCE generates power from a variety of energy sources, including hydropower, coal, gas, nuclear sources, and renewable resources, such as wind, solar, and geothermal sources. According to the California Energy Demand Forecast, SCE is expected to have an annual electricity demand of between 101,081 GWh (low demand case) and 120,624 GWh (high demand case), with peak demand between 24,046 GWh and 27,018 GWh in 2030 (CEC 2022a and 2022b). SCE offers three power mix options; the SCE Power Mix, SCE Green Rate 50 Percent Option, and the SCE Green Rate 100 Percent Option[4]. Residents are automatically enrolled to SCE default power mix of 31.4 percent eligible renewable (100 percent to fund solar energy sources) (SCE 2025). In 2023, 37.6 percent of the SCE Power Mix, 68.7 percent of the SCE Green Rate 50 Percent Option, and 100 percent of the SCE Green Rate 100 Percent Option were sourced from renewable sources, respectively. In 2023, the statewide percentage of electricity purchases from renewable sources was 36.9 percent (SCE 2025).

In addition to SCE, Moreno Valley Utility (MVU) also provides electricity throughout the City and would serve the project site. MVU serves over 6,500 customers and offers customer service, meter reading, billing, emergency response and other services to new commercial and residential developments within its service area (MVU 2025a). In 2023, 23.8 percent of the MVU power mix came from solar energy sources and 76.2 percent came from unspecified power sources (MVU 2025b).

[4] Power mix is a combination of the various fuels used to generate electricity over a given region such as eligible renewable, natural gas, coal, nuclear, etc.

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the state, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the project site by the Southern California Gas Company (SoCalGas). SoCalGas is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.1 million customers over a 24,000-square-mile service area (SoCalGas 2023).

SoCalGas is under the jurisdiction of the CPUC and other federal regulatory agencies; therefore, the availability of natural gas is based upon present conditions of gas supply as well as regulatory policies. SoCalGas receives gas supplies from several sedimentary basins, including supply basins located in New Mexico (San Juan Basin), western Texas (Permian Basin), the Rocky Mountains, and western Canada, as well as local California supplies. Gas supply available to SoCalGas from California sources averaged 84 million cubic feet per day in 2023. SoCalGas projects total gas demand to decline at through 2035 due to energy efficiency, fuel substitution, and renewable energy goals and standards (California Gas and Electric Utilities [CGEU] 2024). SoCalGas encourages reduced consumption of natural gas by offering its customers energy efficiency programs with rebates and incentives. Natural gas is supplied to the area through a system of existing gas mains located under the streets and public rights-of-way.

Transportation Energy

Transportation accounted for approximately 42 percent of California's total energy consumption in 2023 (United States Energy Information Administration [USEIA] 2024). In 2021, California consumed 12.3 billion gallons of gasoline and 2.6 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2024a and 2024b). Petroleum-based fuels currently account for 98 percent of California's transportation energy sources. However, the state is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce VMT. Accordingly, gasoline consumption in California has declined. In 2023, gasoline and diesel sales in Riverside County were approximately 823 million gallons and 108 million gallons, respectively (CEC 2023).

2.2 Regulatory Setting

2.2.1 Air Quality

Federal and California Clean Air Acts

The federal and State governments have established ambient air quality standards for the protection of public health. The U.S. EPA is the federal agency designated to administer air quality regulation, while the CARB is the State equivalent within the California Environmental Protection Agency (CalEPA). Regional-level air quality management districts provide local management of air quality. CARB has established State-level air quality standards and is responsible for the control of mobile emission sources, while the local air districts are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide, including the SCAB.

The U.S. EPA has set primary national ambient air quality standards (NAAQS) for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, California has established health-based ambient air quality standards (known as the California ambient air quality standards [CAAQS]) for these and other pollutants, some of which are more stringent than the federal standards. Table 2 lists the current federal and State standards for regulated pollutants.

South Coast Air Quality Management District (SCAQMD) is the designated air quality control agency in the SCAB, which is designated nonattainment area for the Federal and State one-hour and eight-hour ozone standards, State PM_{10} standards, federal 24-hour $PM_{2.5}$ standard, and Federal and State annual $PM_{2.5}$ standard. The SCAB is designated unclassifiable or in attainment for all other federal and State standards (SCAQMD 2017).

Table 2 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standards
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
CO	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
NO_2	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
SO_2	Annual	0.030 ppm	–
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	–	20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
$PM_{2.5}$	Annual	9 µg/m³	12 µg/m³
	24-Hour	35 µg/m³	–
Lead	30-Day Average	–	1.5 µg/m³
	3-Month Average	0.15 µg/m³	–
Visibility Reducing Particles	8-Hour	–	Extinction of 0.23 per kilometer
Sulfates	24-Hour	–	25 µg/m³
Hydrogen Sulfide	1-Hour	–	0.03 ppm (42 µg/m³)
Vinyl Chloride	24-Hour	–	0.01 ppm (26 µg/m³)

ppm = parts per million; µg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns

Source: CARB 2024a and CARB 2024b

Construction Equipment Fuel Efficiency Standard

The U.S. EPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements, which are contained in 40 Code of Federal Regulations (CFR) Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register [FR] 38958 [June 29, 2004], and most recently updated in 2014 [79 FR 46356]). Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS and CAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and

approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations at 40 Code of Federal Regulations 52.220.

The 2022 SCAQMD AQMP is the SIP for western Riverside County. The AQMP accommodates growth by projecting the growth in emissions based on different indicators. For example, population growth forecasts adopted by SCAG are used to forecast population-related emissions, as described below. Through the planning process, emissions growth is offset by basin-wide controls on stationary, area, and transportation sources of air pollution.

Regional and Local Air Quality Regulations

South Coast Air Quality Management District 2022 Air Quality Management Plan

To meet the NAAQS and CAAQS, the SCAQMD has adopted a series of AQMPs, which serve as a regional blueprint to develop and implement an emission reduction strategy that will bring the area into attainment with the standards in a timely manner. The most significant air quality challenge in the South Coast Air Basin (SCAB) is to reduce NO_X emissions sufficiently to meet the 2037 O_3 standard deadline for the non-Coachella Valley portion of the SCAB, as NO_X plays a critical role in the creation of O_3. The 2022 AQMP includes strategies to ensure the SCAQMD does its part to further the Air District's ability to meet the 2015 federal O_3 standards. SCAQMD would need to reduce emissions of NO_X by 67 percent beyond what is required by the adopted rules and regulations in 2037 to meet the 2015 federal O_3 standard (SCAQMD 2022). The 2022 AQMP builds on the measures already in place from the previous AQMPs and includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technology, best management practices, co-benefits from existing programs, incentives, and other CAA measures to meet the 8-hour O_3 standard. Since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the O_3 standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of annual $PM_{2.5}$ standards (SCAQMD 2017).[5]

The SCAQMD's strategy to meet the NAAQS and CAAQS distributes the responsibility for emission reductions across federal, State, and local levels and industries. The majority of these emissions are from heavy-duty trucks, ships, and other State- and Federally-regulated mobile source emissions that are beyond SCAQMD's control. The 2022 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions from federal sources, which include aircraft, locomotives, and ocean-going vessels. These strategies are to be implemented in partnership with CARB and USEPA. The district will not meet the standard without significant federal action. In addition to federal action, the 2022 AQMP relies on substantial future development of advanced technologies to meet the standards, including the transition to zero and low emission technologies. Of the needed NO_X emissions reductions, 46 percent will come from federal actions, 34 percent from CARB actions, and 20 percent will come directly from SCAQMD actions (SCAQMD 2022).

The AQMP also incorporates the transportation strategy and transportation control measures from the Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal) (SCAG 2020). SCAG is the

[5] Estimates are based on the inventory and modeling results and are relative to the baseline emission levels for each attainment year (see Final 2016 AQMP for detailed discussion).

regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial counties, and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG coordinates with various air quality and transportation stakeholders in southern California to ensure compliance with Federal and State air quality requirements. Pursuant to California Health and Safety Code Section 40460, SCAG has the responsibility of preparing and approving the portions of the AQMP relating to the regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and State air quality plans to attain the NAAQS. Connect SoCal includes transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained in the AQMP. The SCAQMD combines its portion of the AQMP with those prepared by SCAG (SCAQMD 2022). SCAG's regional growth assumptions and Transportation Control Measures, included as Appendix IV-C of the 2022 AQMP, are based on SCAG's Connect SoCal.

The 2022 AQMP forecasts the 2037 emissions inventories ''with growth'' based on SCAG's Connect SoCal. The region is projected to see a 12 percent growth in population, 17 percent growth in housing units, 11 percent growth in employment, and 5 percent growth in VMT between 2018 and 2037. Despite regional growth in the past, air quality has improved substantially over the years, primarily because of air quality control programs at the local, State, and Federal levels (SCAQMD 2022).

Project-level significance thresholds established by local air quality management districts set the level at which a project would cause or have a cumulatively considerable contribution to an exceedance of the NAAQS and/or CAAQS. Therefore, if a project's air pollutant emissions exceed the NAAQS and/or CAAQS, the project could cause or contribute to human health impacts.

South Coast Air Quality Management District Rules and Regulations

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

- **Rule 401 (Visible Emissions).** This rule prohibits the discharge of visible air pollutant emissions from various sources as determined by shade and opacity criteria based on the Ringelmann Chart.
- **Rule 402 (Nuisance).** This rule prohibits the discharge of quantities of air contaminants or other material that causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 403 (Fugitive Dust Control).** This rule includes various requirements to prevent, reduce, and mitigate the amount of particulate matter entrained in the ambient air from man-made fugitive dust sources.
- **Rule 1113 (Architectural Coatings).** This rule establishes volatile organic compound (VOC) content limits for a variety of architectural coatings, including 50 grams per liter for flat and non-flat coatings.

Regional Transportation Plan/Sustainable Communities Strategy

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. On September 3, 2020, SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS (titled Connect SoCal). The 2020-2045 RTP/SCS builds upon the progress made through implementation of the 2016-2040 RTP/SCS and includes ten goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. The SCS establishes a land use vision of center focused placemaking, concentrating growth in and near Priority Growth Areas, transferring of development rights, urban greening, creating greenbelts and community separators, and implementing regional advance mitigation (SCAG 2020).

SB 375 requires each MPO to prepare a SCS in their RTP. In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) from automobiles and light duty trucks and, thereby, reduce GHG emissions from these sources. For the SCAG region, the 2020-2045 RTP/SCS adopted on September 3, 2020, is the current RTP/SCS.

The 2020-2045 RTP/SCS focuses on the continued efforts of the previous RTP/SCS plans for an integrated approach in transportation and land use strategies in development of the SCAG region through horizon year 2045. The 2020-2045 RTP/SCS projects that the SCAG region will meet the GHG per capita reduction targets established for the SCAG region of 8 percent by 2020 and 19 percent by 2035. Additionally, its implementation is projected to reduce VMT per capita for the year 2045 by 4.1 percent compared to baseline conditions for the year. Rooted in the 2008 and 2012 RTP/SCS plans, the 2020-2045 RTP/SCS includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by location housing, jobs, and transit closer together, and increasing investments in transit and complete streets.

In April 2024, SCAG's Regional Council adopted *Connect SoCal* 2024, the Reginal Transportation Plan/Sustainable Communities Strategy, for federal transportation conformity purposes. *Connect SoCal* 2024 builds upon the progress made through implementation of the 2020-2045 RTP/SCS and includes goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. The objective of *Connect SoCal* 2024 is to create a region with transit as a backbone of the transportation system, provide more Complete Streets, promote policies that encourage emerging technologies and mobility innovations, co-locate more housing, jobs, and mobility options, increase housing, and provide safe and fluid movement of goods while broadening the use of zero- and near-zero emissions technologies (SCAG 2024).

Moreno Valley General Plan

On July 11, 2006, the City Council approved a comprehensive update of the City's General Plan and certified the related Final Program Environmental Impact Report. However, the City of Moreno Valley is currently in the process of readopting the City's 2040 General Plan Update (2040 General Plan) and zoning[6]. The following policies are relevant to the implementation of the project to reduce air quality impacts.

2006 GENERAL PLAN

5.9: Support and encourage development of safe, efficient and aesthetic pedestrian facilities.

5.10: Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution

6.6: Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation

6.6.2: Provide multi-family residential development sites in close proximity to neighborhood commercial centers in order to encourage pedestrian instead of vehicular travel.

6.7: Reduce mobile and stationary source air pollutant emissions.

6.7.5: Require grading activities to comply with South Coast Air Quality Management District's Rule 403 regarding the control of fugitive dust.

7.5.3: Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access.

2040 GENERAL PLAN

LCC.1-4: Focus new development in centers and corridors so as to support the vitality of existing businesses, optimize the use of utility infrastructure, and reduce vehicle trip frequency, length, and associated emissions.

LCC.1-6: Promote infill develop Promote infill development along Alessandro, Sunnymead, and Perris to create mixed use corridors with a range of housing types at mid-to-high densities along their lengths and activity nodes at key intersections with retail/commercial uses to serve the daily needs of local residents.

C.2-7: Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.

C.4-4: All new developments shall provide sidewalks in conformance with the City's streets cross-section standards, and applicable policies for designated urban and rural areas.

[6] On June 15, 2021, the Moreno Valley City Council approved and adopted the City's 2040 General Plan Update (2040 General Plan), a Change of Zone and Municipal Code Update, and its Climate Action Plan (CAP) and certified the EIR, State Clearinghouse No. 2020039022, prepared in compliance with CEQA in association with the approvals. In a lawsuit entitled Sierra Club v. The City of Moreno Valley, Riverside Superior Court Case No. CVRI2103300, the Sierra Club challenged the validity of the CAP and the EIR. Following a court ruling and judgment in March 2024, the Moreno Valley City Council rescinded the 2021 approvals and certification. As part of the ongoing response, the City issued a Notice of Preparation on July 30, 2024, for a Revised Environmental Impact Report titled "MoVal 2040: The Moreno Valley Comprehensive General Plan Update, Municipal Code and Zoning (including Zoning Atlas) Amendments, and Climate Action Plan" as it moves forward with the readoption of the 2040 General Plan.

C.5-1: Work to reduce VMT through land use planning, enhanced transit access, localized attractions, and access to nonautomotive modes.

C-5.3: Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution.

C-5.4: Particularly in corridors and centers, work with transit service providers to provide first-rate amenities to support pedestrian, bicycle and transit usage, such as bus shelters and benches, bike racks on buses, high-visibility crossings, and modern bike storage.

EJ.1-3: Require new development that would locate sensitive uses adjacent to sources of toxic air contaminants (TAC) to be designed to minimize any potential health risks, consistent with State law.

EJ.1-6: Ensure that construction and grading activities minimize short-term impacts to air quality by employing appropriate mitigation measures and best practices.

EJ.1-8: Support the incorporation of new technologies and design and construction techniques in new development that minimize pollution and its impacts.

S.3-6: Encourage the use of landscaping, building materials, and site design techniques that provide passive cooling and reduce energy demand.

S.3-8: Assess the feasibility of implementing urban heat island mitigation technologies in public gathering places.

OSRC.1-7: Require that grading plans include appropriate and feasible measures to minimize erosion, sedimentation, wind erosion and fugitive dust. Particularly in hillside areas, new roadways and trails should follow natural contours to minimize grading.

OSRC.3-1: Promote energy conservation throughout the community and encourage the use of renewable energy systems and technologies to supplement or replace traditional building energy systems.

OSRC.3-6: Encourage new development to incorporate as many water-wise practices as feasible in their design and construction.

OSRC.3-7: Conserve water through the provision of water-efficient infrastructure, drought tolerant plantings, and greywater usage to support public parks and landscaped areas.

OSRC.3-8: Conserve water through the planting and maintenance of trees, which will provide for the capture of precipitation and runoff to recharge groundwater, in addition to providing shading for other landscaping to reduce irrigation requirements. Ensure that any ‘community greening’ projects utilize water-efficient landscape.

Current Air Quality

The SCAQMD operates a network of air quality monitoring stations throughout Los Angeles County. The monitoring stations aim to measure ambient concentrations of pollutants and determine whether ambient air quality meets State and Federal standards. The closest air quality monitoring station to the project site is the Perris Valley Station for 2021 for Ozone and PM_{10}. No measurements for the Perris Valley Station were available for 2022 or 2023 so the Lake Elsinore Area Station was used for data for 2022 and 2023 for all pollutants other than $PM_{2.5}$. The Metropolitan Riverside County 3 Monitoring Station was used for $PM_{2.5}$ measurements for 2021 through 2023.

Table 3 indicates the number of days that each of the federal and State standards has been exceeded at monitoring stations near the project site in each of the last three years for which data is available. In the vicinity of the project site, the federal and State 8-hour ozone standards, State - hour ozone standards, and State PM_{10} standards were exceeded in 2021 through 2023. Federal PM2.5 standards were exceeded in 2021 and 2023. No other exceedances were documented for 2021 through 2023. Information regarding SO_2 concentrations is not available from any of the monitoring stations.

Table 3 Annual Ambient Air Quality Data from Nearest Monitoring Stations

Pollutant	2021	2022	2023
Ozone (ppm), Worst 1-Hour[1,2]	0.117	0.121	0.120
Number of days above CAAQS (>0.09 ppm)	25	17	53
Number of days above NAAQS (>0.12 ppm)	0	-	-
Ozone (ppm), Worst 8-Hour Average[1]	0.094	0.091	0.103
Number of days above CAAQS (>0.070 ppm)	60	37	28
Number of days above NAAQS (>0.070 ppm)	55	37	31
Carbon Dioxide (ppm), worst 1-hour[2]	0.9	0.9	1.3
Number of days above CAAQS (35 ppm)	0	0	0
Number of days above NAAQS (20 ppm)	0	0	0
Carbon Dioxide (ppm), worst 8-hour[2]	0.8	0.6	0.7
Number of days above CAAQS (9 ppm)	0	0	0
Number of days above NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide (ppm), Worst 1-Hour[2]	0.044	0.037	0.042
Number of days above CAAQS (>0.180 ppm)	0	0	0
Number of days above NAAQS (>0.100 ppm)	0	0	0
Particulate Matter <10 microns (μg/m³), Worst 24 Hours[2]	89	91	186
Number of days above CAAQS (>50 μg/m³)	4	1	5
Number of days above NAAQS (>150 μg/m³)	0	0	1
Particulate Matter <2.5 microns (μg/m³), Worst 24 Hours[3]	77.6	32.1	53.9
Number of days above NAAQS (>35 μg/m³)	13	0	3

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

[1] Data sourced from the Perris Valley Monitoring Station.

[2] Data sourced from the Lake Elsinore Area Monitoring Station.

[3] Data sourced from the Metropolitan Riverside County 3 Monitoring Station.

Source: SCAQMD 2025

2.2.2 Greenhouse Gas

Federal Regulations

Federal Clean Air Act

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

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

State Regulations

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the U.S. EPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the U.S. EPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2025).

California Global Warming Solutions Act of 2006 (Assembly Bill 32, Senate Bill 32, and Assembly Bill 1279)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32

requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008).

CARB approved the 2013 Scoping Plan update in May 2014 (CARB 2014). The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan.

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

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

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

The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.

Senate Bill 375

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

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles by 2020[7] and a 19 percent reduction in per capita GHG emissions from passenger vehicles by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

Senate Bill 1383

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

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

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

Senate Bill 100

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

Executive Order B-55-18

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

[7] SCAG met 2020 GHG reduction but confirmation from CARB is still pending.

Title 24, California Building Standards Code and CALGreen Code

The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction goals under HSC Division 25.5 (e.g., AB 32) by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality.

On August 11, 2021, the CEC adopted the 2022 Title 24 Standards, which went into effect on January 1, 2023. The 2022 standards continue to improve upon the previous (2019) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings (CEC 2022a). The 2022 Title 24 Standards "build on California's technology innovations, encouraging energy efficient approaches to encourage building decarbonization, emphasizing in particular on heat pumps for space heating and water heating. This set of Energy Codes also extends the benefits of photovoltaic and battery storage systems and other demand flexible technology to work in combination with heat pumps to enable California buildings to be responsive to climate change. This Energy code also strengthens ventilation standards to improve indoor air quality. This update provides crucial steps in the state's progress toward 100 percent clean carbon neutrality by midcentury" (CEC 2022b). The 2022 Energy Code is anticipated to reduce GHG emissions by 10 MMT of CO_2e over the next 30 years and result in approximately 1.5 billion dollars in consumer savings (CEC 2022c). Compliance with Title 24 is enforced through the building permit process.

Executive Order N-79-20

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

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

Regional and Local Regulations

SCAG 2024-2050 RTP/SCS

On April 4, 2024, SCAG's Regional Council formally adopted the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS, also known as Connect SoCal). The 2024-2050 RTP/SCS builds upon the progress made through implementation of the 2020-2045 RTP/SCS and includes plan elements organized within the pillars of Mobility, Communities, Environment and Economy. The SCS implementation strategies include advancing the transition to clean transportation technologies, efficient, multimodal, and accessible transit networks, compact and mixed-use development patterns prioritizing walkability, urban greening, and transit-oriented development (SCAG 2024).

Moreno Valley General Plan

On July 11, 2006, the City Council approved a comprehensive update of the City's General Plan and certified the related Final Program Environmental Impact Report. However, the City of Moreno Valley is currently in the process of readopting the City's 2040 General Plan Update (2040 General Plan) and zoning[8]. The following policies, in addition to those identified under Air Quality above, are relevant to the implementation of the project to reduce GHG impacts:

2006 GENERAL PLAN

5.9: Support and encourage development of safe, efficient and aesthetic pedestrian facilities.

5.10: Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution

6.6: Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation

6.6.2: Provide multi-family residential development sites in close proximity to neighborhood commercial centers in order to encourage pedestrian instead of vehicular travel.

6.7: Reduce mobile and stationary source air pollutant emissions.

6.7.5: Require grading activities to comply with South Coast Air Quality Management District's Rule 403 regarding the control of fugitive dust.

6.7.6: Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

7.5: Encourage efficient use of energy resources.

7.5.1: Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

[8] On June 15, 2021, the Moreno Valley City Council approved and adopted the City's 2040 General Plan Update (2040 General Plan), a Change of Zone and Municipal Code Update, and its Climate Action Plan (CAP) and certified the EIR, State Clearinghouse No. 2020039022, prepared in compliance with CEQA in association with the approvals. In a lawsuit entitled Sierra Club v. The City of Moreno Valley, Riverside Superior Court Case No. CVRI2103300, the Sierra Club challenged the validity of the CAP and the EIR. Following a court ruling and judgment in March 2024, the Moreno Valley City Council rescinded the 2021 approvals and certification. As part of the ongoing response, the City issued a Notice of Preparation on July 30, 2024, for a Revised Environmental Impact Report titled "MoVal 2040: The Moreno Valley Comprehensive General Plan Update, Municipal Code and Zoning (including Zoning Atlas) Amendments, and Climate Action Plan" as it moves forward with the readoption of the 2040 General Plan.

7.5.2: Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.

7.5.3: Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access.

7.5.5: Encourage the use of solar power and other renewable energy systems.

2040 General Plan

C-2: Plan, design, construct, and maintain a local transportation network that provides safe and efficient access throughout the city and optimizes travel by all modes.

C-3: Manage the City's transportation system to minimize congestion, improve flow and improve air quality

C-4: Provide convenient and safe connections between neighborhoods and destinations within Moreno Valley.

S-3: Build community resilience to climate change

S.3-6: Encourage the use of landscaping, building materials, and site design techniques that provide passive cooling and reduce energy demand. In particular, promote the use of voluntary measures identified in the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects, including hardscape and roof materials with beneficial solar reflectance and thermal emittance values and measures for exterior wall shading

S.3-7: Require new development to provide and maintain shade trees suitable to local climate conditions.

EJ-1: Reduce pollution exposure and improve community health.

EJ.1-6: Ensure that construction and grading activities minimize short-term impacts to air quality by employing appropriate mitigation measures and best practices.

HC.1-6: Promote walking and bicycling as a safe and convenient mode of transportation.

OSRC-3: Use energy and water wisely and promote reduced consumption

OSRC.3-1: Promote energy conservation throughout the community and encourage the use of renewable energy systems and technologies to supplement or replace traditional building energy systems.

OSRC.4-1: Reduce the amount of solid waste disposed in landfills by promoting source reduction and recycling throughout Moreno Valley and by expanding the range of programs and information available to local residents and businesses, consistent with State requirements.

2.2.3 Energy

Federal Regulations

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 facilitates the reduction of national energy use and GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs that have traditionally used between 40 and 100 watts of electricity.
- While superseded by the United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA) actions described below, (i) establishing miles per gallon targets for cars and light-duty trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs"[9].

Energy Policy and Conservation Act

Enacted in 1975, the Energy Policy and Conservation Act legislation established fuel economy standards for new light-duty vehicles (autos, pickups, vans, and sport-utility vehicles). The law placed responsibility on the NHTSA, a part of the U.S. Department of Transportation (USDOT), for establishing and regularly updating vehicle standards. The USEPA administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon (mpg) for the 1975 model year to 30.7 mpg for the 2014 model year and can increase to 54.5 mpg by 2025.

On August 2, 2018, the NHTSA and USEPA, operating under the direction of the Trump Administration, proposed the Safer Affordable Fuel-Efficient Vehicles Rule Part One (SAFE I Rule). This rule addresses emissions and fuel economy standards for motor vehicles and is separated in two parts as described below.

- Part One, "One National Program" (84 Federal Register 51310) revokes a waiver granted by USEPA to the State of California under Section 209 of the Clean Air Act to enforce more stringent emission standards for motor vehicles than those required by USEPA for the explicit purpose of GHG emission reduction, and indirectly, criteria air pollutants and ozone precursor

[9] A "green job," as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

emission reduction. This revocation became effective on November 26, 2019, potentially restricting the ability of the California Air Resources Board (CARB) to enforce more stringent GHG emission standards for new vehicles and set zero emission vehicle mandates in California.

- Part Two addresses CAFE standards for passenger cars and light trucks for model years 2021 to 2026. This rulemaking proposes new CAFE standards for model years 2022 through 2026 and would amend existing CAFE standards for model year 2021. The proposal would retain the model year 2020 standards (specifically, the footprint target curves for passenger cars and light trucks) through model year 2026. The proposal addressing CAFE standards was jointly developed by NHTSA and USEPA, with USEPA simultaneously proposing tailpipe carbon dioxide standards for the same vehicles covered by the same model years.

The USEPA and NTHSA published final rules to amend and establish national carbon dioxide and fuel economy standards on April 30, 2020 (Part Two of the SAFE Vehicles Rule) (85 Federal Register 24174). On April 22, 2021, the Biden Administration formally proposed to roll back portions of the SAFE Rule, thereby restoring California's right to enforce more stringent fuel efficiency standards. Most recently, on December 21, 2021, the NHTSA finalized rules to repeal the SAFE I Rule. The final rule concludes the SAFE I Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important State and local interests. The final rule ensures the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities' environmental and public health challenges.

National Energy Policy Act of 1992

The National Energy Policy Act calls for programs that promote efficiency and the use of alternative fuels. The National Energy Policy Act requires certain federal, state, and local government and private fleets to purchase a percentage of light duty alternative fuel vehicles capable of running on alternative fuels each year. In addition, the National Energy Policy Act has financial incentives. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of alternative fuel vehicles. The National Energy Policy Act also requires states to consider a variety of incentive programs to help promote alternative fuel vehicles.

Clean Air Act

The Clean Air Act Section 211(o), as amended by the Energy Policy Act of 2005, requires the Administrator of the USEPA to annually determine a renewable fuel standard which is applicable to refineries, importers, and certain blenders of gasoline, and to publish the standard in the Federal Register by November 30 each year. On the basis of this standard, each obligated party determines the volume of renewable fuel that it must ensure is consumed as motor vehicle fuel. This standard is calculated as a percentage, by dividing the amount of renewable fuel that the Clean Air Act requires to be blended into gasoline for a given year by the amount of gasoline expected to be used during that year, including certain adjustments specified by the Clean Air Act.

State Regulations

California Building Standards Code (Title 24)

CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24, PART 6)

California Code of Regulations (CCR) Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency

standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2022 Title 24 standards are the applicable building energy efficiency standards for the proposed Project because they became effective on January 1, 2023 (CEC 2022a).

CALIFORNIA GREEN BUILDING STANDARDS (TITLE 24, PART 11)

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

California Appliance Efficiency Regulations

The Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608), adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 implements some of the goals of Executive Order B-30-15, issued in April 2015, which established a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. The objective of SB 350 is to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation by 2030. The latest statewide GHG emissions target and procurement of electricity from renewable sources is discussed under Senate Bill 1020 below.

Advanced Clean Cars Regulations

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations[10]. The program requires a greater number of zero-emissions vehicle (ZEV) models for the years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the low-emissions vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles and the ZEV regulations to require manufacturers to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025. Implementation of the ZEV and PHEV regulations reduce transportation fuel consumption by increasing the number of vehicles that are partially or fully electric-powered (CARB 2023a).

[10] Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations). Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks) for model years 2009–2016. Pavely regulations achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from passenger vehicles, beginning with the 2009 model year.

In-Use Off-Road Diesel Fueled Fleets Regulation

Since off-road vehicles that are used in construction and other related industries can last 30 years or longer, most of those that are in service today are still part of an older fleet that do not have emission controls. In 2007, CARB approved the "In-Use Off-Road Diesel Fueled Fleets Regulation" to reduce emissions from existing (in-use) off-road diesel vehicles that are used in construction and other industries. This regulation sets an idling limit of five minutes for all off-road vehicles 25 horsepower and up. It also establishes emission rates targets for the off-road vehicles that decline over time to accelerate turnover to newer, cleaner engines and require exhaust retrofits to meet these targets. The regulation enforces restrictions against adding new equipment with older tier engines, such as Tier 0 and Tier 1 engines, effective January 1, 2014. By each annual compliance deadline, a fleet must demonstrate that it has either met the fleet average target for that year or has completed the Best Available Control Technology requirements. Large fleets have compliance deadlines each year from 2014 through 2023, medium fleets each year from 2017 through 2023, and small fleets each year from 2019 through 2028. Large and medium fleets would have 100 percent compliance with Tier 2 or higher engines by 2023. Small fleets would have 100 percent tier 2 or higher engines by 2028.

Sustainable Communities and Climate Protection Act

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Chapter 728, Statutes of 2008), which was adopted by the State on September 30, 2008, establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. SB 375 finds that the "transportation sector is the single largest contributor of greenhouse gases of any sector." Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organizations (MPOs), to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. Southern California Association of Governments (SCAG) is the MPO in which the City of Beverly Hills is located. CARB set targets for 2020 and 2035 for each of the 18 MPO regions in 2010 and updated them in 2018. In March 2018, CARB updated the SB 375 targets for the SCAG region to require an 8-percent reduction by 2020 and a 19-percent reduction by 2035 in per capita passenger vehicle GHG emissions (CARB 2023b). As discussed further below, in September 2020, SCAG adopted an updated Regional Transportation Plan/Sustainable Community Strategies (2020-2045 RTP/SCS) subsequent to the update of the emission targets. The 2020-2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals (SCAG 2020).

Under SB 375, the target must be incorporated within that region's RTP, which is used for long-term transportation planning in an SCS. Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS.

Senate Bill 1389

SB 1389 (Public Resources Code Sections 25300–25323) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. The CEC must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every two years. The 2022 Integrated Energy Policy Report, adopted in February 2023, highlights the implementation of California's policies and the role they have played in establishing a clean energy economy. The Integrated

Energy Policy Report contains recommendations on energy usage policies such as decarbonizing buildings, energy efficiency savings, increasing flexibility in the electrical system to integrate more renewable energy and improve energy reliability, and reducing gasoline and diesel use in cars and trucks by up to 50 percent (CEC 2023b).

Clean Energy, Jobs, and Affordability Act of 2022 (Senate Bill 1020)

Established in 2002 under SB 1078, and accelerated by SB 107 (2006), SB X 1-2 (2011), SB 100 (2018), and SB 1020, California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to supply eligible renewable energy resources and zero-carbon resources for 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. SB 1020 supersedes SB 350, signed October 7, 2015, that increases the procurement of electricity from renewable source to 50 percent by 2030. The California Public Utilities Commission (CPUC) and the CEC are jointly responsible for implementing the program.

Regional and Local

Regional Transportation Plan/Sustainable Communities Strategy

See Air Quality and Greenhouse Gas Section above.

Moreno Valley General Plan

On July 11, 2006, the City Council approved a comprehensive update of the City's General Plan and certified the related Final Program Environmental Impact Report. However, the City of Moreno Valley is currently in the process of readopting the City's 2040 General Plan Update (2040 General Plan) and zoning[11]. The following policies relevant to the reduction of energy impacts are identified below.

2006 GENERAL PLAN

5.9: Support and encourage development of safe, efficient and aesthetic pedestrian facilities.

5.10: Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution

6.6: Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation

6.6.2: Provide multi-family residential development sites in close proximity to neighborhood commercial centers in order to encourage pedestrian instead of vehicular travel.

6.7: Reduce mobile and stationary source air pollutant emissions.

[11] On June 15, 2021, the Moreno Valley City Council approved and adopted the City's 2040 General Plan Update (2040 General Plan), a Change of Zone and Municipal Code Update, and its Climate Action Plan (CAP) and certified the EIR, State Clearinghouse No. 2020039022, prepared in compliance with CEQA in association with the approvals. In a lawsuit entitled Sierra Club v. The City of Moreno Valley, Riverside Superior Court Case No. CVRI2103300, the Sierra Club challenged the validity of the CAP and the EIR. Following a court ruling and judgment in March 2024, the Moreno Valley City Council rescinded the 2021 approvals and certification. As part of the ongoing response, the City issued a Notice of Preparation on July 30, 2024, for a Revised Environmental Impact Report titled "MoVal 2040: The Moreno Valley Comprehensive General Plan Update, Municipal Code and Zoning (including Zoning Atlas) Amendments, and Climate Action Plan" as it moves forward with the readoption of the 2040 General Plan.

6.7.6: Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

7.5: Encourage efficient use of energy resources.

7.5.1: Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

7.5.2: Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.

7.5.3: Locate areas planned for commercial, industrial and multiple family density residential development within areas of high transit potential and access.

7.5.5: Encourage the use of solar power and other renewable energy systems.

2040 General Plan

C-2: Plan, design, construct, and maintain a local transportation network that provides safe and efficient access throughout the city and optimizes travel by all modes.

C-3: Manage the City's transportation system to minimize congestion, improve flow and improve air quality

C-4: Provide convenient and safe connections between neighborhoods and destinations within Moreno Valley.

S-3: Build community resilience to climate change

S.3-6: Encourage the use of landscaping, building materials, and site design techniques that provide passive cooling and reduce energy demand. In particular, promote the use of voluntary measures identified in the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects, including hardscape and roof materials with beneficial solar reflectance and thermal emittance values and measures for exterior wall shading

S.3-7: Require new development to provide and maintain shade trees suitable to local climate conditions.

HC.1-6: Promote walking and bicycling as a safe and convenient mode of transportation.

OSRC-3: Use energy and water wisely and promote reduced consumption

OSRC.3-1: Promote energy conservation throughout the community and encourage the use of renewable energy systems and technologies to supplement or replace traditional building energy systems.

OSRC.4-1: Reduce the amount of solid waste disposed in landfills by promoting source reduction and recycling throughout Moreno Valley and by expanding the range of programs and information available to local residents and businesses, consistent with State requirements.

3 Impact Analysis

3.1 Methodology

Criteria pollutant and GHG emissions along with energy consumption for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.29. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The input data and subsequent construction and operation emission estimates for the project are summarized below and included in Appendix B.

3.1.1 Construction Emissions

Construction emissions of criteria air pollutants and greenhouse gases include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and truck delivery trips.

Construction of the project was analyzed using CalEEMod defaults with construction beginning in June 2026 and ending in May 2028[12]. The first phase of units would be completed in approximately 14 months with project completion in 2028. Construction is anticipated to occur Monday through Friday, with equipment operating up to 8 hours per day.

Project construction would excavate 10,000 cubic yards (cy) and need 90,000 cy of fill inclusive of off-site disturbance for roadway and infrastructure improvements. Approximately 80,000 cy of import would be required.

Development under the proposed project would be required to comply with all applicable regulatory standards. Specifically, project construction would comply with SCAQMD Rule 403 (Fugitive Dust), Rule 1113 (Architectural Coatings), and all other applicable SCAQMD rules. Measures such as watering the site twice per day, limiting vehicle speeds on unpaved surfaces, and sweeping paved roads to reduce fugitive dust were included in the CalEEMod modeling, as required by SCAQMD Rule 403. The following conditions are not included in the modeling but are required to reduce fugitive dust in compliance with SCAQMD Rule 403 during construction:

- **Minimization of Disturbance.** Construction contractors shall minimize the area disturbed by clearing, grading, earth moving, and excavation operations to prevent excessive amounts of dust.
- **Soil Treatment.** Construction contractors shall treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll

[12] CalEEMod was modeled for this project with a construction start date of second quarter 2025. Construction activities with a later start date than 2025 would generate lower emissions, due to CalEEMod emissions factors accounting for the state's initiative for cleaner equipment fleet (i.e. each subsequent year assumes lower emission factors for each construction equipment). Therefore, as construction would occur at a later date than identified in the CalEEMod modeling, this analysis and the CalEEMod modeling upon which it is based would provide a conservative assumption.

compaction, as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.

- **Soil Stabilization.** Construction contractors shall monitor all graded and excavated inactive areas of the construction site at least weekly for soil stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for more than four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
- **No Grading During High Winds.** Construction contractors shall stop all clearing, grading, earth moving, and excavation activities during periods of high winds (instantaneous wind speeds of 25 miles per hour or greater).

In addition, the project shall comply with CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The architectural coating phase would result in the greatest release of VOC. The emissions modeling for remaining buildout of the proposed project includes the use of low-VOC paint (50 grams per liter [g/L]), as required by SCAQMD Rule 1113.

In accordance with common industry practice and the South Coast Air Quality Management District's (SCAQMD) recommendation, GHG emissions from construction of the project were amortized over a 30-year period and added to annual operational emissions to determine the project's total annual GHG emissions (SCAQMD 2005).

3.1.2 Operational Emissions

In CalEEMod, operational sources of criteria pollutant emissions include area, energy, and mobile sources; GHG emissions include water and solid waste sources in addition to area, energy, and mobile sources. The first year of operation was assumed to be 2027 based on the construction schedule. The project was modeled using condo/townhome, apartment, and parking lot CalEEMod land use inputs. Default CalEEMod inputs were used for all operational sources except mobile sources.

Mobile source emissions consist of emissions from vehicle trips generated by the project. The trip generation rates from the Traffic Impact Analysis (TIA) (Translutions 2024) were used to estimate mobile source emissions. The project is anticipated to have 3,100 trips per day and VMT was based on CalEEMod defaults for condo/townhome and apartment trips.

3.2 Significance Thresholds

Based on Appendix G of the *CEQA Guidelines*, the project would have a significant air quality impact if it would:

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

Regarding greenhouse gas emissions, based on Appendix G of the *CEQA Guidelines*, the project would have a significant GHG impact if it would:

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

Regarding energy emissions, based on Appendix G of the *CEQA Guidelines*, the project would have a significant GHG impact if it would:

a) Wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and/or;
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.2.1 Air Quality

Regional Significance Thresholds

The SCAQMD recommends the use of quantitative regional significance thresholds to evaluate emissions generated by temporary construction activities and long-term project operation in the SCAB, which are shown in Table 4.

Table 4 SCAQMD Regional Significance Thresholds

Pollutant	Construction (pounds per day)	Operation (pounds per day)
NO_x	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

NO_x = Nitrogen Oxides; VOC = Volatile Organic Compounds; PM_{10} = Particulate Matter with a diameter no more than 10 microns; $PM_{2.5}$ = Particulate Matter with a diameter no more than 2.5 microns; SO_x = Sulfur Oxide; CO = Carbon Monoxide

Source: SCAQMD 2023b

Localized Significance Thresholds

In addition to the regional thresholds discussed above, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4)[13], which was prepared to update the CEQA Air Quality Handbook (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), distance to the sensitive receptor, and project size. LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2008).

The LSTs for construction and operational activities are based on the results of air dispersion modeling. Construction activities include NO_X and CO exhaust emissions from construction equipment and fugitive dust emissions from ground disturbance for construction sites. Operational activities include NO_X and CO combustion emissions from stationary sources and on-site mobile equipment, and $PM_{2.5}$ and PM_{10} dust generating activities such as aggregate operations or earthmoving activities at landfills. LSTs have been developed for one, two, or five acres in size in each SRA (SCAQMD 2008).

The project site is within SRA 24 (Perris Valley). SCAQMD provides LST lookup tables for project sites that measure one, two, or five acres. The project site totals approximately 18 acres therefore, this analysis utilizes the five-acre LSTs as a conservative estimate of LST emissions. LSTs are provided for receptors at a distance of 82 feet (25 meters), 164 feet (50 meters), 328 feet (100 meters), 656 feet (200 meters), and 1,640 feet (500 meters) from the project disturbance boundary to the sensitive receptors. The border of construction activity would occur immediately adjacent to multi-family residences located to the west of the project site. According to the SCAQMD's publication, *Final LST Methodology*, projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet (SCAQMD 2009). The LST threshold for construction and operations are shown in Table 5.

Table 5 SCAQMD LSTs for Construction and Operation

	Allowable Emissions for a Five-Acre Site in SRA-24 for a Receptor 82 Feet Away (pounds per day)	
Pollutant	**Construction**	**Operation**
Gradual conversion of NO_X to NO_2	270	270
CO	1,577	1,577
PM_{10}	13	4
$PM_{2.5}$	8	2

NO_x = Nitrogen Oxides; NO_2 = Nitrogen Dioxide; CO = Carbon Monoxide; PM_{10} = Particulate Matter with a diameter no more than 10 microns; $PM_{2.5}$ = Particulate Matter with a diameter no more than 2.5 microns

Source: SCAQMD 2009

[13] EJ Initiative #4, CEQA Commenting, directed SCAQMD to reconstruct its CEQA commenting function, called intergovernmental review. EJ Initiative #4 includes updating the CEQA Handbook by creating and working with a stakeholders' review group.

Toxic Air Contaminants

U.S. EPA considers those pollutants that could cause cancer risks between one in 10,000 persons (1.0×10^{4}) and one in one million persons (1.0×10^{-6}) for risk management. Proposition 65 (California Health and Safety Code Section 25249.6), enacted in 1986, prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the "no significant risk" level under Proposition 65 is defined as the level that is calculated to result in not more than one excess case of cancer in 100,000 individuals (1.0×10^{-5}). SCAQMD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for TACs (SCAQMD 2023b). The SCAQMD also recommends that the non-carcinogenic hazards of TACs should not exceed a hazard index (the summation of the hazard quotients for all chemicals to which an individual would be exposed) of 1.0 for either chronic or acute effects (SCAQMD 2023b). Health risk is discussed qualitatively in this report.

3.2.2 Greenhouse Gas

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]). Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with a previously approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. Therefore, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significance for GHG emissions if a project complies with adopted plans, programs, policies, and/or other regulatory strategies to reduce GHG emissions.

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

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold is supported by substantial evidence. See CEQA Guidelines Section 15064.7(c). The City of Moreno Valley has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Neither SCAQMD, California Office of Planning and Research, CARB, California Air Pollution Control Officers Association (CAPCOA), nor any other state

or applicable regional agency has adopted a numerical significance threshold for assessing GHG emissions that is applicable to the proposed project.

In the absence of any adopted or accepted numeric threshold, the significance of the proposed project's GHG emissions are evaluated consistent with CEQA Guidelines Section 15064.4(b) and CEQA Guidelines Section 15064(h)(3) by considering whether the proposed project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Therefore, the significance of the proposed project's potential impacts regarding GHG emissions and climate change is evaluated based on the threshold of significance established by the City for the project, namely whether the project complies with applicable plans, polices, regulations and requirements adopted to implement a statewide, regional or local plan for the purposes of reducing GHG emissions and mitigating the effects of climate change. For this project, as a land use development project, the applicable adopted regulatory plans to reduce GHG emissions is the 2024-2050 RTP/SCS, which is designed to achieve the regional GHG reductions from the land use and transportation sectors as required by SB 375 and the State's long-term climate goals. This analysis also considers the 2022 Scoping Plan. The GHG emissions from the construction and operation of the proposed project are provided for informational purposes.

3.2.3 Energy

With regard to Threshold a., this analysis relies upon the CEQA Guidelines, prepared in response to the requirement in Public Resources Code Section 21100(b)(3). The CEQA Guidelines interpret Public Resources Code Section 21100(b)(3) to require that EIRs "include a discussion of the potential energy impacts of proposed projects, with a particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (Association of Environmental Professional 2016)."

The analysis utilizes factors and considerations identified in Appendix F and Appendix G of the CEQA Guidelines, as appropriate, to assist in answering the Appendix G questions. In accordance with Appendix F, the factors to evaluate energy impacts include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

With regard to Threshold b., the project is evaluated for consistency with adopted energy conservation plans and policies relevant to the project. These plans and policies include the Title 24 energy efficiency requirements, CALGreen requirements, and 2024-2050 RTP/SCS (Connect SoCal 2024).

3.3 Air Quality Project Impacts

Threshold a:	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE 2022 AQMP, AS THE PROJECT WOULD NOT RESULT IN A SUBSTANTIAL INCREASE OF POPULATION GROWTH. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

To assess whether the project would conflict with or obstruct implementation of an applicable air quality plan, this analysis evaluates the project's consistency with SCAQMD's AQMP and Connect SoCal. In accordance with the SCAQMD's CEQA Air Quality Handbook, Chapter 12, the following criteria are considered as part of this evaluation:

- **Criterion 1:** Would the project result in any of the following:
  - An increase in the frequency or severity of existing air quality violations;
  - Cause or contribute to new air quality violations; or
  - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- **Criterion 2:** Would the project exceed the assumptions utilized in preparing the AQMP? Considerations include:
  - Is the project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
  - Does the project include air quality mitigation measures; or
  - To what extent is project development consistent with the AQMP control measures?

a. Criterion 1

The proposed project would include strategies and control measures from the 2022 AQMP to reach attainment with the thresholds for 8-hour and 1-hour ozone and $PM_{2.5}$. The proposed project would include the following control measures from the 2022 AQMP:

- Emission Reduction from Replacement with Zero Emission or Low NO_X Appliances –Water and Space Heating
- Emissions Reduction from Residential Cooking Devices
- Zero Emission Infrastructure for Mobile Sources

Further, as described under Impact AQ-2 below, the project would not generate criteria pollutant emissions that exceed SCAQMD regional thresholds for criteria pollutants. Therefore, the project would not result in conflicts with the AQMP and impacts would be less than significant.

b. Criterion 2

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2022 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local county general plans and SCAG's Connect SoCal socioeconomic forecast projections of regional population, housing, and employment growth.

According to the California Department of Finance, the City of Moreno Valley has an estimated population of 207,146 and an average household size of 3.61 persons (Department or Finance 2024). SCAG's 2020–2045 RTP/SCS projects that the city's population will reach approximately 266,800 by 2045, representing an increase of 59,654 residents (SCAG 2020). The proposed project involves the development of a 460-unit multi-family residential community. Based on the city's average household size, the project would generate approximately 1,661 new residents (460 units x 3.61 persons). This would increase the city's current population by about 0.80 percent, resulting in a total population of approximately 208,807. This population increase would remain well within SCAG's 2045 forecast. Therefore, the project would not induce substantial unplanned population growth. The project would not result in employment growth. The project would be consistent with Criterion 2 and impacts would be less than significant.

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

Impact AQ-2 THE PROJECT WOULD NOT VIOLATE ANY AIR QUALITY STANDARDS OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION OR RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NONATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction Impacts

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the drying of architectural coating and paving phases. Table 6 summarizes the estimated maximum daily emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed the SCAQMD threshold. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, and impacts would be less than significant.

Table 6 Project Construction Emissions

	Maximum Emissions (lbs/day)					
Construction Phase	**ROC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
By Phase						
Grading	8	42	33	<1	8	4
Building Construction	3	14	39	<1	5	2
Paving	2	7	11	<1	1	<1
Architectural Coating 1	63	1	5	<1	1	<1
Architectural Coating 2	63	1	2	<1	<1	<1
By Year						
Year 1	8	56	72	<1	13	5
Year 2	66	20	42	<1	6	2
Year 3	66	13	37	<1	5	2
Maximum Daily Construction Emissions	**66**	**56**	**72**	<1	**13**	**5**
SCAQMD Regional Thresholds	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROC = reactive organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: All emissions modeling was completed using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions. Maximum daily construction emissions are the highest total emissions from a construction phase or overlapping construction phases. Emissions from overlapping construction phases are added together.

Operational Impacts

Operation of the project would result in criteria air pollutant emissions from various sources, including area sources (e.g., architectural coatings, consumer products, fireplaces), energy use (e.g., natural gas for cooking and water heating), mobile sources (e.g., vehicle trips to and from the site), and stationary sources (e.g., emergency generators). Table 7 summarizes the project's maximum daily operational emissions by source. As shown, operational emissions would not exceed the applicable SCAQMD thresholds. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment, and impacts would be less than significant.

Table 7 Project Operational Emissions

Emission Source	Maximum Daily Emissions (lbs./day)					
	ROC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile	35	24	197	<1	41	11
Area	13	<1	26	<1	<1	<1
Energy	<1	2	1	<1	<1	<1
Total Project Emissions	**48**	**25**	**224**	**<1**	**41**	**11**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROC = reactive organic compounds; NOx = nitrogen oxide; CO = carbon monoxide; PM10 = particulate matter with a diameter no more than 10 microns; PM2.5 = particulate matter with a diameter no more than 2.5 microns; SO_2 = sulfur dioxide.

Notes: Area, energy, and mobile emissions modeling was completed using CalEEMod; see Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results that include compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions.

Overlap of Construction and Operational Impacts

SCAQMD does not provide a significance threshold for overlapping construction and operational emissions; therefore, this analysis is included for informational purposes only. As the first phase of units would be completed in approximately 14 months, construction and operation would overlap for approximately 10 months between 2027 and 2028[14], between first occupancy and project buildout. Table 8 shows the estimated maximum daily emissions for the 10-month period when construction and occupancy would overlap. This represents a conservative scenario, as operational emissions are based on full project buildout, even though only a portion of the residences would be occupied during this time.

Table 8 Overlapping Construction and Operational Emissions

Emission Source	Maximum Daily Emissions (lbs./day)					
	ROC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2 Construction Emissions[1]	66	20	42	<1	6	2
Year 3 Construction Emissions[1]	66	13	37	<1	5	2
Operational Emissions	**48**	**25**	**224**	**<1**	**41**	**11**
Maximum Daily Overlapping Emissions	**114**	**45**	**266**	**<1**	**47**	**13**

lbs/day = pounds per day; ROC = reactive organic compounds; NOx = nitrogen oxide; CO = carbon monoxide; PM10 = particulate matter with a diameter no more than 10 microns; PM2.5 = particulate matter with a diameter no more than 2.5 microns; SO_2 = sulfur dioxide.

Notes: Area, energy, and mobile emissions modeling was completed using CalEEMod; see Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results that include compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions.

[1] CalEEMod was modeled for this project with a construction start date in Q2 2025 based on preliminary data. However, based on current data, project construction will take place between 2026 and 2028. For consistency with the latest project description, Year 2 and 3 construction emissions assumes Year 2 is 2027 and Year 3 is 2028.

[14] CalEEMod was modeled for this project with a construction start date of second quarter 2025. Construction activities with a later start date than 2025 would generate lower emissions, due to CalEEMod emissions factors accounting for the state's initiative for cleaner equipment fleet (i.e. each subsequent year assumes lower emission factors for each construction equipment). Therefore, as construction would occur at a later date than identified in the CalEEMod modeling, this analysis and the CalEEMod modeling upon which it is based would provide a conservative assumption.

Threshold c:	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS RELATED TO FUGITIVE DUST AND CARBON MONOXIDE HOTSPOTS. THE PROJECT COULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL TAC IMPACTS HOWEVER, WITH IMPLEMENTATION OF MITIGATION MEASURE AQ-1 IMPACTS FROM TACS WOULD BE REDUCED TO LESS THAN SIGNIFICANT LEVELS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Construction Impacts

The closest sensitive receptors are multi-family residences located adjacent to the project site to the west and across Alessandro Boulevard to the north. Localized air quality impacts to sensitive receptors typically result from criteria pollutants, TACs, and CO hotspots which are discussed in the following subsections.

Localized Significance Impacts

The *Final LST Methodology* was developed to be used as a tool to analyze localized impacts associated with project-specific developments. If the calculated emissions for the proposed construction or operational activities are below the LST emission levels found on the LST mass rate look-up tables (Appendix C of *Final LST Methodology;* SCAQMD 2009) and no potentially significant impacts are found to be associated with other air quality issues, then the proposed construction or operation activity would not be considered significant for air quality. The project analysis assumes the main construction activity would occur immediately adjacent to multi-family residences. According to the SCAQMD's publication, *Final LST Methodology*, projects with boundaries located within 82 feet to the nearest receptor should use the LST's 82 feet receptor distance (SCAQMD 2009). The allowable emissions for the project are based on the 82-feet receptor distance and two-acre site size for sites within SRA 24 (Perris Valley). Table 9 summarizes the project's maximum localized daily construction emissions. As shown therein, unmitigated localized construction emissions would not exceed SCAQMD LST thresholds. Therefore, construction impacts would be less than significant.

Table 9 Project LST Construction Emissions

	Pollutant (lbs/day)			
Year	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Construction Onsite Emissions	30	28	5	3
SCAQMD LST	270	1,577	13	8
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns;

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum onsite emissions are the highest emissions that would occur on the project site from onsite sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips.

Source: See CalEEMod worksheets in Appendix B, Table 3.1 – 3.30 "Construction Emissions Details" emissions. Highest of Summer and Winter emissions results are shown for all emissions. The mitigated emissions account for project sustainability features and/or compliance with specific regulatory standards.

Construction Toxic Air Contaminants

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for demolition, site preparation, trenching, infrastructure installation, paving, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998.

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the project would occur over approximately two years. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. However, young children are more sensitive to exposure to some carcinogens than adults. Therefore, OEHHA has implemented age sensitivity factors that take into account the increased sensitivity of children during early development stages (i.e., 3rd trimester exposure to 16 years). Given the age sensitivity factors, exposure at a young age to even short-term projects have the potential to result in substantial risk exposure.

The maximum daily mobile source PM_{10} emissions would range from less than 0.2 to 1.44 lbs/day of exhaust (DPM), with the maximum emissions occurring during grading activities. The proposed project would be consistent with the applicable AQMP requirements and control strategies intended to reduce emissions from construction equipment and activities. The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these requirements would minimize emissions of TACs during construction. However, given the construction area's proximity to nearby sensitive receptors, impacts from TACs would be potentially significant. With incorporation of Mitigation Measure AQ-1, the project would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and U.S. EPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce DPM emissions. Construction impacts would be reduced to less than significant with mitigation incorporated.

Operational Impacts

Localized Significance Impacts

Project operational activities would occur immediately adjacent to existing residences to the west and north of the project site. The allowable operational emissions for the project are based on the 82-feet receptor distance and two-acre site criteria for a project in SRA 24 (Perris Valley). The project would generate on-site operational emissions from area sources (i.e., landscaping), and energy sources (i.e., natural gas from cooking and heating). Due to the size of the site, it was conservatively assumed that five percent of mobile source emissions would occur from travel onsite.

Table 10 summarizes the project's maximum localized daily operational emissions from the proposed project. As shown therein, localized operational emissions would not exceed the SCAQMD LST threshold. Therefore, operational impacts would be less than significant.

Table 10 Project LSTs Operational Emissions

	Pollutant (lbs/day)			
Year	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Operational Onsite Emissions	3	37	2	1
SCAQMD LST	270	1,577	4	2
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns.

Notes: Some numbers may not add up precisely due to rounding considerations. Maximum onsite emissions are the highest emissions that would occur on the project site from onsite sources, such as fireplaces, emergency generators, natural gas use, and excludes mobile sources.

Source: See CalEEMod worksheets in Appendix B, Table 2.5, Operational Emissions by Sector, Unmitigated.

Operational Toxic Air Contaminants

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of TAC emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The project is a residential development that is not anticipated to include any emergency generators. There are no sources of TACs on site that would impact nearby sensitive receptors. There would be a negligible amount of truck trips from delivery trucks and the majority of those would be gasoline or electric. The project would also generate minor quantities of hazardous TACs through typical residential and commercial maintenance activities (e.g., cleaning solvents, paints, landscape pesticides, etc.). These quantities would be below thresholds warranting further study under the California Accidental Release Program. Typical residential maintenance activities and TAC use would not result in the exposure of off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. Therefore, operational impacts would be less than significant.

CO Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. The SCAB has been in attainment of federal CO standards since 2007, and most air quality monitoring stations no longer report CO levels (SCAQMD 2017). As data from SRA 24 is not available for year 2023, monitoring data from SRA 25 (Lake Elsinore) has been used as a proxy. The SCAQMD monitoring station in SRA 25 monitors CO reported maximum 1-hour and 8-hour concentrations of 1.3 ppm and 0.7 ppm, respectively (SCAQMD 2025). These concentrations are well below the respective 1-hour and 8-hour standards of 20 ppm and 9 ppm. Typical development projects, such as the proposed project, do not emit the levels of CO necessary to result in a localized hot spot.

As an example, a detailed carbon monoxide analysis was conducted during the preparation of the SCAQMD's 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily traffic (ADT) intersections in the SCAB that are expected to experience the highest CO concentrations. The highest CO concentration observed was at the intersection of Wilshire Boulevard and Veteran Avenue on the west side of Los Angeles near Interstate 405. The concentration of CO at this intersection was 4.6 ppm, which is well below the State and Federal standards. The Wilshire Boulevard/Veteran Avenue intersection had an ADT of approximately 100,000 vehicles per day at the time of the study (SCAQMD 2003a). According to the TIA, Nasson St and Alessandro Blvd has the greatest daily traffic of 81,780 vehicles. This is well below the 100,000

ADT at the intersection studied by SCAQMD in the 2003 AQMP, which found that CO emissions were below the federal standards. Further, vehicle emissions are cleaner than when the study was done in 2003, reducing CO emissions from idling vehicles. Therefore, the proposed project would not result in a CO hotspot and impacts would be less than significant.

Mitigation Measure

AQ-1 Construction Emissions Reduction

Prior to issuance of grading permits, the following measures shall be noted on all construction plans:

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

Significance After Mitigation

With incorporation of Mitigation Measure AQ-1, the project would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and U.S. EPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce DPM emissions. The Tier 4 standards reduce DPM emissions by approximately 81 to 96 percent as compared to equipment that meet the Tier 2 off-road emissions standards, depending on the specific horsepower rating of each piece of equipment. Thus, with implementation of Mitigation Measure AQ-1, construction activities would not expose sensitive receptors to substantial TAC concentrations that would potentially exceed cancer risk greater than ten per one million population. Construction-related health impacts would be reduced to a less than significant level.

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

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

During construction, the use of heavy equipment and vehicles would generate odors associated with engine exhaust and idling. However, these odors would be temporary, intermittent, and would dissipate with distance. Additionally, construction activities would be subject to SCAQMD Rule 402,

Nuisance, which prohibits the discharge of air contaminants or materials that could cause injury, nuisance, or annoyance to a considerable number of people or to the public. Overall, construction of the project would not generate other emissions, such as odors, that would affect a substantial number of people. Therefore, construction-related impacts would be less than significant.

With respect to operation, the SCAQMD's *CEQA Air Quality Handbook* (1993) identifies land uses associated with odor complaints as agricultural uses, wastewater treatment plants, chemical and food processing plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include land uses that are identified on the list above. The project includes residential uses which is not considered an odor source. Furthermore, the project would be required to comply with SCAQMD Rule 402, which prohibits the discharge of air contaminants that would cause injury, detriment, nuisance, or annoyance to the public. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people. Impacts would be less than significant.

3.4 Cumulative Air Quality Impacts

The geographic scope for the cumulative air quality impact analysis is the SCAB. Because the SCAB is designated a nonattainment area for the Federal and State one-hour and eight-hour ozone standards, State PM_{10} standards, federal 24-hour $PM_{2.5}$ standard, and Federal and State annual $PM_{2.5}$ standard, there is an existing adverse effect in the SCAB relative to these pollutants and additional, unplanned growth in the area has the potential to exacerbate the pollution and hinder the achievement of the NAAQS and CAAQS within the SCAB.

This cumulative impact analysis is based on the SCAQMD's recommendations included in their CEQA Air Quality Handbook and *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (SCAQMD 1993 and 2003b). Individual projects under the SCAQMD's jurisdiction would cause a cumulatively considerable increase in emissions for which the SCAB is in non-attainment if the individual project exceeds the SCAQMD's recommended thresholds. While the SCAQMD is in the process of developing cumulative thresholds, none are currently available for use in the analysis. Therefore, the cumulative analysis relies on the guidance from the Air Quality Handbook and White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD 1993 and 2003b).

Cumulative Impact AQ-1

Air pollution is largely a cumulative issue, and SCAQMD has provided guidance about cumulative impacts. According to SCAQMD, if a project is inconsistent with the 2022 AQMP, it would be considered to result in a cumulatively adverse air quality impact. As described above under Impact AQ-1, the project would be consistent with the 2022 AQMP. Furthermore, population, housing, and employment generated by the proposed project would not result in an exceedance of the 2022 AQMP growth assumptions. Therefore, the project's contribution to cumulative air quality impacts due to a conflict with the 2022 AQMP would not be cumulatively considerable.

Cumulative Impact AQ-2

All additional projects within the City, and more specifically within the vicinity of the project, would generate emissions during construction and operation. However, the proposed project is not part of an ongoing regulatory program or are contemplated in a Program EIR. Therefore, as discussed in Appendix D of the SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative*

Impacts from Air Pollution (SCAQMD 2003b), the SCAQMD recommends that project-specific air quality impacts be used to determine if a project's contribution to cumulative air quality impacts would be significant.

As discussed above, the proposed project would be consistent with the SCAQMD 2022 AQMP. Additionally, construction and operation of the project would not exceed regional significance thresholds. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment.

Cumulative Impact AQ-3

Cumulative projects could expose sensitive receivers to cancer risks exceed the SCAQMD threshold of 10 in one million; however, similar to the proposed project, cumulative projects would be required to comply with SCAQMD regulations and thresholds to reduce the potential for significant impacts to sensitive receivers. As described under Impact AQ-3 above, construction LST and TAC from the project would be less than significant with implementation of Mitigation Measure AQ-1. In addition, once constructed, operation of the project would not result in TAC impacts to neighboring sensitive receptors. Therefore, with the implementation of Mitigation Measure AQ-1, the construction TAC would be below the applicable SCAQMD thresholds and the proposed project's contribution to cumulative TAC during construction and operation would not be cumulatively considerable.

Cumulative Impact AQ-4

Construction of cumulative projects would result in generation of construction equipment-related odors; however, the temporary nature of construction would ensure less than significant cumulative odor impacts. Operation of cumulative projects could adversely affect sensitive receptors from odor emissions if cumulative projects include typical odor-producing land uses. The project is not identified as an odor producing facility nor are there developments near the project site or included in the cumulative development list that would produce significant odors. Therefore, cumulative impacts related to odors would be less than significant.

3.5 Project-Level Greenhouse Gas Project Impacts

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

Impact GHG-1 IMPLEMENTATION OF THE PROJECT WOULD NOT GENERATE GHG EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT. IMPLEMENTATION OF THE PROJECT COULD CONFLICT WITH AN APPLICABLE PLAN, POLICY, OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. WITH IMPLEMENTATION OF MITIGATION MEASURE GHG-1 THE PROJECT IS CONSISTENT WITH THE 2022 SCOPING PLAN, SCAG'S 2020-2045 RTP/SCS, AND THE GENERAL PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Quantified Emissions

Construction and operation of the project would generate GHG emissions. This analysis considers the combined impact of GHG emissions from both construction and operation.

Construction Emissions

Construction facilitated by the project would generate temporary GHG emissions, primarily from the operation of construction equipment on site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building materials and soil import.

Construction activities for the project would generate an estimated 2,277 MT of CO_2e as shown in Table 11. Amortized over a 30-year period (the assumed life of the project per SCAQMD guidance), construction of the project would generate approximately 76 MT of CO_2e per year.

Table 11 Estimated Construction GHG Emissions

Phase	Annual Emissions (MT of CO_2e/year)
Grading	521
Building Construction	1,725
Paving	18
Architectural Coating 1	10
Architectural Coating 2	3
Total Emissions	**2,277**
Amortized Over 30 Years	76

MT CO_2e = metric tons of carbon dioxide equivalent

Source: Appendix B for CalEEMod outputs

Operational and Total Emissions

Operation of the proposed project would generate GHG emissions associated with area sources (e.g., landscape maintenance), energy and water usage, vehicle trips, and wastewater and solid waste generation.

As shown in Table 12, when combined with amortized construction emissions, the project would result in 8,736 MT of CO_2e per year. GHG emissions were quantified for informational purposes only as there is no numeric threshold for projects within Riverside County.

Table 12 Estimated GHG Emissions

Emission Source	Annual Emissions (MT of CO_2e/year)
Construction	
Total amortized over 30 years	**76**
Operational	
Mobile	7,563
Area	8
Energy	933
Water	50
Waste	106
Refrigerant	1
Project Operational Emissions	**8,660**
Combined Construction and Operational Emissions	
Total Project Emissions	**8,736**

MT CO_2e = metric tons of carbon dioxide equivalent
Source: Appendix B for CalEEMod outputs

Plan Consistency

The project's consistency with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs to are described below.

2022 Scoping Plan

The principal State plan to monitor and regulate GHGs is AB 32, the California Global Warming Solutions Act of 2006, which was followed by SB 32. The quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. According to CARB, California achieved its 2020 GHG emission reduction target in 2016. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Pursuant to SB 32, the Scoping Plan was created to outline goals and measures for the state to achieve the reductions, the latest iteration of which is the 2022 Scoping Plan. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities. The project would be consistent with these goals through project design, which includes compliance with the latest Title 24 Green Building Code and Building Efficiency Energy Standards, installation of solar

panels, and implementation of electric vehicle (EV) charging stations and infrastructure. The project would be served by MVU, which is required to increase its renewable energy procurement in accordance with SB 100 targets. However, the project would increase natural gas usage as currently designed. Therefore, the project could be inconsistent with GHG emission reduction strategies contained in the 2022 Scoping Plan which seeks to reach Net Zero emissions by 2045. Therefore, the project impacts would be potentially significant. However, with incorporation of Mitigation Measure GHG-1, the project would reduce the onsite consumption of electricity and fossil fuels, therefore furthering the reduction of GHG emissions consistent with the goals of the 2022 Scoping Plan. Thus, with implementation of Mitigation Measure GHG-1, the project would demonstrate consistency with the 2022 Scoping Plan and impacts would be reduced to a less than significant level.

Connect SoCal 2024

SCAG's *Connect SoCal 2024* is forecasted to help California reach its GHG reduction goals. According to *Connect SoCal 2024*, the updated target for the SCAG region is 19 percent below 2005 per capita emissions levels by 2035, consistent with the 2020-2045 RTP/SCS. *Connect SoCal 2024* includes implementation strategies for focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region.

According to Connect SoCal 2024, Riverside County will increase housing opportunities by 366,000 households from 783,000 in 2024 to 1,149,000 by 2050. The proposed project increases housing by 460 units or less than 0.2 percent of the total housing growth. Therefore, it would not result in long-term operational housing growth beyond planned growth projections of the RTP/SCS or the 2022 AQMP.

In addition, as detailed in the TIA, project generated VMT under the baseline year and year 2045 with project conditions would not exceed the City's VMT per capita. Thus, the project would not have a significant VMT impact based on the City's thresholds. In addition, the project effect on VMT under the baseline year and year 2045 with project conditions would not increase when compared to the no project conditions. Therefore, the project would not have a significant VMT impact based on the City's thresholds.

Furthermore, the project's consistency with *Connect SoCal 2024's* individual policies is discussed in Table 13. As detailed above and shown in Table 13, the project would be consistent with the GHG emission reduction strategies contained in Connect SoCal 2024. As the project would demonstrate consistency with the Connect SoCal 2024, impacts would be less than significant.

Table 13 Consistency with Applicable SCAG Connect SoCal 2024 Strategies

Strategy/Action	Project Consistency
Transit and Multimodal Integration ▪ Encourage residential and employment development in areas surrounding existing and planned transit/rail stations.	**Consistent.** The project is a residential development with multi-family housing that would replace undeveloped land in an urbanized area near residential and commercial/retail development along Alessandro Boulevard. The project would also be within walking and/or biking distance of existing school, medical and commercial uses and would provide bicycle parking on site. The project is 5 miles from the Pigeon Pass Park and Ride location as well as from the Moreno Valley/March Field Metrolink station. In addition, the project is less than 0.5 miles away from the Alessandro Boulevard and Lasselle Street bus stop. Based on its proximity to transit options, the project would encourage residential and employment development near existing transit.
Priority Development Areas ▪ Promote the growth of origins and destinations, with a focus on future housing and population growth, in areas with existing and planned urban infrastructure that includes transit and utilities ▪ Promote the growth of origins and destinations, in areas with a proclivity toward multimodal options like transit and active transportation, to reduce single occupant vehicle (SOV) dependency and vehicle miles traveled ▪ Seek to realize scale economies or a critical mass of jobs and destinations in areas across the region that can support non-SOV options and shorter trip distances, combined trips and reduced vehicle miles traveled.	**Consistent.** The project is a multi-family housing development in an urbanized area near other residential and commercial/retail development. The project would also be within walking and/or biking distance of existing school, medical, and commercial uses and would provide bicycle parking on the site. In addition, the project site is within 0.5 miles of transit options. Therefore, the project would focus growth near destinations, promote transit and active transportation, and prioritize infill development to increase housing closer to employment opportunities.
Housing the Region ▪ Encourage housing development in areas with access to important resources and amenities (economic, educational, health, social and similar) to further fair housing access and equity across the region. ▪ Encourage housing development in transit-supportive and walkable areas to create more interconnected and resilient communities.	**Consistent.** The project is within an urbanized area near other residential and commercial/retail development, including a hospital, schools, and other commercial uses. In addition, the project site is within 0.5 miles of transit options. Therefore, the project would encourage housing development nearby important resources and amenities as well as transit options.

Strategy/Action	Project Consistency
15-Minute Communities ▪ Promote 15-minute communities as places with a mix of complementary land uses and accessible mobility options that align with and support the diversity of places (or communities) across the region. These are communities where residents can either access their most basic, day-to-day needs within a 15-minute walk, bike ride or roll from their home or as places that result in fewer and shorter trips because of the proximity of complementary land uses. ▪ Support communities across the region to realize 15-minute communities through incremental changes that improve equity, quality of life, public health, mobility, sustainability, resilience and economic vitality.	**Consistent.** The project would be within biking distance of existing residential and commercial uses and would provide bicycle parking on the site. Therefore, the project provides resources and amenities within 15-minutes of not only the project but also nearby places of employment.
Sustainable Development ▪ Promote sustainable development and best practices that enhance resource conservation, reduce resource consumption and promote resilience.	**Consistent.** The project would be designed and operated to meet the applicable requirements of the Title 24 Energy Code and CALGreen. The project's water consumption would be minimized through the use of water-efficient appliances/fixtures and water-efficient irrigation. Furthermore, the project would include renewable energy features as required under Title 24 and would be equipped with energy efficient appliances and lighting. Therefore, the project would support sustainable development and best practices for the reduction of resource consumption.
Clean Transportation ▪ Accelerate the deployment of a zero-emission transportation system and use near-zero-emission technology to offer short-term benefits where zero-emissions solutions are not yet feasible or commercially viable.	**Consistent.** The project would include dedicated electric vehicle charging parking spaces and bicycle parking spaces consistent with the CalGreen Code. Therefore, the project would support the use of zero-emission vehicles.

Source: SCAG 2024

Moreno Valley General Plan

On July 11, 2006, the City Council approved a comprehensive update of the City's General Plan and certified the related Final Program Environmental Impact Report. In addition, the City of Moreno Valley is currently in the process of readopting the City's 2040 General Plan Update (2040 General Plan) and zoning. While the City's General Plan does not contain goals and policies that specifically pertain to GHG or climate change, several of its goals and policies would nonetheless contribute to reducing GHG emissions.

The project would involve development of multifamily housing in an urbanized area near residential and commercial/retail development. The project would also be within walking and/or biking distance of nearby transit as well as existing schools, a hospital, and commercial uses. These qualities would be consistent with Goals 6.6 and 6.7 from the 2006 General Plan and Goals C-2, C-3, C-4, and EJ-1 from the 2040 General Plan, which all aim to reduce pollution and emissions, primarily through reduction of vehicle trips and trip distances. In addition, the project would construct new sidewalks and would include bicycle parking, aligning with Goals 5.9 and 5.10 from the 2006 General Plan and Policy HC.1-6 from the 2040 General Plan, which promote zero emission and active transportation or would encourage connectivity. In addition, the project would be required to comply with the latest Title 24 energy and CalGreen requirements, including installation of EV charging and PV systems. Thus, the project would align with Goal 7.5 and Policies 7.5.1, 7.5.2, and 7.5.5 from the 2006 General Plan as well as Goals S-3 and OSRC-3 and Policies S.3-6 and OSRC.3-1, which outline the City's effort to promote renewable energy use and reduce overall energy consumption. Overall, the project would be consistent with both the 2006 General Plan and the 2040 General Plan and would not interfere with the implementation of either plan. Impacts would less than significant.

Mitigation Measure

GHG-1 GHG Emission Reduction

Prior to the issuance of building permits, the project applicant shall provide documentation to the City of Moreno Valley Planning Division to verify the inclusion of the following project designs:

- The project shall be built to meet/include the following:
  - Use on-site energy efficiency measures, including renewable energy sources such as solar, to reduce electrical demand per section A4.2 of the 2022 CalGreen Code.
  - Incorporate measures to reduce overall use of potable water per Division A4.3 of the 2022 CalGreen Code
  - Meet or exceed the Tier 2 electrical vehicle charging requirements as discussed in Section A4.1 of the 2022 CalGreen Code.
- The project shall be designed to include the following:
  - No wood-burning fireplaces installed in residential units.
  - All buildings shall be 100 percent electric, including cooking and heating.
  - Exterior electric receptacles shall be provided for charging or powering landscape equipment.

- Light-colored roofing and building materials shall be used to reduce heat island effect and reduce lighting, heating and cooling needs.
- Incorporate bicycle parking for residents that do not have individual garages.

Significance After Mitigation

With incorporation of Mitigation Measure GHG-1, the project would reduce the onsite consumption of electricity and fossil fuels, therefore furthering the reduction of GHG emissions, consistent with the goals of the 2022 Scoping Plan. Thus, with implementation of Mitigation Measure GHG-1, the project would demonstrate consistency with the 2022 Scoping Plan and impacts would be reduced to a less than significant level.

3.6 Greenhouse Gas Emissions Cumulative Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed under Impacts GHG-1 and GHG-2 above, project impacts related to GHG emissions would be less than significant with the incorporation of Mitigation Measure GHG-1 and would be consistent with the state and local plans for reducing GHG emissions. Therefore, the project's contribution to cumulative GHG impacts would be less than significant.

3.7 Energy Impacts

Threshold:	Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

IMPACT E-1 THE PROPOSED PROJECT WOULD UTILIZE GASOLINE, DIESEL, AND ELECTRICITY, BUT WOULD INCORPORATE DESIGN FEATURES THAT WOULD RESULT IN ENERGY USE THAT IS AT A MINIMUM REQUIRED BY THE 2022 TITLE 24 STANDARDS, AND WOULD COMPLY WITH ANY FUTURE ADOPTED TITLE 24 STANDARDS, AS APPLICABLE. THEREFORE, THE PROJECT WOULD NOT RESULT IN THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption, and transportation fuels (diesel and gasoline). The following analysis considers the four factors set forth in Appendix F of the CEQA Guidelines to determine whether Threshold (a) would be exceeded.

Energy Requirements and Energy Use Efficiencies

As discussed above, the project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption (during operation only), and transportation fuels such as diesel and gasoline. Project construction and operational energy use is discussed below.

Construction

The project would require grading, building construction, paving, and architectural coating. In addition, off-site movement, including hauling material on-site and pavement and asphalt installation would be required. Energy would be consumed during construction through the use of petroleum-based fuels for equipment operation, construction worker trips, and material deliveries to the project site. As shown in Table 14, project construction would require approximately 119,456 gallons of gasoline and approximately 104,621 gallons of diesel fuel. These construction energy estimates present a "worst case scenario" that assumes all the construction equipment operates for 8 hours per day.

Table 14 Estimated Fuel Consumption during Construction

Source	Gasoline Fuel Consumption (gallons)	Diesel Fuel Consumption (gallons)
Construction Equipment, Hauling Trips, and Vendor Trips	N/A	104,621
Construction Worker Vehicle Trips	119,456	N/A

Notes: N/A = not applicable

See Appendix D for energy calculation sheets.

While most energy consumed during construction would come from gasoline and diesel fuel, some electricity would be used during later phases for interior work, such as for operation of power tools and lighting. However, this electricity use would be minimal and is expected to represent a negligible portion of MVU's annual electricity demand.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similarly sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements, such as 2022 CALGreen, the project would comply with construction waste management practices to divert a minimum of 65 percent of construction debris. These practices would result in efficient use of the energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel or electricity in a manner that is wasteful or unnecessary. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and construction impacts related to energy consumption would be less than significant.

Operation

Operation of the project would contribute to regional energy demand by consuming electricity, natural gas, gasoline, and diesel fuels. Electricity and natural gas would be used for heating and cooling systems, lighting, appliances, and water and wastewater conveyance, among other purposes. Gasoline and diesel consumption would be associated with vehicle trips generated by customers, employees, and facility operations. Table 15 summarizes estimated operational energy consumption for the project. As shown below, project operation would require approximately

335,775 gallons of gasoline and 73,048 gallons of diesel for transportation fuels, 2.89 GWh of electricity, and 63,095 U.S. therms of natural gas. Vehicle trips associated with future residents and deliveries would represent the greatest operational use of energy.

Table 15 Estimated Annual Operational Energy Consumption

Source	Energy Consumption[1]	Energy Consumption (MMBtu)
Transportation Fuels		
Gasoline	335,775 gallons	41,961
Diesel	73,048 gallons	10,035
Natural Gas	63,095 U.S. therms	6,309
Electricity	2.89 GWh	8,672

MMBtu = million metric British thermal units; GWh = gigawatt-hours

[1] Energy consumption is converted to MMBtu for each source.

See Appendix D for energy calculation sheets and Appendix B for CalEEMod output results for electricity and natural gas usage.

The project would be consistent with the CALGreen (California Code of Regulations Title 24, Part 11) and the Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6), as it implements energy-efficient light fixtures and building materials and, at a minimum, meet the energy performance standards set by the CEC. Furthermore, the project would also involve installation of photovoltaic (PV) system provisions and EV charging consistent with residential requirements.

In addition, the project would reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by MVU continues to increase to comply with State requirements of SB 1020, which creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. Requirements of SB 1020 are more stringent than SB 100 and SB 350 for increase the procurement of electricity from renewable energy sources. As discussed in Section 3.5, *Greenhouse Gas Impacts*, the project would be consistent with applicable local and regional GHG reduction measures, such as implementing water and energy efficient appliances consistent with Title 24 Energy Code. In addition, with implementation of Mitigation Measure GHG-1, the project would reduce natural gas consumption by implementing an all- electric development. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy.

Local and Regional Energy Supplies and Capacity

Construction

As discussed above, electricity would be consumed during project construction activities. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction.

During construction of the project, electricity would be consumed, on a limited basis, to power lighting and electric equipment. Electricity used during construction would be less than anticipated during operations on a daily and annual basis. The average annual electricity usage during construction would represent approximately a negligible percent of the 2024 MVU anticipated

annual load demand (MVU 2018). Therefore, electricity demand during project construction would not result in an increase in demand for electricity that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new facilities or expansion of existing facilities.

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Therefore, construction would not result in an increase in demand for natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new facilities or expansion of existing facilities.

Transportation fuel usage during project construction activities would represent 0.02 percent of gasoline usage and 0.1 percent of diesel usage within Riverside County, respectively. Construction transportation energy would be provided by existing retail service stations and from existing mobile fuel services. As such, no new facilities would be required. Thus, energy consumption during construction would be temporary, short-term, and would not be substantial. In addition, existing energy providers have sufficient capacity to meet the project's needs along with existing demand. Therefore, the project would not affect the local and/or regional transportation fuel supplies and would not require additional capacity.

Operation

ELECTRICITY

The project-related net increase in annual electricity consumption of 2.89 GWh/year would represent 0.01 percent of the 206 GWh MVU projected forecast for 2030 and would be consistent with MVU anticipated regional demand from population and economic growth (MVU 2018). During high-end peak conditions, the project would represent less than 0.01 percent of the MVU estimated peak load of 390 GWh. Therefore, it is anticipated that MVU existing and planned electricity capacity and electricity supplies would be sufficient to serve the project's electricity demand. Thus, the project would not require additional infrastructure (i.e., a substation) beyond the aforementioned utilities connections installed on-site during construction.

NATURAL GAS

The project's worst-case scenario estimated annual net increase in demand for natural gas would be 6,309 MMBtu per year, or approximately 6.2 million metric (MM) cf per year[15]. Based on the 2024 California Gas Report, the California Energy and Electric Utilities estimates that natural gas capacity per day within SoCalGas' planning area would be 3,775 MMcf in project buildout year of 2028 (CGEU 2024). This report predicts gas demand for all sectors (residential, commercial, industrial, energy generation and wholesale exports) and presents the best estimates, as well as scenarios for hot and cold years. The project's annual consumption would be less than one percent (0.14 percent) of the 2027 forecasted daily capacity in SoCalGas' planning area. SoCalGas expects overall natural gas demand to decline through 2035, even accounting for population and economic growth, with efficiency improvements and the State's transition away from fossil fuel-generated electricity to increased renewable energy. The 2023 California Gas Report states, "SoCalGas projects total gas demand to decline at an annual rate of 1.1 percent per year from 2022 to 2035. The decline in throughput demand is due to modest growth in the natural gas vehicle market and across-the-board

[15] 1 MMcf of natural gas is approximately 1,037 MMBtu.

declines in other market segments." As such, SoCalGas' existing and planned natural gas capacity, supplies and infrastructure would be sufficient to serve the project's demand.

TRANSPORTATION ENERGY

As stated above, at buildout, the project would consume a net increase of 335,775 gallons of gasoline and 73,048 gallons of diesel per year. For comparison purposes, the transportation-related fuel usage for the project would represent 0.04 percent of the 2023 annual on-road gasoline and 0.07 percent of the 2023 annual on-road diesel energy consumption in Riverside County (based on the available County fuel sales data). Operational transportation energy would be provided by existing retail service stations. As such, no new retail service stations would be required. Transportation fuels (gasoline and diesel) are produced from crude oil, which can be produced from domestic supplies or imported from various regions around the world, and based on current proven reserves, is expected to be adequate to meet the world's demand through 2050 (USEIA 2024). As such, existing and planned transportation fuel supplies would be sufficient to serve the project's demand. In addition, the project would provide EV charging stations, which would serve to incentivize the use of hybrid or full-electric vehicles, thereby reducing the reliance on transportation fuels. As transportation fuel consumption during operation would be relatively negligible and within existing and planned supplies, the project would not affect the local and/or regional transportation fuel supplies and would not require additional capacity or infrastructure. Project impacts related to energy use would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold:	Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

IMPACT E-2 THE PROPOSED PROJECT WOULD CONSUME ENERGY, BUT THE PROJECT WOULD NOT CONFLICT WITH SENATE BILL 1020, CONNECT SOCAL 2024, AND GREEN BUILDING STANDARDS CODE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As described under 0, the project would be designed and operated to meet the applicable requirements of the current CALGreen and Building Energy Efficiency standards. The project would incorporate PV provisions and electric vehicle charging stations, and, with implementation of Mitigation Measure GHG-1, would involve all-electric buildings. These project design features would ensure the proposed project would not conflict with or obstruct the Green Building Standards Code.

In addition, the project would be a multi-family housing development in an urbanized area and would provide amenities for bicycle parking. It is also within walking and/or biking distance of a bus stop and existing schools, a hospital, and commercial uses. Therefore, it would encourage growth near destinations and promote transit and active transportation. These project features would reduce energy usage from transportation. Thus, the project would not conflict with the goals of Connect SoCal 2024, which incorporates VMT reduction targets established by SB 375.

Furthermore, the project would receive power from MVU. While the statewide RPS requirements do not directly apply to individual development projects, these requirements apply to utilities and energy providers, whose compliance would contribute to the state objective of transitioning to renewable energy, supporting California's broader energy conservation and climate goals. As such, the project would comply with all applicable state plans for renewable energy and energy efficiency and would eventually be powered by renewable energy as mandated by SB 1020, more stringent than SB 350 and SB 100. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

3.8 Energy Related Cumulative Impacts

3.8.1 Cumulative Impact E-1

The geographic context for the cumulative analysis of electricity is MVU and the geographic context for the cumulative analysis of natural gas is SoCalGas' service area. While the geographic context for transportation-related energy use is more difficult to define, it is meaningful to consider the project in the context of County-wide consumption. Growth within these geographies is anticipated to increase the demand for electricity, natural gas, and transportation energy. The proposed project along with cumulative development would contribute to an increase in energy use, including electricity, natural gas, and transportation fuels (diesel and gasoline), as discussed further below.

Electricity

Project development would result in the use of renewable and non-renewable electricity resources during construction and operation, which could limit future availability. However, the use of such resources would be on a relatively small scale, would be reduced by measures making the project more energy-efficient, would be consistent with growth expectations for MVU's service area. The project would incorporate energy efficiency measures that at least meet the 2022 Title 24 Standards and comply with the latest iteration of the Title 24 Standards and CALGreen Code. With incorporation of Mitigation Measure GHG-1 the project would be an all-electric development with high efficiency Variable Refrigerant Flow and Energy Star home appliances. Furthermore, the project would include PV provisions and EV charging stations consistent with the Title 24 Standards.

Cumulative development projects would similarly be required to comply with the applicable energy-efficiency measures of Title 24 and the CALGreen Code. Additionally, as discussed above, MVU is required to procure at least 90 percent of their energy portfolio by 2035. The current sources of renewable energy procured by MVU include solar, which accounts for 23.8 percent of MVU's overall energy mix (MVU 2025b). Because the proposed project and cumulative development projects would comply with energy conservation plans and efficiency standards and MVU would continue to supply renewable energy, cumulative impacts related to the wasteful, inefficient, and unnecessary use of electricity would be less than significant, and the project's contribution to cumulative impacts would not be cumulatively considerable.

Natural Gas

Project development would result in the use of natural gas resources, which could limit future availability. However, the use of such resources would be on a relatively small scale, would be reduced by measures rendering the project more energy-efficient, such as energy efficient domestic water heaters, and would be consistent with regional and local growth expectations for SoCalGas' service area. Similarly, cumulative development projects within SoCalGas' service area would be expected to incorporate energy conservation features, comply with applicable regulations including the CALGreen Code and State energy standards under Title 24, and incorporate mitigation measures, as necessary, to reduce natural gas consumption. Further, with the implementation of Mitigation Measure GHG-1, the proposed project would remove the use of natural gas.

SoCalGas projects total gas demand to decline through 2035 due to energy efficiency, fuel substitution, and renewable energy goals and standards (California Gas and Electric Utilities 2024). Therefore, the proposed project and cumulative development projects are not anticipated to result in natural gas demand that would be wasteful or inefficient. As such, cumulative impacts related to wasteful, inefficient and unnecessary use of natural gas would be less than significant, and the project's contribution to cumulative impacts would not be cumulatively considerable.

Transportation Energy

Buildout of the project, cumulative projects, and additional forecasted growth would cumulatively increase the demand for transportation-related fuel in the state and region. As described above, at buildout, the project's "worse case" buildout scenario would result in a net increase of approximately 335,775 gallons of gasoline and 73,048 gallons of diesel use for transportation fuels per year. As analyzed above, project transportation fuel usage would represent a small percentage of total fuel consumption within Riverside County. Additionally, the proposed project would include features that reduce VMT and associated transportation fuel use, including its location on an infill site, inclusion of electric vehicle infrastructure, and improvements to the pedestrian environment. While it is speculative to assess transportation fuel usage from related projects, it is expected that cumulative transportation fuel usage resulting from the project and cumulative projects, including projects throughout the county, would be consistent with projections regarding future transportation fuel usage and supply.

Additionally, as described above, petroleum currently accounts for 98 percent of California's transportation energy sources; however, over the last decade the State has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce vehicle miles traveled which would reduce reliance on petroleum fuels. The CEC also predicts that there will be an increase in the use of alternative fuels, such as natural gas, biofuels, and electricity in future years. As with the proposed project, cumulative projects would be expected to reduce VMT and petroleum fuel use by encouraging the use of alternative modes of transportation (mass transit and bicycling) and other design features (pedestrian accessibility) that promote VMT reductions. Therefore, cumulative impacts related to wasteful, inefficient and unnecessary use of transportation energy would be less than significant, and the project's contribution to cumulative impacts would not be cumulatively considerable.

Cumulative Impact E-2

Cumulative development in the City would increase demand for energy resources, as discussed above under Cumulative Impact E-1. However, cumulative development projects would be required to comply with the energy conservation policies described above, including the current CALGreen and Building Energy Efficiency standards to reduce energy use. In addition, cumulative development projects would be required to demonstrate consistency with the applicable goals of the Connect SoCal 2024. Cumulative development would also receive electricity that is procured in compliance with SB 1020, which would promote the use of renewable energy. As a result, cumulative development would not result in a conflict with or obstruction of a state or local plan for renewable energy or energy efficiency, and cumulative impacts would be less than significant.

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Appendix A

Calculations and Assumptions Spreadsheet

Rocas Grandes II
Last Updated: 3/4/2025

CalEEMod Inputs that are not modeling defaults:

Project Location	County	Riverside-South Coast
	City	Moreno Valley
Address	33.91592374240672, -117.20393569890575	
Climate Zone	Default	
Air District	SCAQMD	
Operational Year (Buildout)	2029	
Construction Start	Jan-26	
Utility Company	Moreno Valley Utility/So Cal Gas	

Project Land Use

	Land Use Subtype	Size	Unit	BSF	Total Size	Acres
Residential	town homes	80	du			
Residential	apartments mid	380	du			
Parking	parking lot					
	garages					
recreational	swimming pool					

*Refrigerated warehouse used as proxy for BESS. Building square footage based on similar sized BESS project (400 MW).

**Assumes 20 ft width for linear uses

CalEEMod Construction and Operational Inputs are Based on CalEEMod Defaults with the exception of Mobile Emissions

Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Grading	Grading	6/1/2025	8/26/2025	5	62
Building Construction	Building Construction	8/26/2025	5/31/2027	5	460
Paving I	Paving	10/1/2026	11/2/2026	5	23
AC I	Architectural Coating	1/1/2026	2/2/2026	5	23
AC II	Architectural Coating	4/29/2027	5/31/2027	5	23

Rocas Grandes II
Last Updated: 3/4/2025

Operational Mobiel Emissions

The Rocas Grandes II Residential Traffic Impact Analysis (December 22, 2024 Translutions)

3,100 trips per day

Rocas Grandes II Residential - VMT Analysis (January 2025 Translutions)

	2024	**2028**	**2045**
Miles per capita	12.04	12.16	12.69
Population	1,561		
VMT	18,794	18,988	19,809

0.030952 growth per year

Rocas Grandes II

Last Updated: 3/4/2025

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

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

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

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Excavators	2	8	36	0.38	Grading Phase	797
Graders	1	8	148	0.41	Grading Phase	1,591
Rubber Tired Dozers	1	8	367	0.4	Grading Phase	3,849
Scrapers	2	8	423	0.48	Grading Phase	10,647
Cranes	1	7	367	0.29	Building Construction Phase	18,115
Forklifts	3	8	82	0.2	Building Construction Phase	10,640
Generator Sets	1	8	14	0.74	Building Construction Phase	2,240
Tractors/Loaders/Backhoes	3	7	84	0.37	Paving Phase	17,643
Welders	1	8	46	0.45	Building Construction Phase	4,476
Pavers	2	8	81	0.42	Paving Phase	736
Paving Equipment	2	8	89	0.36	Paving Phase	693
Rollers	2	8	36	0.38	Paving Phase	296
Air Compressors	1	6	37	0.48	Architechtural Coating Phase 1	144
Air Compressors	1	6	37	0.48	Architechtural Coating Phase 2	144
					Total Fuel Used	**73,413**
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	*0*
Site Preparation Phase	0
Grading Phase	62
Building Construction Phase	460
Paving Phase	23
Architectural Coating Phase	23
Total Days	568

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Grading Phase	24.1	20	18.5	951.87
Building Construction Phase	24.1	331	18.5	116880.08
Paving Phase	24.1	15	18.5	264.83
Architectural Coating Phase	24.1	77	18.5	1359.48
			Total Fuel Used	**119,456.27**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Grading Phase	7.5	161	20.0	429.33
Building Construction Phase	7.5	0	20.0	0.00
Paving Phase	7.5	0	20.0	0.00
Architectural Coating Phase	7.5	0	20.0	0.00
			Total Fuel Used	**429.33**
VENDOR TRIPS				
Grading Phase	7.5	0	10.2	0.00
Building Construction Phase	7.5	49	10.2	30779.52
Paving Phase	7.5	0	10.2	0.00
Architectural Coating Phase	7.5	0	10.2	0.00
			Total	**30,779.52**

Total Gasoline Consumption (gallons)	**119,456**
County	**823,000,000**
% county	**0.015**
Total Diesel Consumption (gallons)	**104,621**
County	**108,000,000**
% County	**0.097**

Sources:

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

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

Rocas Grandes II

Last Updated: 3/4/2025

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

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	6,934,270		Daily Vehicle Trips:	
			Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.495651
Light Duty Truck 1 (LDT1)	0.036983
Light Duty Truck 2 (LDT2)	0.285012
Medium Duty Vehicle (MDV)	0.157045
Light Heavy Duty 1 (LHD1)	0.030894
Light Heavy Duty 2 (LHD2)	0.008823
Medium Heavy Duty (MHD)	0.014879
Heavy Heavy Duty (HHD)	0.016409
Other Bus (OBUS)	0.000592
Urban Bus (UBUS)	0.000383
Motorcycle (MCY)	0.028068
School Bus (SBUS)	0.001333
Motorhome (MH)	0.005694

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

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	*49.57%*	*Gasoline*	3,436,976	0.00	142,613
Light-Medium Duty Trucks	*47.90%*	*Gasoline*	3,321,799	0.00	188,739
Heavy Trucks/Other	*7.90%*	*Diesel*	547,859	0.00	73,048
Motorcycle	*2.81%*	*Gasoline*	194,633	0.00	4,423

Total Gasoline Consumption (gallons)	**335,775**
MMBtu	**41,961**
% consumption	**0.041%**
Total Diesel Consumption (gallons)	**73,048**
MMBtu	**10,035**
% consumption	**0.068%**

Sources:

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

Appendix B

CalEEMod Output

Rocas Grandes II Custom Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Rocas Grandes II
Construction Start Date	6/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	24.0
Location	33.91592374240672, -117.20393569890575
County	Riverside-South Coast
City	Moreno Valley
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5586
EDFZ	11
Electric Utility	Moreno Valley Utility
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	80.0	Dwelling Unit	3.00	84,800	20,000	0.00	258	—

Apartments Mid Rise	380	Dwelling Unit	10.0	364,800	18,000	0.00	1,227	—
Parking Lot	860	Space	7.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Energy	E-15	Require All-Electric Development
Area Sources	AS-1	Use Low-VOC Cleaning Supplies
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	AS-2	Use Low-VOC Paints

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

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	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.	66.0	65.6	55.6	72.0	0.17	1.90	11.5	13.4	1.77	3.44	5.21	—	26,566	26,566	0.81	2.23	46.2	27,295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	66.3	65.8	20.1	42.3	0.05	0.72	5.62	6.04	0.66	1.33	1.84	—	9,779	9,779	0.33	0.45	0.59	9,915
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.13	5.82	10.8	24.1	0.03	0.36	3.41	3.71	0.33	0.81	1.09	—	5,977	5,977	0.17	0.41	6.12	6,076

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.12	1.06	1.96	4.40	0.01	0.07	0.62	0.68	0.06	0.15	0.20	—	990	990	0.03	0.07	1.01	1,006

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	7.57	6.11	55.6	72.0	0.17	1.90	11.5	13.4	1.77	3.44	5.21	—	26,566	26,566	0.81	2.23	46.2	27,295
2026	2.91	2.50	12.7	37.2	0.03	0.40	4.75	5.15	0.37	1.13	1.50	—	8,445	8,445	0.32	0.41	19.5	8,593
2027	66.0	65.6	12.9	37.2	0.04	0.38	4.88	5.26	0.35	1.16	1.51	—	8,602	8,602	0.19	0.40	18.0	8,744
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.98	2.55	13.8	32.9	0.03	0.45	4.75	5.20	0.42	1.13	1.55	—	8,194	8,194	0.33	0.41	0.56	8,326
2026	66.3	65.8	20.1	42.3	0.05	0.72	5.62	6.04	0.66	1.33	1.84	—	9,779	9,779	0.26	0.45	0.59	9,915
2027	2.72	2.31	12.3	30.1	0.03	0.36	4.75	5.11	0.33	1.13	1.46	—	7,974	7,974	0.19	0.39	0.46	8,097
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.48	1.22	10.8	14.0	0.03	0.36	2.32	2.68	0.33	0.67	1.00	—	5,120	5,120	0.17	0.41	4.12	5,251
2026	6.13	5.82	9.88	24.1	0.03	0.31	3.41	3.71	0.28	0.81	1.09	—	5,977	5,977	0.15	0.30	6.12	6,076
2027	4.79	4.66	3.72	9.23	0.01	0.11	1.39	1.50	0.10	0.33	0.43	—	2,388	2,388	0.06	0.12	2.26	2,427
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.27	0.22	1.96	2.56	0.01	0.07	0.42	0.49	0.06	0.12	0.18	—	848	848	0.03	0.07	0.68	869
2026	1.12	1.06	1.80	4.40	< 0.005	0.06	0.62	0.68	0.05	0.15	0.20	—	990	990	0.02	0.05	1.01	1,006
2027	0.87	0.85	0.68	1.68	< 0.005	0.02	0.25	0.27	0.02	0.06	0.08	—	395	395	0.01	0.02	0.37	402

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	7.57	6.11	55.6	72.0	0.17	1.90	11.5	13.4	1.77	3.44	5.21	—	26,566	26,566	0.81	2.23	46.2	27,295
2026	2.91	2.50	12.7	37.2	0.03	0.40	4.75	5.15	0.37	1.13	1.50	—	8,445	8,445	0.32	0.41	19.5	8,593
2027	66.0	65.6	12.9	37.2	0.04	0.38	4.88	5.26	0.35	1.16	1.51	—	8,602	8,602	0.19	0.40	18.0	8,744
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.98	2.55	13.8	32.9	0.03	0.45	4.75	5.20	0.42	1.13	1.55	—	8,194	8,194	0.33	0.41	0.56	8,326
2026	66.3	65.8	20.1	42.3	0.05	0.72	5.62	6.04	0.66	1.33	1.84	—	9,779	9,779	0.26	0.45	0.59	9,915
2027	2.72	2.31	12.3	30.1	0.03	0.36	4.75	5.11	0.33	1.13	1.46	—	7,974	7,974	0.19	0.39	0.46	8,097
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.48	1.22	10.8	14.0	0.03	0.36	2.32	2.68	0.33	0.67	1.00	—	5,120	5,120	0.17	0.41	4.12	5,251
2026	6.13	5.82	9.88	24.1	0.03	0.31	3.41	3.71	0.28	0.81	1.09	—	5,977	5,977	0.15	0.30	6.12	6,076
2027	4.79	4.66	3.72	9.23	0.01	0.11	1.39	1.50	0.10	0.33	0.43	—	2,388	2,388	0.06	0.12	2.26	2,427
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.27	0.22	1.96	2.56	0.01	0.07	0.42	0.49	0.06	0.12	0.18	—	848	848	0.03	0.07	0.68	869
2026	1.12	1.06	1.80	4.40	< 0.005	0.06	0.62	0.68	0.05	0.15	0.20	—	990	990	0.02	0.05	1.01	1,006
2027	0.87	0.85	0.68	1.68	< 0.005	0.02	0.25	0.27	0.02	0.06	0.08	—	395	395	0.01	0.02	0.37	402

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.	48.1	45.8	23.8	224	0.47	0.48	40.4	40.8	0.46	10.2	10.7	218	53,080	53,297	24.6	2.42	150	54,784

Mit.	44.3	42.2	22.0	197	0.46	0.34	40.4	40.7	0.32	10.2	10.6	218	51,008	51,226	24.4	2.42	150	52,706
% Reduced	8%	8%	8%	12%	2%	29%	—	< 0.5%	30%	—	1%	—	4%	4%	1%	< 0.5%	—	4%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.5	41.3	25.1	173	0.44	0.47	40.4	40.8	0.45	10.2	10.7	218	50,204	50,421	24.7	2.50	7.03	51,790
Mit.	42.1	40.0	23.5	173	0.43	0.34	40.4	40.7	0.32	10.2	10.6	218	48,186	48,404	24.5	2.49	7.03	49,767
% Reduced	3%	3%	6%	< 0.5%	2%	27%	—	< 0.5%	29%	—	1%	—	4%	4%	1%	< 0.5%	—	4%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	44.8	42.5	25.6	197	0.45	0.48	39.7	40.2	0.46	10.1	10.5	218	50,657	50,875	24.7	2.52	66.7	52,309
Mit.	41.8	39.7	23.8	178	0.44	0.34	39.7	40.1	0.32	10.1	10.4	218	48,603	48,820	24.5	2.51	66.7	50,249
% Reduced	7%	7%	7%	9%	2%	29%	—	< 0.5%	30%	—	1%	—	4%	4%	1%	< 0.5%	—	4%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.18	7.76	4.67	35.9	0.08	0.09	7.25	7.34	0.08	1.84	1.92	36.0	8,387	8,423	4.09	0.42	11.0	8,660
Mit.	7.63	7.24	4.35	32.5	0.08	0.06	7.25	7.32	0.06	1.84	1.90	36.0	8,047	8,083	4.06	0.42	11.0	8,319
% Reduced	7%	7%	7%	9%	2%	29%	—	< 0.5%	30%	—	1%	—	4%	4%	1%	< 0.5%	—	4%

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	35.1	33.0	22.0	197	0.46	0.34	40.4	40.7	0.32	10.2	10.6	—	47,243	47,243	2.29	2.30	147	48,133
Area	12.8	12.7	0.25	26.1	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	69.8	69.8	< 0.005	< 0.005	—	70.0

Energy	0.19	0.09	1.59	0.68	0.01	0.13	—	0.13	0.13	—	0.13	—	5,611	5,611	0.44	0.04	—	5,633
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	48.1	45.8	23.8	224	0.47	0.48	40.4	40.8	0.46	10.2	10.7	218	53,080	53,297	24.6	2.42	150	54,784
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.9	30.8	23.5	173	0.43	0.34	40.4	40.7	0.32	10.2	10.6	—	44,436	44,436	2.42	2.38	3.81	45,208
Area	10.4	10.4	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.19	0.09	1.59	0.68	0.01	0.13	—	0.13	0.13	—	0.13	—	5,611	5,611	0.44	0.04	—	5,633
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	43.5	41.3	25.1	173	0.44	0.47	40.4	40.8	0.45	10.2	10.7	218	50,204	50,421	24.7	2.50	7.03	51,790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.6	30.5	23.8	178	0.44	0.34	39.7	40.1	0.32	10.1	10.4	—	44,842	44,842	2.43	2.39	63.4	45,680
Area	12.1	12.0	0.17	17.9	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	47.8	47.8	< 0.005	< 0.005	—	48.0
Energy	0.19	0.09	1.59	0.68	0.01	0.13	—	0.13	0.13	—	0.13	—	5,611	5,611	0.44	0.04	—	5,633
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	44.8	42.5	25.6	197	0.45	0.48	39.7	40.2	0.46	10.1	10.5	218	50,657	50,875	24.7	2.52	66.7	52,309
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.95	5.56	4.35	32.5	0.08	0.06	7.25	7.32	0.06	1.84	1.90	—	7,424	7,424	0.40	0.40	10.5	7,563
Area	2.20	2.19	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.91	7.91	< 0.005	< 0.005	—	7.94
Energy	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	929	929	0.07	0.01	—	933
Water	—	—	—	—	—	—	—	—	—	—	—	5.68	25.8	31.5	0.58	0.01	—	50.3

Waste	—	—	—	—	—	—	—	—	—	—	—	30.3	0.00	30.3	3.03	0.00	—	106
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	8.18	7.76	4.67	35.9	0.08	0.09	7.25	7.34	0.08	1.84	1.92	36.0	8,387	8,423	4.09	0.42	11.0	8,660

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	35.1	33.0	22.0	197	0.46	0.34	40.4	40.7	0.32	10.2	10.6	—	47,243	47,243	2.29	2.30	147	48,133
Area	9.24	9.24	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,610	3,610	0.26	0.03	—	3,626
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	44.3	42.2	22.0	197	0.46	0.34	40.4	40.7	0.32	10.2	10.6	218	51,008	51,226	24.4	2.42	150	52,706
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.9	30.8	23.5	173	0.43	0.34	40.4	40.7	0.32	10.2	10.6	—	44,436	44,436	2.42	2.38	3.81	45,208
Area	9.24	9.24	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,594	3,594	0.26	0.03	—	3,610
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	42.1	40.0	23.5	173	0.43	0.34	40.4	40.7	0.32	10.2	10.6	218	48,186	48,404	24.5	2.49	7.03	49,767
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.6	30.5	23.8	178	0.44	0.34	39.7	40.1	0.32	10.1	10.4	—	44,842	44,842	2.43	2.39	63.4	45,680

Area	9.24	9.24	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3,605	3,605	0.26	0.03	—	3,621
Water	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Total	41.8	39.7	23.8	178	0.44	0.34	39.7	40.1	0.32	10.1	10.4	218	48,603	48,820	24.5	2.51	66.7	50,249
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.95	5.56	4.35	32.5	0.08	0.06	7.25	7.32	0.06	1.84	1.90	—	7,424	7,424	0.40	0.40	10.5	7,563
Area	1.69	1.69	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	597	597	0.04	0.01	—	599
Water	—	—	—	—	—	—	—	—	—	—	—	5.68	25.8	31.5	0.58	0.01	—	50.3
Waste	—	—	—	—	—	—	—	—	—	—	—	30.3	0.00	30.3	3.03	0.00	—	106
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	7.63	7.24	4.35	32.5	0.08	0.06	7.25	7.32	0.06	1.84	1.90	36.0	8,047	8,083	4.06	0.42	11.0	8,319

3. Construction Emissions Details

3.1. 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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622

Dust From Material Movement	—	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—	—
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	5.04	4.81	0.01	0.21	—	0.21	0.19	—	0.19	—	1,121	1,121	0.05	0.01	—	1,125
Dust From Material Movement	—	—	—	—	—	—	0.61	0.61	—	0.24	0.24	—	—	—	—	—	—	—
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	0.92	0.88	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	186
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	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	0.11	0.09	0.09	1.54	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	282	282	0.01	0.01	1.04	286

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	0.47	0.18	12.3	3.01	0.07	0.21	2.92	3.13	0.21	0.82	1.03	—	11,115	11,115	0.21	1.75	23.7	11,665
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.6	44.6	< 0.005	< 0.005	0.08	45.2
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	0.08	0.03	2.21	0.52	0.01	0.04	0.49	0.53	0.04	0.14	0.17	—	1,888	1,888	0.04	0.30	1.73	1,980
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.38	7.38	< 0.005	< 0.005	0.01	7.48
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	0.01	0.40	0.09	< 0.005	0.01	0.09	0.10	0.01	0.03	0.03	—	313	313	0.01	0.05	0.29	328

3.2. Grading (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—	—
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	5.04	4.81	0.01	0.21	—	0.21	0.19	—	0.19	—	1,121	1,121	0.05	0.01	—	1,125
Dust From Material Movement	—	—	—	—	—	—	0.61	0.61	—	0.24	0.24	—	—	—	—	—	—	—
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	0.92	0.88	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	186
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	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	0.11	0.09	0.09	1.54	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	282	282	0.01	0.01	1.04	286
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	0.47	0.18	12.3	3.01	0.07	0.21	2.92	3.13	0.21	0.82	1.03	—	11,115	11,115	0.21	1.75	23.7	11,665
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.6	44.6	< 0.005	< 0.005	0.08	45.2
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	0.08	0.03	2.21	0.52	0.01	0.04	0.49	0.53	0.04	0.14	0.17	—	1,888	1,888	0.04	0.30	1.73	1,980
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.38	7.38	< 0.005	< 0.005	0.01	7.48
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	0.01	0.40	0.09	< 0.005	0.01	0.09	0.10	0.01	0.03	0.03	—	313	313	0.01	0.05	0.29	328

3.3. 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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.62	3.27	0.01	0.11	—	0.11	0.10	—	0.10	—	601	601	0.02	< 0.005	—	603
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	0.06	0.05	0.48	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	99.4	99.4	< 0.005	< 0.005	—	99.8
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	1.78	1.48	1.45	25.6	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,668	4,668	0.19	0.16	17.2	4,739
Vendor	0.07	0.03	1.65	0.51	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,504	1,504	0.03	0.23	4.27	1,578
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	1.57	1.39	1.60	19.3	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,291	4,291	0.20	0.16	0.44	4,346
Vendor	0.07	0.03	1.73	0.53	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,506	1,506	0.03	0.23	0.11	1,575
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	0.39	0.35	0.43	5.12	0.00	0.00	1.07	1.07	0.00	0.25	0.25	—	1,089	1,089	0.05	0.04	1.85	1,104
Vendor	0.02	0.01	0.43	0.13	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	377	377	0.01	0.06	0.46	395
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	0.06	0.08	0.93	0.00	0.00	0.19	0.19	0.00	0.05	0.05	—	180	180	0.01	0.01	0.31	183
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	62.4	62.4	< 0.005	0.01	0.08	65.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. 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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
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	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
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	1.56	1.40	1.30	23.8	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,568	4,568	0.19	0.16	15.5	4,635
Vendor	0.07	0.03	1.58	0.49	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,480	1,480	0.03	0.23	4.05	1,553
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	1.49	1.32	1.45	18.0	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,200	4,200	0.07	0.16	0.40	4,251
Vendor	0.07	0.03	1.65	0.50	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,481	1,481	0.03	0.23	0.10	1,550
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	1.06	0.94	1.13	13.5	0.00	0.00	3.04	3.04	0.00	0.71	0.71	—	3,038	3,038	0.05	0.12	4.77	3,079
Vendor	0.05	0.02	1.18	0.35	0.01	0.02	0.30	0.31	0.02	0.08	0.10	—	1,058	1,058	0.02	0.16	1.24	1,108
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	0.19	0.17	0.21	2.46	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	503	503	0.01	0.02	0.79	510
Vendor	0.01	< 0.005	0.22	0.06	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	175	175	< 0.005	0.03	0.21	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

3.7. 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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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	0.36	0.30	2.78	3.82	0.01	0.10	—	0.10	0.09	—	0.09	—	708	708	0.03	0.01	—	711
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	0.07	0.06	0.51	0.70	< 0.005	0.02	—	0.02	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
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	1.49	1.33	1.15	22.0	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,483	4,483	0.05	0.16	13.9	4,545
Vendor	0.07	0.03	1.52	0.48	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,453	1,453	0.03	0.22	3.70	1,523
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	1.42	1.26	1.30	16.6	0.00	0.00	4.33	4.33	0.00	1.01	1.01	—	4,123	4,123	0.06	0.16	0.36	4,172
Vendor	0.06	0.03	1.59	0.49	0.01	0.02	0.42	0.44	0.02	0.12	0.14	—	1,454	1,454	0.03	0.22	0.10	1,520
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	0.42	0.37	0.42	5.16	0.00	0.00	1.26	1.26	0.00	0.29	0.29	—	1,234	1,234	0.02	0.05	1.78	1,250
Vendor	0.02	0.01	0.47	0.14	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	430	430	0.01	0.06	0.47	449
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	0.08	0.07	0.08	0.94	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	204	204	< 0.005	0.01	0.29	207
Vendor	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	71.1	71.1	< 0.005	0.01	0.08	74.4
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. Paving I (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.80	0.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.06	0.05	0.45	0.63	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.2	95.2	< 0.005	< 0.005	—	95.5
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Paving	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.82	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	< 0.005	0.01	0.02	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.1	12.1	< 0.005	< 0.005	0.02	12.3
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.04
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

3.11. AC I (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	63.0	63.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Architectural Coatings	3.97	3.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Architectural Coatings	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.30	0.26	0.29	3.61	0.00	0.00	0.87	0.87	0.00	0.20	0.20	—	840	840	0.01	0.03	0.08	850
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	0.02	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	53.6	53.6	< 0.005	< 0.005	0.08	54.3

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	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.87	8.87	< 0.005	< 0.005	0.01	8.99
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

3.13. AC II (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	63.0	63.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44

Architectural	3.97	3.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Architectural Coatings	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.66	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	< 0.005	< 0.005	0.42	137
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	—	7.94	7.94	< 0.005	< 0.005	0.01	8.05
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.33
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

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	728	728	0.05	0.01	—	731
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,530	2,530	0.18	0.02	—	2,541
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	332	332	0.02	< 0.005	—	333
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,589	3,589	0.26	0.03	—	3,605
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	728	728	0.05	0.01	—	731

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,530	2,530	0.18	0.02	—	2,541
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	332	332	0.02	< 0.005	—	333
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,589	3,589	0.26	0.03	—	3,605
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	121	121	0.01	< 0.005	—	121
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	419	419	0.03	< 0.005	—	421
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	54.9	54.9	< 0.005	< 0.005	—	55.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	594	594	0.04	0.01	—	597

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Apartments Mid Rise	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.59	0.68	0.01	0.13	—	0.13	0.13	—	0.13	—	2,022	2,022	0.18	< 0.005	—	2,028

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Apartments Mid Rise	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.59	0.68	0.01	0.13	—	0.13	0.13	—	0.13	—	2,022	2,022	0.18	< 0.005	—	2,028
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Apartments Mid Rise	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	335	335	0.03	< 0.005	—	336

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer Product	9.65	9.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.76	0.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.42	2.29	0.25	26.1	< 0.005	0.01	—	0.01	0.01	—	0.01	—	69.8	69.8	< 0.005	< 0.005	—	70.0
Total	12.8	12.7	0.25	26.1	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	69.8	69.8	< 0.005	< 0.005	—	70.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	9.65	9.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.76	0.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10.4	10.4	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	1.76	1.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.14	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipm	0.30	0.29	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.91	7.91	< 0.005	< 0.005	—	7.94
Total	2.20	2.19	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.91	7.91	< 0.005	< 0.005	—	7.94

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.24	30.1	36.3	0.64	0.02	—	56.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	28.1	126	154	2.89	0.07	—	247
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.24	30.1	36.3	0.64	0.02	—	56.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	28.1	126	154	2.89	0.07	—	247
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	34.3	156	190	3.53	0.08	—	304

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.03	4.98	6.01	0.11	< 0.005	—	9.43
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	4.65	20.9	25.5	0.48	0.01	—	40.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	5.68	25.8	31.5	0.58	0.01	—	50.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	31.8	0.00	31.8	3.18	0.00	—	111
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151	0.00	151	15.1	0.00	—	530
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	31.8	0.00	31.8	3.18	0.00	—	111

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151	0.00	151	15.1	0.00	—	530
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	5.27	0.00	5.27	0.53	0.00	—	18.4
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	25.1	0.00	25.1	2.51	0.00	—	87.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	30.3	0.00	30.3	3.03	0.00	—	106

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.22	3.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	6/1/2025	8/26/2025	5.00	62.0	—
Building Construction	Building Construction	8/26/2025	5/31/2027	5.00	460	—
Paving I	Paving	10/1/2026	11/2/2026	5.00	23.0	—
AC I	Architectural Coating	1/1/2026	2/2/2026	5.00	23.0	—
AC II	Architectural Coating	4/29/2027	5/31/2027	5.00	23.0	—

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
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving I	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving I	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving I	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
AC I	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
AC II	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	161	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	331	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	49.2	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	—	HHDT
Paving I	—	—	—	—
Paving I	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving I	Vendor	0.00	10.2	HHDT,MHDT
Paving I	Hauling	0.00	20.0	HHDT
Paving I	Onsite truck	0.00	—	HHDT
AC I	—	—	—	—
AC I	Worker	66.2	18.5	LDA,LDT1,LDT2
AC I	Vendor	0.00	10.2	HHDT,MHDT
AC I	Hauling	0.00	20.0	HHDT
AC I	Onsite truck	0.00	—	HHDT
AC II	—	—	—	—
AC II	Worker	10.0	18.5	LDA,LDT1,LDT2
AC II	Vendor	0.00	10.2	HHDT,MHDT
AC II	Hauling	0.00	20.0	HHDT
AC II	Onsite truck	0.00	—	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)
AC I	455,220	151,740	0.00	0.00	9,148
AC II	455,220	151,740	0.00	0.00	9,148

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 (sq. ft.)	Acres Paved (acres)
Grading	80,000	0.00	201	0.00	—
Paving I	0.00	0.00	0.00	0.00	7.00

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Apartments Mid Rise	—	0%
Parking Lot	7.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005
2027	0.00	453	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
Total all Land Uses	3,100	3,100	3,100	1,131,500	18,998	18,998	18,998	6,934,270

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	80
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	380
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
871560	290,520	0.00	0.00	18,295

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	586,331	453	0.0330	0.0040	1,668,054
Apartments Mid Rise	2,037,297	453	0.0330	0.0040	4,641,412
Parking Lot	267,110	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	3,253,902	387,584
Apartments Mid Rise	14,642,559	348,826

Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	59.1	—
Apartments Mid Rise	281	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

8. User Changes to Default Data

Screen	Justification
Land Use	Based on site size

Construction: Construction Phases	Based on Default assumptions, project (2 year construction and 2 phases for starting) and institutional knowledge
Operations: Vehicle Data	based on 3,100 daily trips
Operations: Hearths	Assumed based on current PD
Construction: Dust From Material Movement	Based on project description