Sartin Storage Yard

Air Quality and Greenhouse Gas Study

Calimesa, CA



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City of Calimesa

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Planning • Environmental • Construction Management

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ACRONYMS AND ABBREVIATIONS

Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	Environmental Protection Agency
ºF	Fahrenheit
GHG	Greenhouse gas
GWP	Global warming potential
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO_x	Nitrogen oxides
NO_2	Nitrogen dioxide
O_3	Ozone
PM	Particle matter
PM_{10}	Particles that are less than 10 micrometers in diameter
$PM_{2.5}$	Particles that are less than 2.5 micrometers in diameter
PPM	Parts per million
PPB	Parts per billion

ACRONYMS AND ABBREVIATIONS (cont')

PPT	Parts per trillion
RTIP	Regional Transportation Improvement Plan
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_x	Sulfur oxides
TAC	Toxic air contaminants
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile organic compounds

1.0 INTRODUCTION

This air quality and greenhouse gas (GHG) analysis has been prepared to support the City of Calimesa (City) environmental review process. It provides information regarding potential impacts to air quality and GHG associated with the project's approval. This air quality/GHG study describes the existing air quality, identifies applicable rules and regulations, evaluates potential air quality and GHG impacts of the project, and, where appropriate, includes measures to mitigate or minimize pollutant emissions associated with the project.

1.1 Purpose of Analysis and Study Objectives

This Air Quality and Greenhouse Gas Emissions Impact Analysis has been completed to determine the air quality and greenhouse gas (GHG) emissions impacts of the Equipment Storage Yard Project (project). The following is provided in this report:

- A description of the project;
- A description of the atmospheric setting;
- A description of the criteria pollutants and GHGs;
- A description of the air quality regulatory framework;
- A description of the air quality and GHG emissions thresholds, including the California Environmental Quality Act (CEQA) significance thresholds;
- An analysis of the short-term construction-related and long-term operational air quality and GHG emissions impacts;
- An analysis of the conformity of the project with the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP); and
- An analysis of the project's conformity with all applicable GHG emissions reduction plans and policies.

Air Quality and GHG Analysis

For the AQ analysis, the local scale will focus on emissions impacting the immediate vicinity and surrounding areas, considering the project's operations and the associated traffic patterns. The regional AQ analysis will examine broader air quality impacts across the region, consistent with local regulatory guidelines.

The GHG analysis, given its global impact, will evaluate the total greenhouse gas emissions produced by the project in relation to California's state reduction goals and the global carbon neutrality target, as outlined in the 2022 Scoping Plan Update and 2020-2050 RTP/SCS (Connect SoCal 2024). Further, the City of Calimesa is participating in the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP), which establishes a community-wide emissions reduction target of 15% below 2010 levels. This target follows guidance from the California Air Resources Board (CARB) and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined that this approach aligns with the statewide AB 32 goal of reducing emissions to 1990 levels. The project will be evaluated within the context of these reduction strategies, ensuring that its GHG impact aligns with both regional and state-level targets.

1.2 Site Location and Study Area

The project is located in the City of Calimesa within Riverside County. The vested tentative tract map occupies an undeveloped parcel to the east of Calimesa Boulevard along Chandler Avenue. The General Plan Amendment

and Zone change will reduce the parcel from 4.17 acres to approximately 2.4 acres, which will include a storage yard with no buildings and 42 storage/parking spaces. **Figure 1-1** illustrates the study area for the General Plan Amendment and Zone change. **Figure 1-2** displays the vested tentative tract of the parcels that will be developed.

1.3 Sensitive Receptors in Project Vicinity

The nearest offsite sensitive receptors to the project site consist of mobile and residential homes 40 feet and 220 feet east and south of the project site, respectively.

1.4 Project Description

The project involves the development of a 2.46-acre storage yard for trucks, construction equipment, and tractor trailers located on an undeveloped parcel at Chandler Avenue in Calimesa, CA. The site will feature a concrete driveway, an asphalt concrete (AC) paved yard area, and a landscape buffer. A Lot Line Adjustment is proposed to reduce APN 413-210-023 in size from 4.17 acres to approximately 2.46 acres, while a Lot Merger will combine APN 413-210-022 and APN 413-210-024 into one singular parcel. The yard will include 42 storage/parking spaces and will be operational from 7 AM to 7 PM. The project will also incorporate approximately six light poles to illuminate the site. The total landscaped area is approximately 16,070 square feet, and the paved surface area for the yard is approximately 87,350 square feet.

1.5 Standard Air Quality and GHG Regulatory Conditions

The project will be required to comply with the following regulatory conditions from the SCAQMD and the State of California (State).

Air Quality Regulations

The project is required to comply with the following air quality regulations established by the South Coast Air Quality Management District (SCAQMD) and the State of California.

South Coast Air Quality Management District Rules

The following lists the SCAQMD rules applicable to projects in the South Coast Air Basin (Air Basin).

Rule 402 - Nuisance

Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which 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. Compliance with Rule 402 will reduce local air quality and odor impacts to nearby sensitive receptors.

Rule 403- Fugitive Dust

Rule 403 governs emissions of fugitive dust during construction activities. It requires that no person shall cause or allow fugitive dust emissions such that dust remains visible in the atmosphere beyond the property line or the dust emission exceeds 20 percent opacity if the dust is from the operation of a motorized vehicle. Compliance with this rule is achieved by applying standard Best Available Control Measures, which include but are not limited to the measures below. Compliance with these rules would reduce local air quality impacts to nearby sensitive receptors.

1.5.1 Utilize either a pad of washed gravel 50 feet long, 100 feet of paved surface, a wheel shaker, or a wheel washing device to remove material from vehicle tires and undercarriages before leaving the project site.

1.5.2 Do not allow any track out of material to extend more than 25 feet onto a public roadway and remove all track out at the end of each workday.

1.5.3 Water all exposed areas on active sites at least three times per day and pre-water all areas prior to clearing and soil moving activities.

1.5.4 Apply nontoxic chemical stabilizers according to manufacturer specifications to all construction areas that will remain inactive for 10 days or longer.

1.5.5 Pre-water all material to be exported prior to loading, and either cover all loads or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114.

1.5.6 Replant all disturbed areas as soon as practical.

1.5.7 Suspend all grading activities when wind speeds (including wind gusts) exceed 25 miles per hour.

1.5.8 Restrict traffic speeds on all unpaved roads to 15 miles per hour or less.

Rules 1108 and 1108.1 – Cutback and Emulsified Asphalt

Rules 1108 and 1108.1 govern the sale, use, and manufacturing of asphalt and limit asphalt's VOC content. This rule regulates the VOC contents of asphalt used during construction and any ongoing maintenance during operations. Therefore, all asphalt used during the construction and operation of the project must comply with SCAQMD Rules 1108 and 1108.1.

Rule 1113 – Architectural Coatings

Rule 1113 governs architectural coatings' sale, use, and manufacturing and limits the VOC content in sealers, coatings, paints, and solvents. This rule regulates the VOC contents of paints available during construction. Therefore, all paints and solvents used during the construction and operation of the project must comply with SCAQMD Rule 1113.

Rule 1143 – Paint Thinners

Rule 1143 governs the sale, use, and manufacturing of paint thinners and multi-purpose solvents that are used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations. This rule regulates the VOC content of solvents used during construction, and solvents used during the construction and operation of the project must comply with SCAQMD Rule 1143.

SCAQMD Rule 1186 – PM_{10} Emissions from Paved and Unpaved Roads and Parking Areas

- Requires that paved and unpaved roads, as well as parking areas, incorporate dust control measures to reduce PM_{10} emissions.

State of California Rules

The following lists the State of California rules that apply to all residential projects.

CARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the California Air Resources Board (CARB) adopted California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 to reduce diesel particulate matter (DPM) and NO_x emissions from in-use off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling and requires disclosure of the regulation upon vehicle sale. Performance requirements of the rule are based on a fleet's average NO_x emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirement, making the first compliance deadline January 1, 2014, for large fleets (over

5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less). Currently, no commercial operation in California may add any equipment to their fleet with a Tier 0 or Tier 1 engine. By January 1, 2018, medium and large fleets will be restricted from adding Tier 2 engines to their fleets. By January 2023, no commercial operation will be allowed to add Tier 2 engines to their fleets. It should be noted that commercial fleets may continue to use their existing Tier 0 and 1 equipment if they can demonstrate that the average emissions from their entire fleet emissions meet the NO_x emissions targets.

CARB Resolution 08-43 for On-Road Diesel Truck Fleets

On December 12, 2008, the CARB adopted Resolution 08-43, limiting NO_x, PM_{10} and $PM_{2.5}$ emissions from on-road diesel truck fleets operating in California. On October 12, 2009, Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, title 13 of the California Code of Regulations. This regulation requires that by 2023 all commercial diesel trucks that operate in California shall meet the model year 2010 (Tier 4 Final) or latter emission standards. This regulation provides annual interim targets for fleet owners to meet in the interim period. By January 1, 2014, 50 percent of a truck fleet is required to have installed Best Available Control Technology (BACT) for NO_x emissions, and 100 percent of a truck fleet installed BACT for PM_{10} emissions. This regulation also provides a few exemptions, including a one-time 3-day pass for trucks registered outside of California. All on-road diesel trucks utilized during the project's construction will be required to comply with Resolution 08-43.

Greenhouse Gas Regulations

The project is also required to comply with statewide regulations aimed at reducing greenhouse gas emissions.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) standards require the installation of insulated hot water pipes, improved window performance, improved wall insulation, and mandatory duct sealing. Other Title 24 requirements include the use of cool roofing shingles, a minimum of 1-inch air space between roof material and roof deck, and a minimum of R-22 roof/ceiling insulation. All lighting is required to be high efficiency, and daylight and motion sensors are required for outdoor lighting, bathrooms, utility rooms, and other spaces. The forced air systems are required to limit leakage to 5 percent or less and require all heat pump systems to be equipped with liquid line filter driers. The 2016 Title 24 Part 6 standards are anticipated to reduce electricity consumption by 281 gigawatt-hours per year and natural gas consumption by 16 million therms per year (http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037- CMF.pdf).

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (Title 24) requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and 130 provisions for optional use.

California Senate Bill 32 (SB 32) – 2030 GHG Reduction Target

- Sets a statewide GHG reduction target of 40% below 1990 levels by 2030 under the California Global Warming Solutions Act (AB 32).
- Projects must demonstrate consistency with local Climate Action Plans (CAPs) and statewide reduction strategies.

California Executive Order B-55-18 – Carbon Neutrality Goal

- Establishes a statewide goal to achieve carbon neutrality by 2045.
- Projects should implement low-emission vehicle infrastructure, energy-efficient site design, and sustainable landscaping to align with long-term state goals.

1.6 Summary of Analysis Results

The following is a summary of the project's impacts with regard to the State California Environmental Quality Act (CEQA) Guidelines air quality and GHG emissions checklist questions.

Air Quality CEQA Checklist Questions

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 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.

Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than significant impact.

GHG CEQA Checklist Questions

Generate GHG emissions, either directly or indirectly that may significantly impact the environment?

Less than significant impact.

Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant impact.

1.7 Mitigation Measures Required for the Project

This analysis found that implementation of SCAQMD Rule 403 fugitive dust control requirements would be adequate to reduce construction-related air quality impacts to less than significant levels. No additional mitigation measures related to air quality or GHG emissions are required

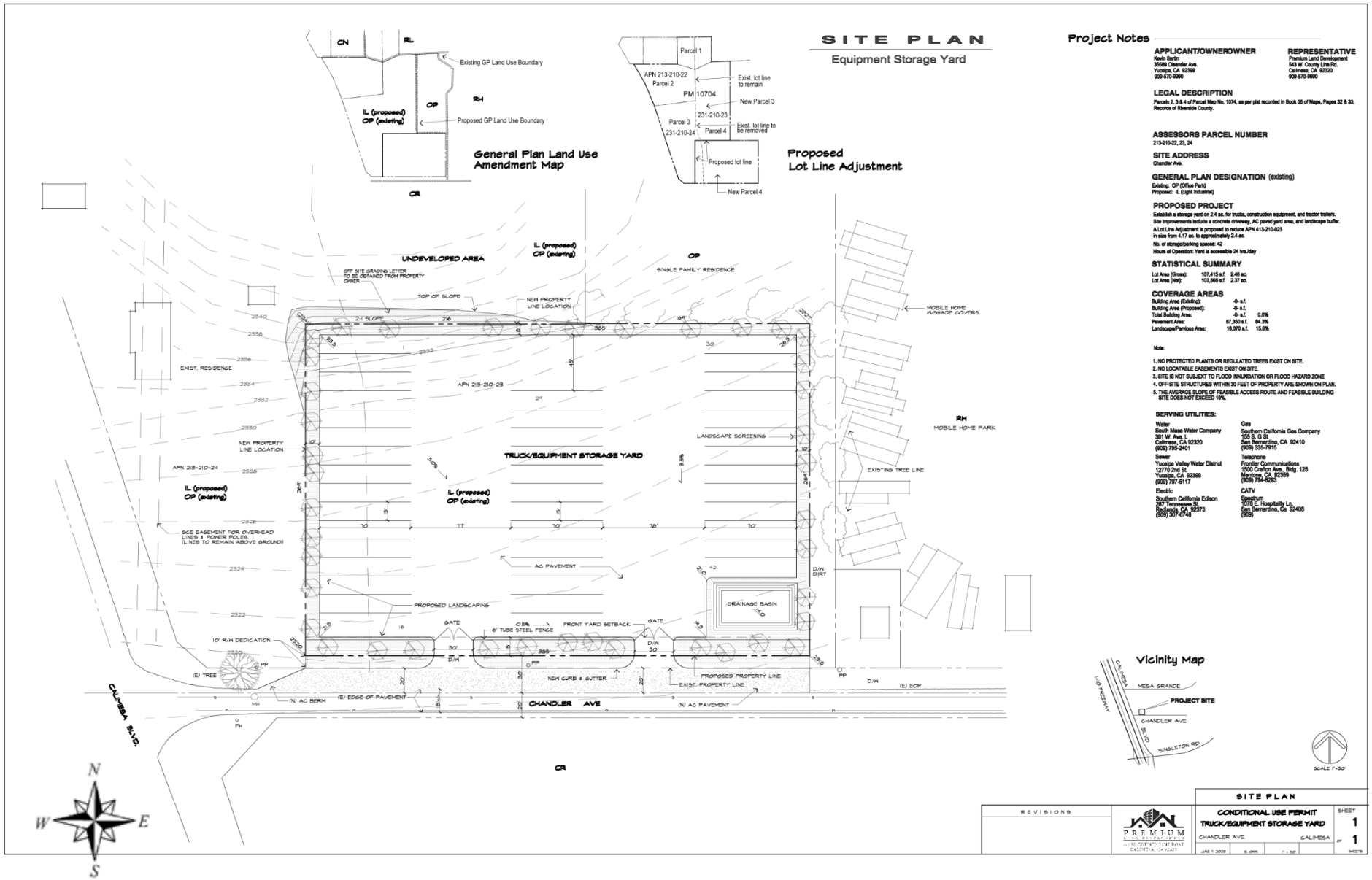
Figure 1-1

Location Map



Figure 1-2

Project Site Plan



2.0 POLLUTANTS

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as crops' protection, materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

2.1 Criteria Pollutants

The criteria pollutants include ozone, nitrogen oxides, carbon monoxide, sulfur oxides, lead, and particulate matter. These pollutants can harm your health and the environment and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants “criteria” air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Oxides

Nitrogen Oxides (NO_x) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NO_x is colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas—NO_x forms when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form ground-level ozone, nitrate particles, acid aerosols, and NO_2, which cause respiratory problems. NO_x and the pollutants formed from NO_x can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NO_x is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone is not usually emitted directly into the air but in the vicinity of ground-level is created by a chemical reaction between NO_x and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents, and natural sources emit NO_x and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form, with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NO_x and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NO_x and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, unvented gas, and kerosene space heaters are indoor sources of CO. The

highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high concentrations generally occur in the immediate vicinity of roadways with high traffic volumes and traffic congestion, active parking lots, and automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart diseases such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Oxides

Sulfur Oxide (SO_x) gases are formed when fuel containing sulfur, such as coal and oil, is burned. It also comes from the refining of gasoline. SO_x dissolves easily in water vapor to form acid. It interacts with other gases and particles in the air to form sulfates and other products that can harm people and the environment.

Lead

Lead is a metal found naturally in the environment and manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase-out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High lead levels in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants, and children to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particle matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. PM is made up of many components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles less than 10 micrometers in diameter (PM_{10}) are particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles less than 2.5 micrometers in diameter ($PM_{2.5}$) have been designated as a subset of PM_{10} due to their increased negative health impacts and their ability to remain suspended in the air longer and travel further.

2.2 Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of TACs include industrial processes such as petroleum refining and chrome

plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations and accidental releases. The health effects of TACs include cancer, birth defects, neurological damage, and death.

TACs are less pervasive in the urban atmosphere than criteria air pollutants however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to *The California Almanac of Emissions and Air Quality 2013 Edition*, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). DPM is a subset of $PM_{2.5}$ because the size of diesel particles is typically 2.5 microns and smaller. The identification of DPM as a TAC in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in DPM by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The visible emissions in diesel exhaust are particulate matter or PM, which includes carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of DPM as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for most of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by CARB (CARB, 2023) and as a Hazardous Air Pollutant by the EPA (EPA, 2023). Asbestos occurs naturally in mineral formations, and crushing or breaking these rocks can release asbestiform fibers into the air through construction or other means (CARB, 2023). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining (EPA, 2023). The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and, with time, maybe linked to such diseases as asbestosis, lung cancer, and mesothelioma (EPA, 2023). The nearest likely locations of naturally occurring asbestos, as identified in the *General Location Guide for Ultramafic Rocks in California*, prepared by the California Division of Mines and Geology, is located in Santa Barbara County (California Division of Mines and Geology, 2023). The nearest historic asbestos mine to the project site, as identified in the *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California,* prepared by the U.S. Geological Survey, is located at Asbestos Mountain, which is approximately 53 miles southeast of the project site in the San Jacinto Mountains. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

2.3 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHGs), play a critical role in the Earth's radiation amount by trapping infrared radiation from the Earth's surface, which otherwise would have escaped to space (IPCC, 2021). Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs) (EPA, 2023). This phenomenon, known as the Greenhouse Effect, is

responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change (NOAA, 2022). Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation (CARB, 2022). Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion. Methane is a potent greenhouse gas that results from off-gassing associated with agricultural practices and landfills (EPA, 2023). Sinks of CO_2, where CO_2 is stored outside the atmosphere, include uptake by vegetation and dissolution into the ocean. The following describes each of the greenhouse gases and their global warming potential (IPCC, 2021).

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; it maintains a climate necessary for life in the atmosphere. Changes in its concentration are primarily considered a result of climate feedback related to the warming of the atmosphere rather than a direct result of industrialization (IPCC, 2021). The feedback loop in which water is involved is critically important to projecting future climate change. As the atmosphere's temperature rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air can "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor can absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on. This is referred to as a "positive feedback loop"(NASA, 2022). The extent to which this positive feedback loop will continue is unknown as there are also dynamics that check the positive feedback loop. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it).

Carbon Dioxide

The natural production and absorption of CO_2 are achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood (EPA, 2023). Since the industrial revolution began in the mid-1700s, each activity has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were relatively stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC) indicates that concentrations were 379 ppm in 2005, an increase of more than 30 percent. Left unchecked, the IPCC projects that the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 due to anthropogenic sources. This could result in an average global temperature rise of at least two degrees Celsius or 3.6 degrees Fahrenheit (IPCC, 2021).

Methane

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs)) (IPCC, 2021). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or rice production (at the roots of the plants) (EPA, 2023). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of

methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning (EPA, 2023).

Nitrous Oxide

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including reactions in a fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load (EPA, 2023). N_2O is also commonly used as an aerosol spray propellant (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and race cars) (EPA, 2023).

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms (EPA, 2023). CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of the air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they can destroy stratospheric ozone, a global effort to halt their production was undertaken. In 1989 the European Community agreed to ban CFCs by 2000, and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some CFCs will remain in the atmosphere for over 100 years (UNEP, 2023).

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order) HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt (EPA, 2023). HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere (IPCC, 2021). High-energy ultraviolet rays about 60 kilometers above Earth's surface can destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing (EPA, 2023).

Sulfur Hexafluoride

Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated, 23,900 times that of CO_2 (IPCC, 2021). Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, semiconductor manufacturing, and tracer gas for leak detection (EPA, 2023).

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels (IPCC, 2021). Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing (IPCC, 2021).

2.4 Global Warming Potential

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to the reference gas, CO_2 (IPCC, 1995). The GHGs listed by the IPCC and the CEQA Guidelines are discussed in this section in order of abundance in the atmosphere. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources (IPCC, 2007). GHGs are commonly defined in terms of their GWP to simplify reporting and analysis. The IPCCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e. The GWP of CO_2 is, by definition, 1. The GWP values used in this analysis are based on the IPCC Second Assessment Report (SAR) and United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines and are detailed in Table 2-1 (UNFCC, 1996). The SAR GWPs are used in CARB's California inventory, and AB32 Scoping Plan estimates (CARB, 2022).

Table 2-1 Global Warming Potentials, Atmospheric Lifetimes and Abundances of GHGs

Gas	Atmospheric Lifetime (years)[1]	Global Warming Potential (100 Year Horizon)[2]	Atmospheric Abundance
Carbon Dioxide (CO_2)	50-200	1	379 ppm
Methane (CH_4)	9-15	25	1,774 ppb
Nitrous Oxide (N_2O)	114	298	319 ppb
HFC-23	270	14,800	18 ppt
HFC-134a	14	1,430	35 ppt
HFC-152a	1.4	124	3.9 ppt
PFC: Tetrafluoromethane (CF_4)	50,000	7,390	74 ppt
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200	2.9 ppt
Sulfur Hexafluoride (SF_6)	3,200	22,800	5.6 ppt

Notes:
[1] Defined as the half-life of the gas.
[2] Compared to the same quantity of CO_2 emissions and is based on the Intergovernmental Panel On Climate Change (IPCC) 2007 standard, which is utilized in CalEEmod (Version 2022.1.1), which is used in this report (CalEEmod user guide: Appendix A).
Definitions: ppm = parts per million; ppb = parts per billion; ppt = parts per trillion
Source: IPCC 2007, EPA 2015

3.0 REGULATORY ENVIRONMENT

3.1 Air Quality Regulatory Setting

The air quality at the project site is addressed through various international, federal, state, regional, and local government agencies. These agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The Clean Air Act, first passed in 1963 with major amendments in 1970, 1977, and 1990, is the overarching legislation covering air pollution regulation in the United States. The Clean Air Act has established a mandate to regulate both mobile and stationary sources of air pollution at the state and federal level. The Environmental Protection Agency (EPA) was created in 1970 in order to consolidate research, monitoring, standard-setting, and enforcement authority into a single agency.

The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources under the federal government's exclusive authority, such as aircraft, ships, and certain locomotives. NAAQS pollutants were identified using medical evidence and are shown below in Table 3-1.

Table 3-1 State and Federal Criteria Pollutant Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9.0 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public's health.

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

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On February 7, 2024, the national annual PM2.5 primary standard was lowered from 12.0 $\mu g/m^3$ to 9.0 $\mu g/m^3$. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15.0 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

12. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

13. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

14. The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

15. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

State – California Air Resources Board

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CAAQS for criteria pollutants are shown above in Table 3-1. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to reduce vehicular emissions further.

The CARB defines attainment as the category given to an area with no violations in the past three years. As indicated below in Table 3-2, the South Coast Air Basin has been designated by the EPA for the national standards as a non-attainment area for ozone (O3), suspended particulates ($PM_{2.5}$), and partial non-attainment for lead. Currently, the Air Basin is in attainment with the national ambient air quality standards for particulate matter (PM_{10}), carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2) and Lead.

Table 3-2 Attainment Status of the South Coast Air Basin

Criteria Pollutant	Federal Designation	State Designation
Ozone	Nonattainment	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Standard	Attainment
Hydrogen Sulfide	No Standard	Unclassified*
Visibility Reducing Particles	No Standard	Unclassified*

Sources: *CARB website,* https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/sad2022/appc.pdf*, October 2021.*
*If there is inadequate or inconclusive data to make a definitive attainment designation, districts are considered "unclassified."

CARB is also responsible for Toxic Air Contaminants (TACs) regulations. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release in California. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

Regional

The SCAQMD is the agency responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources, and it has responded to this requirement by preparing a sequence of AQMPs. The *SCAQMD Board adopted the Draft Final 2016 Air Quality Management Plan (2016 AQMP)* on March 3, 2016. The 2016 AQMP was prepared to meet the following standards:

- 8-hour Ozone (75 ppb) by 2032
- Annual $PM_{2.5}$ (12 µg/m3) by 2021-2025
- 8-hour Ozone (80 ppb) by 2024 (updated from the 2007 and 2012 AQMPs)
- 1-hour Ozone (120 ppb) by 2023 (updated from the 2012 AQMP)
- 24-hour $PM_{2.5}$ (35 µg/m3) by 2019 (updated from the 2012 AQMP)

In addition to meeting the above standards, the 2016 AQMP will also include revisions to the attainment demonstrations for the 1997 8-hour ozone NAAQS and the 1979 1-hour ozone NAAQS. The prior 2012 AQMP was prepared to demonstrate attainment with the 24-hour $PM_{2.5}$ standard by 2014 by adopting all feasible measures. The previous 2007 AQMP demonstrated attainment with the 1997 8-hour ozone (80 ppb) standard by 2023 through the implementation of future improvements in control techniques and technologies. These "black box" emissions reductions represent 65 percent of the remaining NO_x emission reductions by 2023 to show attainment with the 1997 8-hour ozone NAAQS. Given the magnitude of these needed emissions reductions, additional NO_x control measures have been provided in the 2012 AQMP, even though the primary purpose was to show compliance with 24-hour $PM_{2.5}$ emissions standards.

On March 23, 2017, CARB approved the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO_x) emissions sufficiently to meet the upcoming ozone standard deadlines. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the plan has been approved by CARB, it has been forwarded to the U.S. Environmental Protection Agency for its review. If approved by EPA, the plan becomes federally enforceable.

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To meet this standard, the AQMP determined NO_x emissions must be reduced by 67% percent more than is required by adopted rules and regulations by 2037. The control strategy for the 2022 AQMP includes aggressive new regulations and the development of incentive programs to support early deployment of advanced technologies. The two key areas for incentive programs are (1) promoting widespread deployment of

available zero-emission (ZE) and low NO_x technologies and (2) developing new ZE and ultra-low NO_x technologies for use in cases where the technology is not currently available. South Coast AQMD will prioritize distribution of incentive funding in environmental justice areas and seek opportunities to focus benefits on the most disadvantaged communities. Cost-effectiveness and affordability will be further considered during the rulemaking or incentive program development process.

Although SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the Air Basin. Instead, this is controlled through local jurisdictions according to the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues, the *CEQA Air Quality Handbook* (SCAQMD CEQA Handbook), prepared by SCAQMD, 1993, with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs detailed in the AQMPs. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies and consultants, project proponents, and other interested parties in evaluating a project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on evaluating potential air quality impacts, determining whether these impacts are significant, and how to mitigate these impacts. The SCAQMD intends that by providing this guidance, the air quality impacts of plans and development proposals will be analyzed accurately and consistently throughout the Air Basin, and adverse impacts will be minimized.

SCAQMD Working Group

Since neither CARB nor the OPR has developed the GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010, Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that either provides an annual quantitative threshold of 3,500 $MTCO_2e$ for residential uses, 1,400 $MTCO_2e$ for commercial uses, and 3,000 $MTCO_2e$ for mixed uses. An alternative annual threshold of 3,000 $MTCO_2e$ for all land use types is also proposed.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties. It addresses regional issues related to transportation, the economy, community development, and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for most of Southern California and is the largest MPO in the nation. In terms of air quality planning, SCAG has prepared the 2020-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal 2024), adopted in April 2024, and the 2025 Federal Transportation Improvement Program (FTIP), adopted on September 5, 2024. The 2025 FTIP is the most recent transportation improvement program, encompassing over 1,100 projects totaling $38.8 billion in multimodal investments supported by federal, state, and local funding.

Although the RTP/SCS and FTIP are primarily planning documents for future transportation projects, a key component of these plans is the integration of land use and transportation planning to promote higher-density infill development near existing transit services. These plans form the basis for the land use and transportation components of the Air Quality Management Plan (AQMP), which is utilized in the preparation of air quality forecasts and consistency analyses. The RTP/SCS, FTIP, and AQMP are based on growth projections outlined in City and County General Plans.

Local – Calimesa

Local jurisdictions, such as the City of Calimesa, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for assessing and mitigating air emissions resulting from its land-use decisions. The City is also responsible for implementing transportation control measures as outlined in the 2022 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by discretionary conditioning permits, and monitors and enforces the implementation of such mitigation.

According to the CEQA requirements, the City does not have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD. It utilizes the SCAQMD CEQA Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

3.2 GHG Regulatory Setting

International

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate global climate change impacts and develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries worldwide in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement to control GHG emissions. The parties of the UNFCCC adopted the Kyoto Protocol, which set binding GHG reduction targets for 37 industrialized countries, to reduce their collective GHG emissions by five percent below 1990 levels by 2012. The Kyoto Protocol has been ratified by 182 countries but has not been ratified by the United States. It should be noted that Japan and Canada opted out of the Kyoto Protocol, and the remaining developed countries that ratified the Kyoto Protocol have not met their Kyoto targets. The Kyoto Protocol expired in 2012, and the amendment for the second commitment period from 2013 to 2020 has not yet entered into legal force. The Parties to the Kyoto Protocol negotiated the Paris Agreement in December 2015, agreeing to set a goal of limiting global warming to less than 2 degrees Celsius compared with pre-industrial levels. The Paris Agreement has been adopted by 195 nations, with 147 ratifying it, including the United States by President Obama, who ratified it by Executive Order on September 3, 2016. On June 1, 2017, President Trump announced that the United States is withdrawing from the Paris Agreement; however, the Paris Agreement is still legally binding by the other remaining nations.

Initially, the Montreal Protocol was signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

State

Currently, the State has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Executive Order B-30-15, Senate Bill 32, and Assembly Bill 197

The California Governor issued Executive Order B-30-15 on April 29, 2015, to reduce California's GHG emissions 40 percent below 1990 levels by 2030. This executive order aligns California's GHG reduction targets with other international governments, such as the European Union, that set the same target for 2030 in October 2014. This target will make it possible to reach the ultimate goal of reducing GHG emissions 80 percent under 1990 levels by 2050 that is based on scientifically established levels needed in the U.S.A to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Executive Order B-29-15

The California Governor issued Executive Order B-29-15 on April 1, 2015. He directed the State Water Resources Control Board to impose restrictions to achieve a statewide 25% reduction in urban water usage and directed the Department of Water Resources to replace 50 million square feet of lawn with drought-tolerant landscaping through an update to the State's Model Water Efficient Landscape Ordinance. The Ordinance also requires installation of more efficient irrigation systems, promotion of greywater usage and onsite stormwater capture, and limits the turf planted in new residential landscapes to 25 percent of the total area and restricts turf from being planted in median strips or in parkways unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles. Executive Order B-29-15 would reduce GHG emissions associated with the energy used to transport and filter water.

Assembly Bill 1109

California Assembly Bill 1109 (AB 1109), also known as the Lighting Efficiency and Toxics Reduction Act, prohibits the manufacturing of lights after January 1, 2010, that contain levels of hazardous substances prohibited by the European Union pursuant to the RoHS Directive. AB 1109 also requires reductions in energy usage for lighting and is structured to reduce electrical lighting consumption by (1) At least 50 percent reduction from 2007 levels for indoor residential lighting; and (2) At least 25 percent reduction from 2007 levels for indoor commercial and all outdoor lighting by 2018. AB 1109 would reduce GHG emissions by reducing the amount of electricity required to generate fossil fuels in California.

Assembly Bill 1493

California Assembly Bill 1493 (also known as the Pavley Bill, in reference to its author Fran Pavley) was enacted on July 22, 2002. CARB required developing and adopting regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. In 2004, CARB approved the "Pavley I" regulations limiting the amount of GHGs that may be released from new passenger automobiles phased in between model years 2009 through 2016. These regulations will reduce GHG emissions by 30 percent from 2002 levels by 2016. The second set of regulations, "Pavley II," is currently in development and will be phased in between model years 2017 through 2025 and will reduce emissions by 45 percent by the year 2020 as compared to the 2002 fleet. The Pavley II standards are being developed by linking the GHG emissions and formerly

separate toxic tailpipe emissions standards previously known as the "LEV III" (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars and promote zero-emissions auto technologies such as electricity and hydrogen and through increasing the infrastructure for fueling hydrogen vehicles. In 2009, the U.S. EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks, and sport utility vehicles. In September 2009, the Pavley I regulations were adopted by CARB.

Executive Order S-3-05

In 2005 the California Governor issued Executive Order S 3-05, GHG Emission, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels;
- 2020: Reduce greenhouse gas emissions to 1990 levels;
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentives and regulatory programs. The State achieved its first goal of reducing greenhouse gas emissions to 2000 levels by 2010.

Assembly Bill 32

In 2006, the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and utilize best management practices that are technologically feasible and cost-effective.

In 2007 CARB released the calculated Year 1990 GHG emissions of 431 million metric tons of CO2e ($MMTCO_2e$). The 2020 target of 431 $MMTCO_2e$ requires the reduction of 78 $MMTCO_2e$, or approximately 16 percent from the State's projected 2020 business as usual emissions of 509 $MMTCO_2e$ (CARB, 2014). Under AB 32, CARB was required to adopt regulations by January 1, 2011, to achieve reductions in GHGs to meet the 1990 cap by 2020. Early measures CARB took to lower GHG emissions included requiring operators of the largest industrial facilities that emit 25,000 metric tons of CO_2 in a calendar year to submit verification of GHG emissions by December 1, 2010. The CARB Board also approved nine discrete early action measures that include regulations affecting landfills, motor vehicle fuels, refrigerants in cars, port operations, and other sources, all of which became enforceable on or before January 1, 2010.

CARB's Scoping Plan adopted in 2009 proposes various measures, including strengthening energy efficiency and building standards; targeted fees on water and energy use; a market-based cap-and-trade system; achieving a 33 percent renewable energy mix; and a fee regulation to fund the program. The 2014 update to the Scoping Plan identifies strategies moving beyond the 2020 targets to the year 2050.

The Cap-and-Trade Program established under the Scoping Plan sets a statewide limit on sources responsible for 85 percent of California's GHG emissions and has established a market for long-term investment in energy efficiency and cleaner fuels since 2012.

Senate Bill 1368

Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted in September 2006. SB 1368 requires that the California Public Utilities Commission (CPUC) establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007, and local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by CPUC and California Energy Commission (CEC).

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the primary source of GHG emissions in the State since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

In 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The standard was challenged in the courts but has been in effect since 2011 and was re-approved by the CARB in 2015. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower-carbon fuels. The framework establishes performance standards that fuel producers and importers must meet annually. Reformulated gasoline mixed with corn-derived ethanol and low-sulfur diesel fuel represents the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel. Compressed natural gas and liquefied natural gas also may be low-carbon fuels. When used in fuel cells or electric vehicles, hydrogen and electricity are also considered low-carbon fuels.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted in August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided, and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends considering several qualitative factors that may be used to determine significance, such as the extent to which the given project complies with

state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their thresholds of significance for GHG impacts assessment.

- When creating their significance thresholds, local governments may consider the thresholds of significance adopted or recommended by other public agencies or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPRs emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR, therefore, approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

Senate Bill 1078 (SB 1078) requires retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010, to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted in September 2008 to support the State's climate action goals to reduce GHG emissions through coordinated regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires CARB to set regional GHG emissions reductions from passenger vehicle use. In 2010, CARB established targets for 2020 and 2035 for each Metropolitan Planning Organization (MPO) within the State. It was up to each MPO to adopt a sustainable communities strategy (SCS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP) to meet CARB's 2020 and 2035 GHG emission reduction targets. These reduction targets must be updated every eight years. In June 2017, CARB released Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Target, which provides recommended GHG emissions reduction targets for SCAG of 8 percent 2020 and 21 percent by 2035.

The 2020-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also known as Connect SoCal 2024, was adopted by the Southern California Association of Governments (SCAG) in April 2024 (SCAG, 2024). This plan outlines strategies to integrate regional transportation and land use planning to meet greenhouse gas (GHG) reduction targets set by the California Air Resources Board (CARB) (CARB, 2018). The 2020 RTP/SCS establishes a 2020 GHG emission reduction target of 8% per capita and a 2035 GHG emission reduction target of 19% per capita relative to 2005 levels, in compliance with SB 375 (CARB, 2018). CARB is responsible for reviewing SCAG's RTP/SCS to ensure consistency with these assigned targets. Future updates to the RTP/SCS will need to incorporate additional strategies to meet evolving state climate goals, including long-term GHG reductions beyond 2035.

City and County land-use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Assembly Bill 341 and Senate Bills 939 and 1374

Senate Bill 939 (SB 939) requires that each jurisdiction in California divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling, or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills. Assembly Bill 341 (AB 341) was adopted in 2011, builds upon the waste reduction measures of SB 939 and 1374, and sets a new target of a 75 percent reduction in solid waste generated by 2020.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to consider and incorporate new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions, and energy-efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

Title 24 standards are updated on a three-year schedule, and the most current 2016 standards went into effect on January 1, 2017. The Title 24 standards require the installation of insulated hot water pipes, improved window performance, improved wall insulation, and mandatory duct sealing. Title 24 also requires roofs to be constructed to be solar-ready, with cool roofing shingles, a minimum of 1-inch air space between roof material and roof deck, and a minimum of R-22 roof/ceiling insulation. All lighting is required to be high efficiency, and daylight sensors and motion sensors are required for outdoor lighting, bathrooms, utility rooms, and other spaces. The forced air systems are required to limit leakage to 5 percent or less and require all heat pump systems to be equipped with liquid line filter driers. The 2016 Title 24 Part 6 standards are anticipated to reduce electricity consumption by 281 gigawatt-hours per year and natural gas consumption by 16 million therms per year (http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf).

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (Title 24) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The most current version is the 2013 California Green Building Standards Code (CalGreen), which became effective on January 1, 2014, and replaced the 2010 CalGreen. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory standards and 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings through low-flow fixtures, a 50 percent construction waste diversion from landfills, and building finish materials that emit low levels of volatile organic compounds.

Local – Calimesa

The City of Calimesa is actively engaged in regional efforts to address greenhouse gas (GHG) emissions through its participation in the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP) (WRCOG, 2014). The WRCOG Subregional CAP provides a framework for member jurisdictions, including Calimesa, to reduce GHG emissions in alignment with state targets and mandates. The CAP establishes a community-wide emissions reduction target of 15% below 2010 levels by 2020, following guidance from the California Air Resources Board (CARB) (CARB, 2006) and the Governor's Office of Planning and Research (OPR) (OPR, 2010). This approach is consistent with the statewide goal of reducing emissions to 1990 levels, as outlined in Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006 (CARB, 2006).

In addition to regional initiatives, the City of Calimesa adheres to state-level GHG regulations, including the California Green Building Standards Code (CALGreen) (CBSC, 2022), which mandates measures to enhance energy efficiency and reduce GHG emissions in new construction. CALGreen is part of the California Code of Regulations, Title 24, Part 11 (CBSC, 2022), and was first adopted in 2010, with periodic updates. The latest version, the 2022 CALGreen Code, went into effect on January 1, 2023, incorporating stricter building efficiency requirements to support California's climate goals.

Through its involvement in the WRCOG Subregional CAP and adherence to state regulations such as CALGreen, the City of Calimesa demonstrates its commitment to mitigating climate change and promoting sustainable development within the community.

4.0 ATMOSPHERIC SETTING

4.1 Regional – Riverside County

The project site is located within Riverside County, which is part of the South Coast Air Basin (Air Basin) that includes the non-desert portions of Riverside, San Bernardino, Los Angeles Counties, and all of Orange County. Temperature inversions are the prime factor in the accumulation of contaminants in the Air Basin. The mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The topography and climate of Southern California combine to create an area of high air pollution potential in the Air Basin. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cup over the cool marine layer, preventing pollution from dispersing upward. This inversion allows pollutants to accumulate within the lower layer. Light winds during the summer further limit ventilation from occurring.

Due to the low average wind speeds in the summer and a persistent daytime temperature inversion, emissions of hydrocarbons and oxides of nitrogen have an opportunity to combine with sunlight in a complex series of reactions. These reactions produce a photochemical oxidant commonly known as smog. Since the Air Basin experiences more days of sunlight than any other major urban area in the United States, except Phoenix, the smog potential in the region is higher than in most other areas of the nation.

4.2 Monitored Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the Air Basin.

SCAQMD has divided the Air Basin into 38 air-monitoring areas. The project site is located in Air Monitoring Area 28 – Hemet/San Jacinto Valley, which covers Calimesa. The nearest air monitoring station to the project site is the Redlands Monitoring Station located at 500 N. Dearborn Street, which is located approximately 7 miles northwest of the project site. However, it should be noted that due to the air monitoring station's distance from the project site, recorded air pollution levels at the Redlands Station reflect varying degrees of accuracy in local air quality conditions at the project site. It should also be noted that CO measurements have not been provided since CO is currently in attainment in the Air Basin and monitoring of CO within the Air Basin ended on March 31, 2013.

The Redlands Station does not monitor PM_{10} or $PM_{2.5}$. The closest station that provides monitoring data for these pollutants is the Banning Airport station located at 200 S Hathaway Street, and this station is 12 miles from the project site. The monitoring data from the Station is presented in Table 4-1 and shows the most recent three years of monitoring data from CARB. Table 4-1 indicates that ozone and particulate matter (PM_{10} and $PM_{2.5}$) are the air pollutants of primary concern in the project area.

Ozone

The State 1-hour concentration standard for ozone has been exceeded between 63 and 104 days each year over the past three years at the Redlands Station. The State's 8-hour ozone standard has been exceeded between 106 and 145 days each year over the past three years at the Redlands Station. The Federal 8- hour ozone standard has been exceeded between 104 and 141 days each year over the past three years at the Redlands Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of Southern California contribute to the ozone levels experienced at this monitoring station, with the more significant areas being those directly upwind.

Nitrogen Dioxide

The Redlands Station did not exceed the Federal 1-hour NO_2 standard for the last three years.

Table 4-1 Local Area Air Quality Monitoring Summary

	Year[1]		
Pollutant (Standard)	**2021**	**2022**	**2023**
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.15	0.15	0.14
Days > CAAQS (0.09 ppm)	**74**	**63**	**54**
Maximum 8-Hour Concentration (ppm)	0.119	0.109	0.118
Days > NAAQS (0.070 ppm)	**114**	**104**	**82**
Days > CAAQs (0.070 ppm)	**118**	**106**	**83**
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppb)	51.1	57.8	51.5
Days > NAAQS (100 ppb)	0	0	0
Ultra-Fine Particulates (PM_{10}):			
Maximum 24-Hour National Measurement (ug/m^3)	48.6	54.4	100.0
Days > CAAQS (50 ug/m^3)	0	ND	12.2
Days > NAAQS (150 ug/m^3)	0	0	0
Annual Arithmetic Mean (AAM) (ug/m^3)	21.2	22.5	22.3
Annual > CAAQS (20 ug/m^3)	Yes	Yes	Yes
Ultra-Fine Particulates ($PM_{2.5}$):			
Maximum 24-Hour National Measurement (ug/m^3)	ND	ND	ND
Days > NAAQS (35 ug/m^3)	ND	ND	ND
Annual Arithmetic Mean (CA) (ug/m^3)[2]	11.7	9.4	ND
Annual > NAAQS and CAAQS (12 ug/m^3)	No	No	No

Notes: Exceedances are listed in **bold.** CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million; ppb = parts per billion; ND = no data available.
[1] Data obtained from the Redlands and Banning Airport Station.
[2] No Data is available for federal $PM_{2.5}$ standard.
Source: http://www.arb.ca.gov/adam/

Particulate Matter

Monitoring data is not available for the Redlands or the Banning Airport station for $PM_{2.5}$. The annual PM 2.5 concentration at the Banning Airport Station has not exceeded the federal standard for the past three years.

According to the EPA, some people are more sensitive to breathing fine particles (PM_{10} and $PM_{2.5}$). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths during exercise.

4.3 Toxic Air Contaminant Levels in the Air Basin

The South Coast Air Quality Management District (SCAQMD) has conducted multiple studies to assess air toxics exposure in the South Coast Air Basin, with the most recent being the Multiple Air Toxics Exposure Study V (MATES V), completed in 2021 (SCAQMD, 2021). This study provides updated insights into the estimated cancer risks associated with airborne carcinogens in the region.

According to the MATES V study, the average regional cancer risk in the Air Basin is approximately 900 per million persons (SCAQMD, 2021). This represents a decrease from the previous MATES IV study, which reported an average risk of 1,000 per million persons (SCAQMD, 2015). The reduction in estimated cancer risk is attributed to ongoing efforts to improve air quality and reduce emissions of toxic air contaminants.

For context, it is estimated that the lifetime incidence of cancer for the U.S. population ranges between 1 in 3 to 1 in 4 individuals, equating to a risk of about 250,000 to 333,000 per million persons (Harvard Report on Cancer Prevention, 1996). The MATES V study also references findings from the Harvard Report on Cancer Prevention, which estimates that of cancers associated with known risk factors, approximately 30 percent are related to tobacco use, another 30 percent to diet and obesity, and about 2 percent to environmental pollution-related exposures, including hazardous air pollutants (Harvard Report on Cancer Prevention, 1996).

5.0 THRESHOLDS OF SIGNIFICANCE

5.1 Regional Air Quality

Many air quality impacts derive from dispersed mobile sources, which are the dominate pollution generators in the Air Basin, often occur hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. An individual project's incremental regional air quality impact is minimal and difficult to measure. Therefore, SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the Air Basin with daily emissions exceeding any of the identified significance thresholds should be considered individually and cumulatively significant air quality impact. For this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5-1.

Table 5-1 SCAQMD Regional Criteria Pollutant Emission Thresholds of Significance

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

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

5.2 Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the Air Basin. In order to assess local air quality impacts, the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. SCAQMD has also provided *Final Localized Significance Threshold Methodology* (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO_2, CO, PM_{10}, and $PM_{2.5}$.

The LST Methodology provides Look-Up Tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The project size of 1 acre disturbed per day was used based on the number and type of equipment utilized during each construction phase.

The project site is located in Air Monitoring Area 28, which covers Calimesa. The nearest sensitive receptors to the project site consist of single-family homes within 40 feet (12 meters) from the project site. According to LST Methodology, projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Table 5-2 below shows the LSTs for NO_2, CO, PM_{10}, and $PM_{2.5}$ for construction and operational activities.

Table 5-2 SCAQMD Local Air Quality Thresholds of Significance (pounds/day)[1]

Activity	NO_x	CO	PM_{10}	$PM_{2.5}$
Construction	162	750	4	3
Operation	162	750	1	1

Notes:
[1] The nearest sensitive receptors are single-family homes located within 40 feet (12 meters) east and south of the project site. According to SCAQMD methodology, the 25 meter threshold was used.
Source: Calculated from SCAQMD's Mass Rate Look-up Tables for one acre in Air Monitoring Area 28, Hemet/San Jacinto Valley.

5.3 Toxic Air Contaminants

According to the SCAQMD CEQA Handbook, any project that has the potential to expose the public to toxic air contaminants in excess of the following thresholds would be considered to have a significant air quality impact:

- If the Maximum Incremental Cancer Risk is 10 in one million or greater; or
- Toxic air contaminants from the project would result in a Hazard Index increase of 1 or greater.

In order to determine if the project may have a significant impact related to hazardous air pollutants (HAP), the *Health Risk Assessment Guidance for analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (Diesel Analysis) prepared by SCAQMD, August 2003, recommends that if the project is anticipated to create HAPs through stationary sources or regular operations of diesel trucks on the project site, then the proximity of the nearest receptors to the source of the HAP and the toxicity of the HAP should be analyzed through a comprehensive facility-wide health risk assessment (HRA).

5.4 Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

> "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons 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.
>
> The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."

If the project results in a violation of Rule 402 regarding odor impacts, then the project would create a significant odor impact.

5.5 Greenhouse Gases

CARB Climate Change Scoping Plan

The CARB Climate Change Scoping Plan establishes a framework for achieving California's greenhouse gas (GHG) reduction targets through a comprehensive set of strategies and actions. The methodology for assessing project consistency with the Scoping Plan involves evaluating alignment with the applicable strategies outlined in both the 2008 and 2017 plans. This includes identifying relevant measures,

determining their applicability to the project, and assessing the project's contribution to statewide GHG reduction goals.

To evaluate the project's consistency with the Southern California Association of Governments (SCAG) 2020-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the methodology involves analyzing the project's land use characteristics in relation to the key strategies outlined in the RTP/SCS. This assessment includes:

1. Land Use Compatibility – Comparing the project's proposed land use profile with the land use designations and growth strategies established in the RTP/SCS.

2. GHG Reduction Strategies – Identifying whether the project aligns with SCAG's policies for reducing greenhouse gas (GHG) emissions through smart growth, transit-oriented development, and multimodal transportation options.

3. Policy Alignment – Evaluating the project's consistency with the broader goals and objectives of the RTP/SCS, ensuring it does not conflict with regional sustainability initiatives.

4. Impact Determination – Determining whether the project supports or impedes the attainment of SCAG's primary goals, including reducing vehicle miles traveled (VMT), enhancing mobility, and fostering sustainable land use patterns.

Western Riverside Council of Governments Subregional Climate Action Plan

The proposed project must demonstrate consistency with applicable plans, policies, and regulations aimed at reducing GHG emissions. The City of Hemet participates in the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP), which establishes a community-wide GHG reduction target of 15% below 2010 levels, aligning with California Air Resources Board (CARB) guidance and the statewide AB 32 goal of returning to 1990 emission levels. The project must demonstrate consistency to applicable local reduction measures identified in the WRCOG Subregional CAP.

6.0 IMPACT ANALYSIS

6.1 CEQA Thresholds of Significance

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to air quality and global climate change would occur if the project is determined to result in:

Air Quality

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

Greenhouse Gas

- Generate GHG emissions, either directly or indirectly that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of GHGs.

6.2 Air Quality Compliance

The project would not conflict with or obstruct the implementation of the SCAQMD Air Quality Management Plan (AQMP). The following section discusses the project's consistency with the SCAQMD AQMP.

SCAQMD Air Quality Management Plan

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a project and applicable General Plans and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the project includes the SCAQMD AQMP. Therefore, this section discusses any potential project inconsistencies with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the project is inconsistent, the lead agency may consider project modifications or the inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land-use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required, and a project should be considered consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will increase the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards, or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both of these criteria are evaluated below.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on this report's air quality modeling analysis, short-term regional construction air emissions would not result in significant impacts based on SCAQMD regional or local thresholds of significance. The ongoing operation of the project would generate air pollutant emissions that are inconsequential on a regional basis and would not result in significant impacts based on SCAQMD thresholds of significance. The long-term local air quality impacts analysis as shown in section 6.3 in Table 6-3 indicate that local pollutant concentrations would not be projected to exceed the air quality standards. CalEEMod results for regional impacts are presented in Appendix A. Therefore, a less than significant long-term impact would occur, and no mitigation would be required.

Criterion 2 - Exceed Assumptions in the AQMP?

The proposed uses are consistent with the zoning designation for the project site, consistent with the City General Plan. The City General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology in Chapter 12 of the 1993 SCAQMD CEQA Air Quality Handbook, consistency with the Basin 2022 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below.

The CEQA Air Quality Handbook indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the project is not defined as significant project.

While the project includes an amendment to the General Plan and a zone change, it does not introduce population or employment growth that would impact AQMP assumptions. The project does not include residential uses and therefore would not result in population growth beyond that anticipated under the current General Plan. In addition, no employees will be on-site; as a result, the project does not contribute to employment-related emissions or affect regional growth forecasts. Because the AQMP's emissions forecasts are based on regional population and employment projections, and the project does not alter either factor, it remains consistent with the growth assumptions in the AQMP.

Based on the consistency analysis presented above, the project is consistent with the General Plans and the regional AQMP.

Level of Significance

Less than significant impact.

6.3 CalEEMod Model Inputs

The CalEEMod model has been utilized to calculate the construction-related regional emissions from the project. Model inputs used for the CalEEMod runs are provided in Appendix under sections 1.1, 1.2, 5.1, 5.2, 5.3, 5.6 and 5.9 of the CalEEMod results report and summarized in Tables 6-1 below.

Table 6-1 Basic Project Information

Data Field	Value
Project Name	Sartin Storage Yard
Construction Start Date	8/1/2024
Operational Year	2024
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	25.8
Location	33.98416431717179, -117.05137066104376
County	Riverside-South Coast
City	Calimesa
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5623
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

Table 6-2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)
Parking Lot	107.415	1000sqft	2.46	0	16,070

Table 6-3 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Site Preparation	Site Preparation	5/01/2025	5/8/2025	5	6
Grading	Grading	5/9/2025	5/20/2025	5	8
Paving	Paving	5/21/2025	6/4/2025	5	11
Architectural Coating	Architectural Coating	6/5/2025	6/18/2025	5	10

Table 6-4 Off-Road Equipment

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1	8	148	0.41
Site Preparation	Scrapers	Diesel	Average	1	8	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1	7	84	0.37
Grading	Graders	Diesel	Average	1	8	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2	7	84	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1	8	84	0.37
Paving	Pavers	Diesel	Average	1	8	81	0.42
Paving	Paving Equipment	Diesel	Average	1	8	89	0.36
Paving	Rollers	Diesel	Average	1	8	36	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1	8	10	0.56
Architectural Coating	Air Compressors	Diesel	Average	1	6	37	0.48

Table 6-5 Construction Vehicles

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	7.5	18.5	LDA,LDT1,LDT2
Grading	Worker	10	18.5	LDA,LDT1,LDT2
Grading	Hauling	128.625	20	HHDT
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	5	10.2	HHDT,MHDT
Architectural Coating	Onsite truck			HHDT

Table 6-6 Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0	0	0	0	6429.4559

Table 6-7 Construction- Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0	0	9	0	0
Grading	0	8231	8	0	0
Paving	0	0	0	0	2.46

Table 6-8 Construction- Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Parking Lot	2.46	100

Table 6-9 Operational Mobile Sources

Land Use Type	Trips/ Weekday	Trips/ Saturday	Trips/ Sunday	Trips/ Year	VMT/ Weekday	VMT/ Saturday	VMT/ Sunday	VMT/ Year
Total Land Uses	49	49	49	17,885	657	657	657	239,810

Table 6-10 Operational Area Sources-Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0	0	0	6429.455

Table 6-11 Operational Area Sources-Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0
Summer Days	day/yr	250

Table 6-12 Operational Energy Consumption

Land Use	Electricity (kWh/yr)
Parking Lot	93870.0575

Table 6-13 Operational Water and Wastewater Consumption

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0	254801.27

6.4 Regional Significance Thresholds

The project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. The following section calculates the potential air emissions associated with the construction and operations of the project and compares the emissions to the SCAQMD standards.

Construction Emissions

Construction-Related Regional Impacts

The maximum daily construction-related criteria for pollutant emissions from the project are presented in Table 6-14. Emissions are shown for summer conditions, which represent the period during which construction would occur. Because construction is expected to be completed within two months during the summer, no winter construction emissions will occur.

Table 6-14 Construction-Related Regional Criteria Pollutant Emissions (pounds/day)[1]

Construction Season	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer	3.00	11.1	17.4	0.08	5.46	2.24
Winter[2]	-	-	-	-	-	-
SCAQMD Significance Threshold	75	100	550	150	150	55
Exceed Significance?	No	No	No	No	No	No

Source: CalEEMod Version 2022.1.1.
Notes:
[1]Fugitive dust suppression requirements applied for compliance with SCAQMD Rule 403.
[2]No winter emissions are expected. Construction occurs during the summer.

Table 6-14 shows that maximum daily construction-related emissions for all analyzed criteria pollutants would remain below the applicable SCAQMD regional significance thresholds. As a result, construction of the project would result in a less-than-significant impact.

Operational Emissions

The ongoing operation of the project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and operational emissions from the ongoing use of the project. The following section provides an analysis of potential long-term air quality impacts due to regional air quality impacts with the project's ongoing operations. The potential air-related air emissions are analyzed below for the regional criteria pollutant emissions and cumulative impacts.

Operations-Related Criteria Pollutant Analysis

The operations-related criteria air quality impacts created by the project have been analyzed using the CalEEMod model. Operational emissions were calculated based on 49 total daily vehicle trips, consistent with the *Sartin Storage Yard Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum* (January 2024).The worst-case summer and winter VOC, NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ daily emissions created from the project's long-term operations have been calculated and summarized below in Table 6-15. CalEEMod daily emissions printouts are shown in Appendix A.

Table 6-15 Operational- Related Regional Criteria Pollutant Emissions (pounds/day)

Season	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer	0.25	0.26	2.33	0.01	0.47	0.12
Winter	0.24	0.28	1.93	0.01	0.47	0.12
SCAQMD Significance Threshold	55	55	550	150	150	55
Exceed Significance Threshold?	No	No	No	No	No	No

Source: Calculated from CalEEMod Version 2022.1.1

The data provided in Table 6-15 above shows that none of the criteria pollutants analyzed would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from the project's operation.

6.5 Local Significance Thresholds

The project would not expose sensitive receptors to substantial pollutant concentrations. The local concentrations of criteria pollutant emissions produced in the nearby vicinity of the project, which may expose sensitive receptors to substantial concentrations for both construction and operations, are discussed separately below. The discussion below also includes an analysis of the potential impacts of

toxic air contaminant emissions.

Construction-Related Sensitive Receptor Impacts

Construction of the project may expose sensitive receptors to substantial pollutant concentrations of localized criteria pollutants and toxic air contaminant emissions created from onsite construction equipment, which are described below.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the Air Basin.

The local air quality emissions from construction were analyzed utilizing the methodology described in *Localized Significance Threshold Methodology* (LST Methodology), prepared by SCAQMD, revised October 2009. The LST Methodology found the primary criteria pollutant emissions of concern are NO_x, CO, PM_{10}, and $PM_{2.5}$. In order to determine if any of these pollutants require a detailed analysis of the local air quality impacts, each phase of construction was screened using the SCAQMD's Mass Rate LST Look-up Tables. The SCAQMD developed the Look-up Tables to readily determine if the daily onsite emissions of CO, NO_x, PM_{10}, and $PM_{2.5}$ from the project could significantly impact the local air quality. Table 6-2 shows the onsite emissions from the CalEEMod model for the different construction phases and the calculated emissions thresholds. Since it is possible that grading, paving and architectural coating activities may occur concurrently, Table 6-16 also shows the combined local criteria pollutant emissions from these phases of construction.

Table 6-16 – Construction-Related Local Criteria Pollutant Emissions (lb/day)[1]

Construction Phrase	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	1.33	15.0	0.67	0.1
Grading	1.2	14.2	2.82	1.37
Paving	1.1	7.3	0.02	0.02
Architectural Coating	0.64	0.96	0.002	0.002
Appendix C Mass LST Threshold	**162**	**750**	**4**	**3**
Exceed Significance Threshold	**No**	**No**	**No**	**No**

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for one acre in Air Monitoring Area 29.
Notes:
[1] Grading based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.
[2]The nearest sensitive receptors are single-family homes located as near as 12 meters (40 feet) northwest of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds.

The data provided in Table 6-16 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds during the grading, paving and architectural coatings phases after applying SCAQMD Rule 403 for fugitive dust suppression. Therefore, a less than significant local air quality impact would occur from the project's construction.

Toxic Air Contaminants Impacts from Construction

The greatest potential for toxic air contaminant emissions would be related to diesel particulate matter (DPM) emissions associated with heavy equipment operations during the project's construction. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk." "Individual Cancer Risk" is the likelihood that a person exposed to

concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of the standard risk-assessment methodology.

The project's construction schedule is limited to two months. According to OEHHA's 2015 guidance, which is followed by CARB and SCAQMD, health risk assessments are not recommended for projects with construction durations of less than two months, as short-term exposure periods are not expected to result in significant long-term health risks. Given this guidance and the short-term nature of the project, the construction activities would not result in significant toxic air contaminant impacts.

Therefore, the project's construction would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

Operational-Related Sensitive Receptor Impacts

To assess whether the operational air quality impacts would exceed localized significance thresholds, the Localized Significance Threshold (LST) methodology, as described in the South Coast Air Quality Management District (SCAQMD) Localized Significance Threshold Methodology (October 2009), is applied. The LST Methodology uses mass rate emissions look-up tables to evaluate whether a project's operational emissions of NO_x, CO, PM_{10}, and $PM_{2.5}$ could result in significant adverse impacts on local air quality.

The operational emissions of concern for this analysis include vehicle emissions, energy consumption from building operations, and the potential use of equipment or machinery. In this case, the operational emissions were estimated using the CalEEMod model, which takes into account traffic data, energy use, and other operational factors. As shown in Table 6-17, emissions were compared to the LST thresholds to determine whether they would result in a significant localized air quality impact.

Table 6-17 Operational-Related Local Criteria Pollutant Emissions (lb/day)[1]

Operational Activities	NO_X	CO	PM_{10}	$PM_{2.5}$
Mobile	0.26	2.33	0.47	0.12
Area	0	0	0	0
Energy	0	0	0	0
Appendix C Mass LST Threshold	**162**	**750**	**1**	**1**
Exceed Significance Threshold	**No**	**No**	**No**	**No**

Notes:
1. The operational emissions presented in the table are based on anticipated traffic volume provide in the Sartin Storage Yard Project Trip Generation and Vehicle Miles Traveled Analysis, LSA, January 2024, energy use, and equipment operation associated with the project.
2. Sensitive receptors, including residential properties, are located approximately 50 meters (164 feet) from the project site. According to the LST methodology, receptors closer than 25 meters (82 feet) should use the 25-meter threshold.

The operational emissions analysis, based on the methodology outlined in the SCAQMD LST guidelines, shows that the project's localized emissions of NOx, CO, PM_{10}, and $PM_{2.5}$ would not exceed the thresholds of significance for local air quality impacts, as shown in Table 6-17. As such, the operational air quality impacts of the project would be considered less than significant. This conclusion assumes the implementation of appropriate mitigation measures, such as the use of low-emission vehicles and equipment, energy-efficient building systems, and adherence to local emissions regulations. Therefore, no further detailed analysis is required for localized operational air quality impacts.

Local CO Hotspot Impacts from Project-Generated Vehicular Trips

Project-related air emissions may have the potential to exceed the State and Federal air quality

standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the Air Basin. The project has been analyzed for potential local CO emission impacts from the project-generated vehicular trips and potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions and local impacts from on-site operations.

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used to indicate potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards of 20 ppm over one hour or 9 ppm over eight hours. At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, the introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Air Basin and the state have steadily declined. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS.

The SCAQMD conducted a detailed CO analysis for the Basin during the preparation of the 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily traffic (ADT) intersections in the Basin, which would be 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 the City of Los Angeles near Interstate 405, located approximately 18 miles northwest of the site, with an ADT of approximately 100,000 vehicles per day. The concentration of CO at this intersection was 4.6 ppm, which is well below the 35-ppm 1-hour CO federal standard and the State standard of 20 ppm. Furthermore, the Basin has been in attainment of federal CO standards since 2007 (SCAQMD 2016). No stations in the vicinity of the project site have monitored CO in the last eight years. The highest 8-hour CO average recorded at the nearest monitoring, the Azusa monitoring station located approximately 4.6 miles northeast of the project site, was 1.13 ppm in 2012 (the most recent year for which data is available), which is well below the 8-hour CO federal and State standard of 9 ppm (CARB 2020).

Since the nearby intersections to the project are much smaller with less traffic than what was analyzed by the SCAQMD, no local CO hotspots are anticipated to be created from the project, and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the ongoing use of the project.

Operations-Related Toxic Air Contaminant Impacts

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas. According to *The California Almanac of Emissions and Air Quality 2013 Edition*, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. Due to the nominal number of diesel truck trips generated by the project, a less than significant TAC impact would occur during the project's ongoing operations, and no mitigation would be required.

The project's operational phase is anticipated to generate approximately 22 diesel truck trips per day (Sartin Storage Yard Project Trip Generation and Vehicle Miles Traveled Analysis Memorandum (January 2024)). Studies and air quality guidelines suggest that a substantially higher volume of diesel truck trips—typically in the range of 100 to 150, based on SCAQMD guidance (Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, 2003) per

day—would be needed to result in a significant increase in TAC exposure. Given the relatively low number of truck trips associated with this project, the resulting emissions would not exceed established thresholds for health risk significance.

Therefore, a less than significant TAC impact would occur during the project's ongoing operations, and no mitigation would be required.

Level of Significance

Less than significant impact.

6.6 Cumulative Net Increase in Non-Attainment Pollution

The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Cumulative projects include local development and general growth within the project area. However, as with most developments, the greatest source of emissions is from mobile sources, which travel throughout the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects, and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature. The project area is out of attainment for ozone and $PM_{2.5}$ particulate matter. In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts incorporates a three-tiered approach to assess cumulative air quality impacts.

- Consistency with the SCAQMD project-specific thresholds for construction and operations.
- Project consistency with existing air quality plans; and
- Assessment of the cumulative health effects of the pollutants.

Consistency with Project Specific Thresholds

Construction-Related Impacts

The project site is located in the South Coast Air Basin. The EPA currently designates this area as a federal non-attainment area for ozone and $PM_{2.5}$ and by CARB for the state standards as a non-attainment area for ozone, PM_{10}, and $PM_{2.5}$. The regional ozone, PM_{10}, and $PM_{2.5}$ emissions are associated with the project's construction. The analysis found that the project's development would result in less than significant regional emissions of VOC and NO_x (ozone precursors), PM_{10}, and $PM_{2.5}$ during the project's construction. Therefore, a less than significant cumulative impact would occur from the project's construction.

Operational-Related Impacts

The greatest cumulative operational impact on the air quality to the Air Basin will be the incremental addition of pollutants mainly from increased traffic from the residential development. In accordance with SCAQMD methodology, projects that do not exceed SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The regional ozone, PM_{10}, and $PM_{2.5}$ emissions created from the project's ongoing operations have been calculated. The analysis found that the project's development would result in less than significant regional emissions of

VOC and NO_x (ozone precursors), PM_{10}, and $PM_{2.5}$ during the project's operation. This project would create a less than significant cumulative impact with respect to long-term emissions.

AQMP Consistency and Control Measures

The project is consistent with the SCAQMD AQMP, which incorporates enforceable control measures applicable to both construction and operational activities, including requirements for fugitive dust control, equipment emissions standards, fuel standards, and mobile source regulations implemented by CARB and the EPA. These control measures are designed to reduce emissions from individual projects and cumulatively across the Air Basin. Because the project would comply with applicable regulations and would not exceed SCAQMD significance thresholds, it would not interfere with the implementation of AQMP control measures or attainment strategies.

Cumulative Health Impacts

The Air Basin is designated as nonattainment for ozone and $PM_{2.5}$, indicating that background pollutant concentrations periodically exceed ambient air quality standards established to protect public health, including sensitive populations. Cumulative air quality and health conditions in the Air Basin are addressed through the SCAQMD Air Quality Management Plan (AQMP), which incorporates regional growth projections and enforceable control measures to reduce emissions from stationary, mobile, and area sources on a basin-wide basis.

The project's emissions were evaluated against SCAQMD regional significance thresholds, which are designed to identify projects that could meaningfully contribute to cumulative air quality and health impacts. The analysis found that emissions of VOC and NO_x (ozone precursors), PM_{10}, and $PM_{2.5}$ would remain below these thresholds and that the project would comply with applicable AQMP control measures. Because the project would not exceed health-based thresholds or interfere with AQMP implementation, it would not result in a cumulatively considerable contribution to adverse regional health impacts. Therefore, the project's cumulative health impact would be less than significant.

Level of Significance

Less than significant impact.

6.7 Objectionable Odors

The project would not create objectionable odors affecting a substantial number of people. Potential odor impacts have been analyzed separately for construction and operations below.

Individual responses to odors are highly variable and can result in various effects. Generally, the impact of an odor results from multiple factors such as frequency, duration, offensiveness, location, and sensory perception. The frequency measures how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor's strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity in which they are engaged; and the sensitivity of the impacted receptor.

Sensory perception has four major components: detectability, intensity, character, and hedonic tone. The detection (or threshold) of an odor is based on a panel of responses to the odor. There are two thresholds: the odor detection threshold and the recognition threshold. The detection threshold is the lowest concentration of an odor that will elicit a response in a percentage of the people living and working near the project site and is typically presented as the mean (or 50 percent of the population). The recognition

threshold is the minimum concentration that is recognized as having a characteristic odor quality, and this is typically represented by recognition by 50 percent of the population. The intensity refers to the perceived strength of the odor, and the odor character is what the substance smells like. The hedonic tone is a judgment of the pleasantness or unpleasantness of the odor. The hedonic tone varies in subjective experience, frequency, odor character, odor intensity, and duration.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents, and emissions from diesel equipment. The objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the project site's boundaries. Due to the transitory nature of construction odors, a less than significant odor impact would occur, and no mitigation would be required.

Operational-Related Odor Impacts

Potential sources of odor during project operations may include vehicle exhaust emissions and occasional fuel odors from trucks and construction equipment. However, the project does not involve industrial, agricultural, or other activities known to generate substantial or persistent odors. The site will primarily be used for parking and storage of trucks, construction equipment, and tractor trailers, and no on-site employees or substantial activities will be present.

Given the nature of the project and the lack of significant odor-generating activities, operational odor impacts are expected to be less than significant. No additional mitigation measures are necessary.

Level of Significance

Less than significant impact.

6.8 Greenhouse Gas Plan Consistency

The project would not generate GHG emissions, either directly or indirectly, that may significantly impact the environment. Table 6-18 summarizes the greenhouse gas emissions, and the CalEEMod model runs are provided in Appendix A.

Table 6-18 Project Greenhouse Gas Annual Emissions

Category	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Area Sources	0	0	0	0
Energy Usage	22.7	0.001	0.0002	22.7
Mobile Sources	89.3	0.004	0.004	90.8
Solid Waste	0	0	0	0
Water and Wastewater	0.33	<0.005	<0.005	0.33
Construction Emissions[1]	1.90	<0.005	<0.005	1.90
Total Emissions				**115.7**

Source: Calculated from CalEEMod Version 2022.1.1

Notes:

[1] Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.

The data provided in Table 6-18 shows that the project would create 115.7 $MTCO_2e$ per year. which is a nominal contribution to regional and statewide GHG emissions. To align with state reduction goals, the project has been evaluated in the context of the 2022 Scoping Plan Update and the 2020-2050 RTP/SCS (Connect SoCal 2024), which set forth strategies for achieving carbon neutrality and reducing per capita emissions from land use and transportation. Given that the project is a storage yard with no full-time employees, its emissions are de minimis and do not conflict with California's established GHG reduction strategies.
The project would generate 49 total vehicle trips per day, including 22 diesel truck trips. While vehicle trips contribute to mobile source emissions, the limited number of daily trips results in a low overall emissions profile. The project incorporates measures to minimize unnecessary vehicle idling and optimize site circulation, which further reduces emissions. Given the project's design and limited scale, its GHG impact is minimal and does not conflict with state or regional reduction strategies.

The City of Calimesa is participating in the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP). The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010 levels, following guidance from CARB and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the statewide AB 32 goal of reducing emissions to 1990 levels.

The storage yard project aligns with the WRCOG Subregional CAP through its minimal emissions profile and compliance with applicable local reduction measures. The project supports the CAP's goals by implementing efficient site design to minimize vehicle idling and congestion (Measure R2-T2), reducing emissions from construction activities through compliance with SCAQMD Rule 403 (Measure R2-T5), and limiting energy use through adherence to CALGreen standards (Measure R2-E1). Additionally, appropriate drought-tolerant landscaping will be incorporated to reduce water demand and enhance site sustainability (Measure R2-W2). Construction emissions have been quantified and are well within regional thresholds. As shown in Table 16, the project is consistent with WRCOG Subregional CAP reduction strategies and would result in a less than significant impact.

Therefore, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Furthermore, the project will also comply with applicable Green Building Standards and the City of Calimesa's policies regarding sustainability (as dictated by the City's General Plan).

Level of Significance

Less than significant impact.

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CalEEMod Model Daily Printouts

Sartin Storage Yard Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Sartin Storage Yard
Construction Start Date	8/1/2024
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	25.8
Location	33.98416431717179, -117.05137066104376
County	Riverside-South Coast
City	Calimesa
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5623
EDFZ	11
Electric Utility	Southern California Edison
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
Parking Lot	107	1000sqft	2.46	0.00	16,070	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.00	11.1	17.4	0.08	0.22	5.24	5.46	0.22	2.02	2.24	—	11,460	11,460	0.27	1.42	19.4	11,909
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12	0.34	0.91	< 0.005	0.01	0.13	0.14	0.01	0.05	0.05	—	344	344	0.01	0.03	0.20	354
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.06	0.17	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	56.9	56.9	< 0.005	0.01	0.03	58.6

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.00	11.1	17.4	0.08	0.22	5.24	5.46	0.22	2.02	2.24	—	11,460	11,460	0.27	1.42	19.4	11,909
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.12	0.34	0.91	< 0.005	0.01	0.13	0.14	0.01	0.05	0.05	—	344	344	0.01	0.03	0.20	354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.06	0.17	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	56.9	56.9	< 0.005	0.01	0.03	58.6

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.26	2.33	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	0.00	708	708	0.03	0.03	2.31	719
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.28	1.93	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	0.00	673	673	0.03	0.03	0.06	682
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23	0.28	2.01	0.01	< 0.005	0.46	0.46	< 0.005	0.12	0.12	0.00	678	678	0.03	0.03	1.00	688
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.05	0.37	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	0.00	112	112	0.01	< 0.005	0.16	114

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.23	0.26	2.33	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	—	569	569	0.02	0.02	2.31	580
Area	0.02	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	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.25	0.26	2.33	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	0.00	708	708	0.03	0.03	2.31	719
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.28	1.93	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	—	534	534	0.02	0.03	0.06	543
Area	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.24	0.28	1.93	0.01	< 0.005	0.47	0.47	< 0.005	0.12	0.12	0.00	673	673	0.03	0.03	0.06	682
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.28	2.01	0.01	< 0.005	0.46	0.46	< 0.005	0.12	0.12	—	539	539	0.02	0.03	1.00	549
Area	0.02	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	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.23	0.28	2.01	0.01	< 0.005	0.46	0.46	< 0.005	0.12	0.12	0.00	678	678	0.03	0.03	1.00	688
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.05	0.37	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	89.3	89.3	< 0.005	< 0.005	0.16	90.8
Area	< 0.005	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	—	22.7	22.7	< 0.005	< 0.005	—	22.7
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.33	0.33	< 0.005	< 0.005	—	0.33
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.05	0.37	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	0.00	112	112	0.01	< 0.005	0.16	114

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	1.33	15.0	0.03	0.05	—	0.05	0.05	—	0.05	—	2,717	2,717	0.11	0.02	—	2,726
Dust From Material Movement	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.7	44.7	< 0.005	< 0.005	—	44.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.39	7.39	< 0.005	< 0.005	—	7.42

Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.58	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.39	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.62	1.62	< 0.005	< 0.005	< 0.005	1.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.20	14.2	0.02	0.05	—	0.05	0.05	—	0.05	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.03	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	53.8	53.8	< 0.005	< 0.005	—	54.0
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.91	8.91	< 0.005	< 0.005	—	8.94
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.04	0.77	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	141	141	0.01	< 0.005	0.52	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.14	9.83	2.40	0.06	0.17	2.33	2.50	0.17	0.65	0.82	—	8,864	8,864	0.16	1.40	18.9	9,303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.88	2.88	< 0.005	< 0.005	< 0.005	2.92
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.05	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	< 0.005	0.03	0.18	204
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.48
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
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.2	32.2	< 0.005	0.01	0.03	33.7

3.5. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.11	7.33	0.01	0.02	—	0.02	0.02	—	0.02	—	1,102	1,102	0.04	0.01	—	1,106
Paving	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.2	33.2	< 0.005	< 0.005	—	33.3
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.50	5.50	< 0.005	< 0.005	—	5.52
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.97	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	176	176	0.01	0.01	0.65	179
Vendor	< 0.005	0.17	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.43	160
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	0.01	5.01
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	0.01	4.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Architectural Coating (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	137	137	0.01	< 0.005	—	137
Total	—	—	—	—	—	—	—	—	—	—	—	137	137	0.01	< 0.005	—	137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	137	137	0.01	< 0.005	—	137
Total	—	—	—	—	—	—	—	—	—	—	—	137	137	0.01	< 0.005	—	137
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	22.7	22.7	< 0.005	< 0.005	—	22.7
Total	—	—	—	—	—	—	—	—	—	—	—	22.7	22.7	< 0.005	< 0.005	—	22.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	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	0.02	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	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	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Total	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Total	—	—	—	—	—	—	—	—	—	—	0.00	1.97	1.97	< 0.005	< 0.005	—	1.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.33	0.33	< 0.005	< 0.005	—	0.33
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.33	0.33	< 0.005	< 0.005	—	0.33

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	5/01/2025	5/8/2025	5.00	6.00	—
Grading	Grading	5/9/2025	5/20/2025	5.00	8.00	—
Paving	Paving	5/21/2025	6/4/2025	5.00	11.0	—
Architectural Coating	Architectural Coating	6/5/2025	6/18/2025	5.00	10.0	—

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
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40

Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	7.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Tier 4 Final	1.00	8.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	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
Paving	—	—	—	—
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	129	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	6,429

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	9.00	0.00	—
Grading	—	8,231	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.46

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	2.46	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	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	49.0	49.0	49.0	17,885	657	657	657	239,811

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

0	0.00	0.00	0.00	6,429

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)
Parking Lot	93,870	532	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)
Parking Lot	0.00	254,801

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.8	annual days of extreme heat
Extreme Precipitation	5.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	21.4	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	100
AQ-PM	46.7
AQ-DPM	62.3
Drinking Water	49.6
Lead Risk Housing	31.0
Pesticides	2.00
Toxic Releases	42.8
Traffic	61.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	65.9
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	29.1
Cardio-vascular	59.6
Low Birth Weights	33.7

Socioeconomic Factor Indicators	—
Education	53.1
Housing	28.2
Linguistic	5.64
Poverty	44.1
Unemployment	65.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	49.39047863
Employed	7.955857821
Median HI	28.39727961
Education	—
Bachelor's or higher	26.08751444
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	49.51879892
Active commuting	1.039394328
Social	—
2-parent households	69.19029899
Voting	52.71397408
Neighborhood	—
Alcohol availability	64.81457718
Park access	7.108943924
Retail density	18.0803285

Supermarket access	33.60708328
Tree canopy	28.66675221
Housing	—
Homeownership	88.78480688
Housing habitability	65.43051456
Low-inc homeowner severe housing cost burden	14.98780957
Low-inc renter severe housing cost burden	43.75721802
Uncrowded housing	68.66418581
Health Outcomes	—
Insured adults	54.27948159
Arthritis	0.0
Asthma ER Admissions	71.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	6.1
Cognitively Disabled	17.4
Physically Disabled	20.3
Heart Attack ER Admissions	14.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	45.8
Physical Health Not Good	0.0
Stroke	0.0

Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	16.1
SLR Inundation Area	0.0
Children	90.2
Elderly	16.2
English Speaking	59.2
Foreign-born	10.6
Outdoor Workers	12.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.4
Traffic Density	61.9
Traffic Access	23.0
Other Indices	—
Hardship	60.4
Other Decision Support	—
2016 Voting	74.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	35.0
Healthy Places Index Score for Project Location (b)	26.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Per project manager's construction schedule estimates
Construction: Off-Road Equipment	Per construction summary
Construction: Dust From Material Movement	Per construction summary
Land Use	Per site plan, 2.46 acres