Appendix B1 Air Quality and Greenhouse Gas Technical Report

Appendix

This page intentionally left blank.

Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Air Quality Regulatory Setting

The Project has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The Project Site is in the SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (South Coast AQMD). However, South Coast AQMD reports to California Air Resources board (CARB), and all criteria emissions are also governed by the California and national Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Project are summarized below.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for

sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	9 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016; US EPA 2024a.
Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, 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 O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 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 µg/m^3 is equal to or less than one. For $PM_{2.5}$, 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.
3 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
4 On February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 µg/m^3 to 9.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
5 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. 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.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are those that are emitted directly from sources and include CO, VOC, NO_2, SO_X, PM_{10}, $PM_{2.5}$, and Pb. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them. VOC and oxides of nitrogen (NO_X) are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants. A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005; US EPA 2024d). The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance) under the National AAQS (CARB 2024a).

Volatile Organic Compounds (VOC) are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O_3, South Coast AQMD has established a significance threshold (South Coast AQMD 2023a). The health effects for ozone are described later in this section.

Nitrogen Oxides (NO_X) are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (South Coast AQMD 2005; US EPA 2024d). On February 21, 2019, CARB's Board approved the separation of the area that runs along the State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for state nonattainment designation purposes. The Board designated this corridor as nonattainment.[1] The remainder of the SoCAB is designated in attainment (maintenance) under the National AAQS and attainment under the California AAQS (CARB 2024a).

Sulfur Dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release

[1] CARB is proposing to redesignate SR-60 Near-Road Portion of San Bernardino, Riverside, and Los Angeles Counties in the SoCAB as attainment for NO_2 at the February 24, 2022 Board Hearing (CARB 2023d).

significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; US EPA 2024d). The SoCAB is designated as attainment under the California and National AAQS (CARB 2024a).

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤0.01 millimeter). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤0.002.5 millimeter). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The US Environmental Protection Agency's (EPA) scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005; South Coast AQMD 2022). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.0001 millimeter) have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2022). However, the EPA and the California Air Resources Board (CARB) have not adopted AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1999; CARB 2024d). Particulate matter can also cause environmental effects such as visibility impairment,[2] environmental damage,[3] and aesthetic damage[4] (South Coast AQMD 2005; South Coast AQMD 2022; US EPA 2024d). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2024a).[5]

---

2 $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

3 Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

4 Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

5 CARB approved the South Coast AQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10}

Ozone (O_3) is a key ingredient of "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (South Coast AQMD 2005; US EPA 2024d). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2024a).

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; South Coast AQMD 2022; USEPA 2024d). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[6] As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2024a). However, lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011 (South Coast AQMD 2012). CARB's State Implementation Plan (SIP) revision was submitted to the EPA for approval. Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the project.

standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

6 Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

Table 2, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

Table 2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	• Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO_2)	• Increased response to allergens • Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} and $PM_{2.5}$)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO_2)	• Aggravation of respiratory disease (e.g., asthma and emphysema) • Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	• Behavioral and learning disabilities in children • Nervous system impairment	Contaminated soil

Source: CARB 2024b.

Toxic Air Contaminants

The public's exposure to air pollutants classified as toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant (HAP) pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code §7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it determines that the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a

substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Community Risk

In addition, to reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in

these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic, DPM from trucks, and benzene and 1,3-butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

AIR QUALITY MANAGEMENT PLANNING

The South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2022 AQMP

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, which serves as an update to the 2017 AQMP. On October 1, 2015, the EPA strengthened the National AAQS for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 parts per billion (ppb) (2015 Ozone National AAQS.). The SoCAB is currently classified as an "extreme" nonattainment for the 2015 Ozone National AAQS. Meeting the 2015 federal ozone standard requires reducing NO_x emissions, the key pollutant that creates ozone, by 67 percent more than is required by adopted rules and regulations in 2037. The only way to achieve the required NO_x reductions is through extensive use of zero emission (ZE) technologies across all stationary and mobile sources. South Coast AQMD's primary authority is over stationary sources which account for approximately 20 percent of NO_x emissions. The overwhelming majority of NO_x emissions are from heavy-duty trucks, ships and other State and federally regulated mobile sources that are mostly beyond the South Coast AQMD's control. The region will not meet the standard absent significant federal action. In addition to federal action, the 2022 AQMP requires substantial reliance on future deployment of advanced technologies to meet the standard. 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 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 is prioritizing distribution of incentive funding in Environmental Justice areas and seeking opportunities to focus benefits on the most disadvantaged communities (South Coast AQMD 2022).

Lead State Implementation Plan

In 2008, EPA designated the Los Angeles County portion of the SoCAB nonattainment under the federal lead (Pb) classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in Vernon and the City of Industry exceeding the new standard. The rest of the SoCAB, outside the Los Angeles County nonattainment area remains in attainment of the new standard. On May 24, 2012, CARB approved the SIP revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to EPA for approval.

South Coast AQMD PM2.5 Redesignation Request and Maintenance Plan

In 1997, the EPA adopted the 24-hour fine $PM_{2.5}$ standard of 65 micrograms per cubic meter ($\mu g/m^3$). In 2006, this standard was lowered to a more health-protective level of 35 $\mu g/m^3$. The SoCAB is designated nonattainment for both the 65 and 35 $\mu g/m^3$ 24-hour $PM_{2.5}$ standards (24-hour $PM_{2.5}$ standards). In 2020, monitored data demonstrated that the SoCAB attained both 24-hour $PM_{2.5}$ standards. The South Coast AQMD has developed the 2021 Redesignation Request and Maintenance Plan for the 1997 and 2006 24-hour $PM_{2.5}$ Standards demonstrating that the SoCAB has met the requirements to be redesignated to attainment for the 24-hour $PM_{2.5}$ standards (South Coast AQMD 2021b).

AB 617, Community Air Protection Program

Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017) requires local air districts to monitor and implement air pollution control strategies that reduce localized air pollution in communities that bear the greatest burdens. In response to AB 617, CARB has established the Community Air Protection Program.

Air districts are required to host workshops to help identify disadvantaged communities disproportionately affected by poor air quality. Once the criteria for identifying the highest priority locations have been identified and the communities have been selected, new community monitoring systems would be installed to track and monitor community-specific air pollution goals. In 2018 CARB prepared an air monitoring plan (Community Air Protection Blueprint), that evaluates the availability and effectiveness of air monitoring technologies and existing community air monitoring networks. Under AB 617, the Blueprint is required to be updated every five years.

Under AB 617, CARB is also required to prepare a statewide strategy to reduce TACs and criteria pollutants in impacted communities; provide a statewide clearinghouse for best available retrofit control technology; adopt new rules requiring the latest best available retrofit control technology for all criteria pollutants for which an area has not achieved attainment of California AAQS; and provide uniform, statewide reporting of emissions inventories. Air districts are required to adopt a community emissions reduction program to achieve reductions for the communities impacted by air pollution that CARB identifies.

Existing Conditions

CLIMATE/METEOROLOGY

South Coast Air Basin

The Project Site lies in the South Coast Air Basin (SoCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The lowest average temperature recorded in Newport Beach is reported at 67.2°F in December, and the highest average temperature is 81.9°F in August (USA.com 2024).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from October through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 13.93 inches per year in the vicinity of the area (USA.com 2024).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the (South Coast AQMD 2005).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward transport. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly

degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 3, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

Table 3 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment[1]
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[2]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2024a.

1 The SoCAB is pending a resignation request from nonattainment to attainment for the 24-hour federal $PM_{2.5}$ standards. The 2021 $PM_{2.5}$ Redesignation Request and Maintenance Plan demonstrates that the South Coast meets the requirements of the CAA to allow US EPA to redesignate the SoCAB to attainment for the 65 µg/m³ and 35 µg/m³ 24-hour $PM_{2.5}$ standards. CARB will submit the 2021 $PM_{2.5}$ Redesignation Request to the US EPA as a revision to the California SIP (CARB 2021).

2 In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas for lead in the SoCAB are unclassified. However, lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011 (South Coast AQMD 2012). CARB's SIP revision was submitted to the EPA for approval.

EXISTING AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the South Coast AQMD. The Project Site is located within Source Receptor Area (SRA) 20: Central Orange County Coastal. The air quality monitoring station closest to the Project is the Mission Viejo–26081 Via Pera Monitoring Station, which is one of 31 monitoring stations South Coast AQMD operates and maintains within the SoCAB.[7] Data from this station includes O_3, $PM_{10,}$ and $PM_{2.5.}$ Data for NO_2 was supplemented from Anaheim–Pampas Lane Monitoring Station. Table 4, *Ambient Air Quality Monitoring Summary*, shows regular violations of the state and federal O_3, state PM_{10}, and federal $PM_{2.5}$ standards in the last five years.

Table 4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations[1,2]				
	2018	2019	2020	2021	2022
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	2	3	20	2	1
State & Federal 8-hour ≥ 0.070 ppm (days exceed threshold)	9	11	32	8	5
Max. 1-Hour Conc. (ppm)	0.121	0.106	0.171	0.105	0.110
Max. 8-Hour Conc. (ppm)	0.088	0.087	0.122	0.081	0.088
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.0660	0.0594	0.0709	0.0671	0.0530
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m³ (days exceed threshold)	1	0	2	0	0
Federal 24-Hour > 150 µg/m³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m³)	55.6	45.1	56.2	35.2	31.0
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m³ (days exceed threshold)	1	0	6	0	0
Max. 24-Hour Conc. (µg/m³)	38.9	20.8	46.6	32.6	22.6

Source: CARB 2024c.
Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; * = Data not available
[1] Data for O_3, $PM_{10,}$ and $PM_{2.5}$ obtained from the Mission Viejo – 26081 Via Pera Monitoring Station and NO_2 from Anaheim – Pampas Lane Monitoring Station.
[2] Most recent data available as of October 2023.

MULTIPLE AIR TOXICS EXPOSURE STUDY V

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In April 2021, South Coast AQMD released the latest update to the MATES study, MATES V. The first MATES analysis, MATES I, began in 1986 but was limited because of the technology available at the time. Conducted in 1998, MATES II was the first MATES iteration to include a comprehensive monitoring program, an air toxics emissions

[7] Locations of the SRAs and monitoring stations are shown here: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf.

inventory, and a modeling component. MATES III was conducted in 2004 to 2006, with MATES IV following in 2012 to 2013.

MATES V uses measurements taken during 2018 and 2019, with a comprehensive modeling analysis and emissions inventory based on 2018 data. The previous MATES studies quantified the cancer risks based on the inhalation pathway only. MATES V includes information on the chronic noncancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic noncancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazards Assessment (OEHHA) and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time.

The MATES V study showed that cancer risk in the SoCAB decreased to 454 in a million from 997 in a million in the MATES IV study. Overall, air toxics cancer risk in the SoCAB decreased by 54 percent since 2012 when MATES IV was conducted. MATES V showed the highest risk locations near the Los Angeles International Airport and the Ports of Long Beach and Los Angeles. Diesel particulate matter continues to be the major contributor to air toxics cancer risk (approximately 72 percent of the total cancer risk). Goods movement and transportation corridors have the highest cancer risk. Transportation sources account for 88 percent of carcinogenic air toxics emissions, and the remainder is from stationary sources, which include large industrial operations such as refineries and power plants as well as smaller businesses such as gas stations and chrome-plating facilities. (South Coast AQMD 2021a).

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

The nearest offsite sensitive receptors are the single-family residences about 1,200 feet to the south and 2,000 feet to the north in addition to the students at Sage High School about 1,500 feet north of the project site.

Thresholds of Significance

The analysis of the Project's air quality impacts follows the guidance and methodologies recommended in South Coast AQMD's *CEQA Air Quality Handbook* and the significance thresholds on South Coast AQMD's

website (South Coast AQMD 1993). CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. South Coast AQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed though an analysis of localized CO impacts and localized significance thresholds (LSTs).

REGIONAL SIGNIFICANCE THRESHOLDS

The South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 5, *South Coast AQMD Significance Thresholds*, lists South Coast AQMD's regional significance thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, South Coast AQMD has not developed thresholds for them.

Table 5 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO_X)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO_X)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: South Coast AQMD 2023a.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Linked to increased cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Linked to lower birth weight in newborns ($PM_{2.5}$) (South Coast AQMD 2015a)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists responsible for a landmark children's health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015b).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions thresholds shown in Table 4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. These thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed previously. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 4 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions levels presented in Table 4, then those emissions would cumulatively contribute to the nonattainment status of the air basin and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 4, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, because mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited previously.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health to address the issue raised in *Sierra Club v. County of Fresno* (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978. South Coast AQMD currently does not have methodologies that would provide the City with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a Project's mass emissions.[8] Ozone concentrations are dependent on a variety of

[8] In April 2019, the Sacramento Metropolitan Air Quality Management District (SMAQMD) published an Interim Recommendation on implementing Sierra Club v. County of Fresno (2018) 6 Cal.5th 502 ("Friant Ranch") in the review and analysis of Project under CEQA in Sacramento County. Consistent with the expert opinions submitted to the court in Friant Ranch by the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast AQMD, the SMAQMD guidance confirms the absence of an acceptable or reliable quantitative methodology that would correlate the expected criteria air pollutant emissions of projects to likely health consequences for people from project-generated criteria air pollutant emissions. The SMAQMD guidance explains

complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National and California AAQS, and the absence of modeling tools that could provide statistically valid data and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects, it is not possible to link specific health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SoCAB.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by the South Coast AQMD for busiest intersections in Los Angeles during the peak morning and afternoon periods plan did not predict a violation of CO standards.[9] As identified in the South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2023).

LOCALIZED SIGNIFICANCE THRESHOLDS

The South Coast AQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at the Project Site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a Project Site that are not expected to cause or contribute to an exceedance of the

that while it is in the process of developing a methodology to assess these impacts, lead agencies should follow the Friant Court's advice to explain in meaningful detail why this analysis is not yet feasible. Since this interim memorandum SMAQMD has provided methodology to address health impacts. However, a similar analysis is not available for projects within the South Coast AQMD region.

9 The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

most stringent federal or state AAQS and are shown in Table 6, *South Coast AQMD Localized Significance Thresholds*.

Table 6 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm
24-Hour PM_{10} Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3

Source: South Coast AQMD 2023a.
ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the levels shown in Table 5 for projects under 5-acres. These "screening-level" LSTs tables are the localized significance thresholds for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 5.

In accordance with South Coast AQMD's LST methodology, the screening-level construction LSTs are based on the acreage disturbed per day based on equipment use. The screening-level construction LSTs for the Project Site in SRA 20 are shown in Table 7, *South Coast AQMD Screening-Level Localized Significance Thresholds,* for NO_X, CO, PM_{10}, and $PM_{2.5}$.

Table 7 South Coast AQMD Screening-Level Localized Significance Thresholds

	Threshold (lbs/day)[1]			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
≤1.00 Acre Disturbed Per Day: Project Site[1]	188	4,959	103	55
≤1.00 Acre Disturbed Per Day: Laydown & Parking Area[2]	194	5,320	156	90

Source: South Coast AQMD 2008 and 2011.
[1] Screening level LSTs are based on receptors within 1,250 feet (381meters) in SRA 20 and an acreage disturbed of less than 1 acre per day.
[2] Screening level LSTs are based on nearest Sage High School receptors within 1,325 feet (404 meters) for NO_X and CO who would not be exposed 24 hours/day and residences located 1,890 ft (576 meters) for PM_{10} and $PM_{2.5}$, who are assumed to be exposed 24 hours/day, in SRA 20.

HEALTH RISK

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National

Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 8, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The type of land uses that typically generate substantial quantities of criteria air pollutants and TACs from operations include industrial (stationary sources) and warehousing (truck idling) land uses (CARB 2005). As park and recreational uses do not use substantial quantities of TACs, thus these thresholds are typically applied to new industrial projects only. Additionally, the purpose of this environmental evaluation is to identify the significant effects of the Project on the environment, not the significant effects of the environment on the Project (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478)).

Table 8 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden in areas ≥ 1 in 1 million	> 0.5 excess cancer cases

Source: South Coast AQMD 2023a.

Draft Operational Cumulative Health Risk Thresholds

South Coast AQMD initiated a Working Group to identify cumulative health risk thresholds for development projects in order to address community concerns of health risk impacts of new projects being developed in areas where there is a higher pollution burden. The cumulative health risk threshold methodology first utilizes a screening approach to identify whether projects can qualitatively address cumulative health risk or quantitatively address health risk:

- **Low Cancer Risk Project Types**: Residential, commercial, recreational, educational, and retail.
- **Medium Cancer Risk Project Types**: Truck yards, gas stations, small industrial projects, and linear projects.
- **High Cancer Risk Project Types**. Industrial, major transportation projects (airports, port, railyard, bus/train station), and major planning projects.

For projects with low and medium cancer risks, like the Project, a quantitative analysis is not warranted. On the other hand, for projects that result in potentially high cancer risk impacts, a quantitative is recommended. Additionally, the project-level health risk threshold of 10 in a million is adjusted based on the underlying health risk of the zip code the project is within based on South Coast AQMD's MATES V mapping. MATES V is utilized. MATES V identifies a gradient of the effects of air pollution on cancer risk in the South Coast AQMD Region, which is then used to adjust the project-level cancer risk levels as shown in Table 9, *MATES V Adjusted Cumulative Significant Cancer Risk Thresholds*.

Table 9 MATES V Adjusted Cumulative Significant Cancer Risk Thresholds

Threshold Increment	MATES V Cancer Risk	Adjusted Cumulative Cancer Risk Threshold
A	Most Stringent	≥ 1 in 1 million
B	>90th Percentile	≥ 3 in 1 million
C	90th Percentile to 50th Percentile	≥ 5 in 1 million
D	50th Percentile to 30th Percentile	≥ 7 in 1 million
E	< 30th Percentile	≥ 10 in 1 million

Source: South Coast AQMD 2023b.

South Coast AQMD has also identified that the thresholds in Table 9 should be adjusted if any of the following criteria apply:

- **Criteria #1 – Post-2018 High Volume Diesel-Fueled Mobile Sources**. If there are post-2018 high volume highways or railroad mainlines, then increase the threshold increment by 1 (e.g., from step "D" to "C").
- **Criteria #2 – Post-2018 Projects with High Volume Diesel Fueled Trucks**. Post-2018 projects are not accounted for in MATES V. Therefore, if new warehousing projects along the truck route have been constructed, then increase the threshold increment by 1 (e.g., from D to C).
- **Criteria #3 – Sensitive Receptor Population**. If the project site is within an AB 617 community or within the 80th percentile of CES 4.0, then increase the threshold increment by 1(e.g., from D to C).

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor,[10] carbon (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[11] The major GHG are briefly described below.

[10] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

[11] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 10, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fifth Assessment Report (AR5) GWP values for CH_4, a project that generates 10 MT of CH_4 would be equivalent to 280 MT of CO_2.[12]

Table 10 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2[1]	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO_2[1]	Sixth Assessment Report (AR6) Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	1	1	1
Methane[2] (CH_4)	25	28	30
Nitrous Oxide (N_2O)	298	265	273

Source: IPCC 2007, 2013, and 2023.

Notes: The IPCC published updated GWP values in its Sixth Assessment Report (AR6) that reflect latest information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in AR5 are used by the 2022 Scoping Plan for long-term emissions forecasting.

1 Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2.

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

GHG Regulatory Setting

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road

reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017a). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

12 The global warming potential of a GHG is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (US EPA 2009).

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, per South Coast AQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2 per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2021 to 2035)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (mpg) in 2025. On March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026.

On December 21, 2021, under direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration repealed SAFE Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards in response to EO 13990. Fuel efficiency under the standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annual for model year 2026. Overall, the new CAFE standards require a fleet average of 49 mpg for passenger vehicles and light trucks for model year 2026, which would be a 10 mpg increase relative to model year 2021 (NHTSA 2022).

On July 28, 2023, NHTSA proposed new CAFE standards for passenger cars and light trucks built in model years 2027-2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2027-2035. If finalized, the proposal would require an industry fleet-wide average of approximately 58 mpg for passenger cars and light trucks in model year 2032, by increasing fuel economy by 2 percent year over year for passenger cars and by 4 percent year over year for light trucks. For heavy-duty pickup trucks and vans, the proposal would increase fuel efficiency by 10 percent year over year (NHTSA 2023).

Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

In 2024, the EPA issued a final rule, Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, that sets new, more protective standards to reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027 (USEPA 2024b). The final rule builds upon EPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to help improve public health from vehicle emissions. These standards will phase in over model years 2027 through 2032. For light-duty vehicles, the standards are projected to result in an industry-wide average target for the light-duty fleet of 85 grams/mile (g/mile) of CO_2 in model year 2032, representing a nearly 50 percent reduction in projected fleet average emissions target levels relative to the existing MY 2026 standards (USEPA 2024c). The medium-duty vehicle standards are projected to result in an average target of 274 g/mile of CO2 by MY 2032, representing a 44 percent reduction in projected fleet average emissions target levels relative to the existing MY 2026 standards (USEPA 2024c). Overall, EPA projects that cumulative CO2 reductions as a result of the new standards are approximately 7.2 billion metric tons over the life of the program (USEPA 2024c).

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05 and EO B-30-15, EO B-55-18, Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32), and SB 375.

Executive Order S-3-05

Executive Order S-3-05, signed June 1, 2005. Executive Order S-3-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources

Agency to conduct triennial updates of the California adaption strategy, "Safeguarding California", in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, set a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning that not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279

AB 1279, signed by Governor Newsom in September 2022, codified the carbon neutrality targets of EO B-55-18 for year 2045 and sets a new legislative target for year 2045 of 85 percent below 1990 levels for anthropogenic GHG emissions. SB 1279 also requires CARB to update the Scoping Plan to address these new targets.

2022 Climate Change Scoping Plan

CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the State's anthropogenic GHG emissions (CARB 2022a). The Scoping Plan provides updates to the previously adopted 2017 Scoping Plan and addresses the carbon neutrality goals of EO B-55-18 (discussed below) and the ambitious GHG reduction target as directed by AB 1279. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. The 2022 Scoping Plan updates the target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time.

The path forward was informed by the recent Sixth Assessment Report (AR6) of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance AB 1279. CARB's 2022 Scoping Plan identifies strategies as shown in Table 11, *Priority Strategies for Local Government Climate Action Plans*, that would be most impactful at the local level for ensuring substantial process towards the State's carbon neutrality goals.

Table 11 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
VMT Reduction	Reduce or eliminate minimum parking standards.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)
Building Decarbonization	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing).
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: CARB 2022a.

Based on Appendix D of the 2022 CARB Climate Change Scoping Plan, for residential and mixed-use development projects, CARB recommends first demonstrating that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- Transportation Electrification
  - Provide EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.

- VMT Reduction

- Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
- Does not result in the loss or conversion of the State's natural and working lands;
- Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS);
- Reduces parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
  - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
  - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units.

- Building Decarbonization
  - Use all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking (CARB 2022a).

If the first approach to demonstrating consistency is not applicable (such as in the case of this school modernization project), the second approach to project-level alignment with state climate goals is to achieve net zero GHG emissions. The third approach to demonstrating project-level alignment with state climate goals is to align with GHG thresholds of significance, which many local air quality management (AQMDs) and air pollution control districts (APCDs) have developed or adopted (CARB 2022a).

Senate Bill 375

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 is defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 $MMTCO_2e$ of reductions by 2020 and 15 $MMTCO_2e$ of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018. The updated targets became effective in October2018. All SCSs adopted after October 1, 2018, are subject to these new targets. CARB's updated SB 375 targets for the SCAG region were an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018).

The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of "percent per capita" reductions in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies (CARB 2018).

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan (RTP/SCS). For the SCAG region, the 2024-2050 RTP/SCS, Connect SoCal, was adopted on April 4, 2024, and is an update to the 2020-2045 RTP/SCS. In general, the RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through the horizon year 2050 (SCAG 2024). Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. It also forecasts that implementation of the plan will reduce VMT per capita

in year 2050 by 6.3 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods, while expanding mobility choices by locating housing, jobs, and transit closer together; and increasing investments in transit and complete streets (SCAG 2024).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the discussion on the update to the Corporate Average Fuel Economy standards at the beginning of this Section 5.5.2 under "Federal.") In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and uses market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed Executive Order N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The Executive Order's goal for the State is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2045.

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards went into effect on January 1, 2023, replacing the existing 2019 standards. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[13] The mandatory provisions of CALGreen became effective January 1, 2011. In 2021, the CEC approved the 2022 CALGreen, which went into effect on January 1, 2023, replacing the existing 2019 standards.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills

[13] The green building standards became mandatory in the 2010 edition of the code.

by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including

irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these charbroilers by over 80 percent (CARB 2017). Additionally, South Coast AQMD Rule 445 limits installation of new fireplaces in the South Coast Air Basin.

Existing Conditions

CALIFORNIA'S GREENHOUSE GAS SOURCES AND RELATIVE CONTRIBUTION

In 2023, the statewide GHG emissions inventory was updated for 2000 to 2021 emissions using the GWPs in IPCC's AR4 and reported that California produced 381.3 MMTCO2e GHG emissions in 2021 (49.7 MMTCO2e below the 2020 GHG Limit of 431 MMTCO2e) (IPCC 2013). The growth in statewide emissions from 2020 to 2021 was likely due in large part to the increase of transportation and other economic activity that occurred in 2021 relative to 2020 as the California emerged from the COVID-19 pandemic.

California's transportation sector was the single-largest generator of GHG emissions, producing 38.2 percent of the state's total emissions. Industrial sector emissions made up 19.4 percent, and electric power generation made up 16.4 percent of the state's emissions inventory. Other major sectors of GHG emissions include residential and commercial (10.2 percent), agriculture and forestry (8.1 percent), high GWP (5.6 percent), and recycling and waste (2.2 percent) (CARB 2023).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG Limit (AB 32 target for year 2020) and have

remained below the Limit since that time. Additionally, per capita GHG emissions have dropped from a 2001 peak of 13.8 $MTCO_2e$ per person to 9.7 $MTCO_2e$ per person in 2021, a 30 percent decrease.

Transportation emissions increased from 2020, likely from passenger vehicles whose emissions rebounded after COVID-19 shelter-in-place orders were lifted. Electricity emissions also increased compared to 2020; however, there has been continued growth of in-state solar generation and imported renewable electricity. High-GWP emissions have continued to increase as high-GWP gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy (i.e., the amount of carbon pollution per million dollars of gross domestic product) is declining. From 2000 to 2021, the carbon intensity of California's economy decreased by 50.8 percent while the gross domestic product increased by 67.9 percent (CARB 2023).

Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[14]

PERMITTED SOURCES

South Coast AQMD adopted a threshold of 10,000 $MTCO_2e$ per year for permitted/industrial sources of emissions (South Coast AQMD 2023a).

[14] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

BIBLIOGRAPHY

Bay Area Air Quality Management District (BAAQMD). 2023, April. 2022 California Environmental Quality Act Air Quality Guidelines. https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

California Air Resources Board (CARB). 1999. California Air Resources Board (CARB). Final Staff Report: Update to the Toxic Air Contaminant List.

———. 2005, April. Air Quality and Land Use Handbook: A Community Health Perspective. http://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf.

———. 2010, September. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375. https://ww3.arb.ca.gov/board/res/2010/res10-31.pdf.

———. 2016, October 1. Ambient Air Quality Standards. https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf.

———. 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://ww2.arb.ca.gov/sites/default/files/2018-12/final_slcp_report%20Final%202017.pdf.

———. 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf.

———. 2021, December 9. Staff Report, CARB Review of the South Coast 2021 Redesignation Request and Maintenance Plan. https://ww2.arb.ca.gov/sites/default/files/2021-10/Staff_Report_for_the_South_Coast_PM2.5_Redesignation_Request_and_Maintenance_Plan.pdf.

———. 2022a, December 15. CARB 2022 Scoping Plan for Achieving Carbon Neutrality: /https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

———. 2023, December 14. California Greenhouse Gas 2000-2021: Trends of Emissions and Other Indicators. https://ww2.arb.ca.gov/sites/default/files/2023-12/2000_2021_ghg_inventory_trends.pdf.

———. 2024a, July 17 (accessed). Area Designations Maps/State and National. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.

———. 2024b, July 17 (accessed). Common Air Pollutants. https://ww2.arb.ca.gov/resources/common-air-pollutants.

———. 2024c, July 17 (accessed). Air Pollution Data Monitoring Cards (2018, 2019, 2020, 2021, and 2022). https://www.arb.ca.gov/adam/topfour/topfour1.php.

———. 2024d, July 17 (accessed). Overview: Diesel Exhaust & Health. https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

California Energy Commission (CEC). 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/03/WGI_TAR_full_report.pdf.

———. 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf.

———. 2013. Fifth Assessment Report: Climate Change 2013. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf.

———. 2023. Sixth Assessment Report: Climate Change 2022. New York: Cambridge University Press. https://www.ipcc.ch/assessment-report/ar6/.

National Highway Traffic Safety Administration (NHTSA). 2022, April 1. USDOT Announces New Vehicle Fuel Economy Standards for Model year 2024-2026. https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026.

———. 2023, July 28. Corporate Average Fuel Economy. NHTSA Announces New Proposal for CAFE and HDPUV Standards. https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy.

South Coast Air Quality Management District (South Coast AQMD). 1992. Federal Attainment Plan for Carbon Monoxide.

———. 1993. California Environmental Quality Act Air Quality Handbook.

———. 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf.

———. 2008, July. Final Localized Significance Threshold Methodology.

———. 2011. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf.

———. 2012, May 4. Final 2012 Lead State Implementation Plan: Los Angeles County. http://www3.aqmd.gov/hb/attachments/2011-2015/2012May/2012-May4-030.pdf.

———. 2015a. Health Effects of Air Pollution. http://www.aqmd.gov/docs/default-source/publications/brochures/the-health-effects-of-air-pollution-brochure.pdf.

———. 2015b, October. "Blueprint for Clean Air: 2016 AQMP White Paper." 2016 AQMP White Papers Web Page. https://www.aqmd.gov/docs/default-source/Agendas/aqmp/white-paper-working-groups/wp-blueprint-final.pdf?sfvrsn=2.

———. 2021a, August. Final Report, Multiple Air Toxics Exposure Study V (MATES V). http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v.

———. 2021b, October. Draft Final 2021 Redesignation Request and Maintenance Plan for the 2006 and 1997 24-Hour PM2.5 Standards for South Coast Air Basin. https://ww2.arb.ca.gov/sites/default/files/2021-10/draft-final-pm2-5-redesignation-request-and-maintenance-plan.pdf.

———. 2022, December. Final 2022 Air Quality Management Plan. https://www.scaqmd.gov/home/air-quality/clean-air-plans/2022-aqmp-archive.

———. 2023a, March (revised). South Coast AQMD Air Quality Significance Thresholds. https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

———. 2023b, June 6. Working Group Meeting #4. Cumulative Impacts from Air Toxics for CEQA Projects. http://www.aqmd.gov/docs/default-source/ceqa/documents/wgm-4_20230602_final.pdf?sfvrsn=10.

Southern California Association of Governments (SCAG). 2024, April 4. Connect SoCal Plan: The 2024–2050 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments. https://www.connectsocal.org/Pages/Connect-SoCal-Final-Plan.aspx.

US Environmental Protection Agency (US EPA). 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment. Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html.

———. 2024a, February. Final Rule to Strengthen the National Air Quality Health Standard for Particulate Matter Fact Sheet. https://www.epa.gov/system/files/documents/2024-02/pm-naaqs-overview.pdf.

———. 2024b, March 20. Final Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-multi-pollutant-emissions-standards-model#:~:text=On%20March%2020%2C%202024%2C%20EPA,starting%20with%20model%20year%202027.

———. 2024cb, March. Regulatory Announcement: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles: Final Rule. https://www.epa.gov/system/files/documents/2024-03/420f24016.pdf.

———. 2024d, July 17 (accessed). Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

USA.Com. 2024, July 17 (accessed). Newport Beach, CA Weather. http://www.usa.com/newport-beach-ca-weather.htm.

Emissions Worksheet

Regional Construction Emissions Worksheet

Maximum Emissions per phase (tons/year)

Site Preparation

		Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Dust From Material Movement											
	Onsite Truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.883357801	7.32638793	8.8778387	0.012768	0.438145157		0.4381452	0.403093546		0.403093546
	Dust From Material Movement							2.762208715	2.7622087		1.33564727	1.33564727
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**0.883923508**	**7.34372971**	**8.8894672**	**0.012808**	**0.438181754**	**3.070246077**	**3.5084278**	**0.403130142**	**1.366438604**	**1.769568746**
Offsite												
	Worker		0.026455471	0.02959706	0.3631013	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.036606436**	**0.3667813**	**0.5600015**	**0.001504**	**0.001503994**	**0.155255986**	**0.15676**	**0.001503994**	**0.038788533**	**0.040292527**
TOTAL			***0.9205***	***7.7105***	***9.4495***	***0.0143***	***0.4397***	***3.2255***	***3.6652***	***0.4046***	***1.4052***	***1.8099***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.883357801	7.32638793	8.8778387	0.012768	0.438145157	0	0.4381452	0.403093546	0	0.403093546
	Dust From Material Movement		0	0	0	0	0	2.762208715	2.7622087	0	1.33564727	1.33564727
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**0.883923508**	**7.34372971**	**8.8894672**	**0.012808**	**0.438181754**	**3.070246077**	**3.5084278**	**0.403130142**	**1.366438604**	**1.769568746**
Offsite												
	Worker		0.026455471	0.02959706	0.3631013	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.036606436**	**0.3667813**	**0.5600015**	**0.001504**	**0.001503994**	**0.155255986**	**0.15676**	**0.001503994**	**0.038788533**	**0.040292527**
TOTAL			***0.9205***	***7.7105***	***9.4495***	***0.0143***	***0.4397***	***3.2255***	***3.6652***	***0.4046***	***1.4052***	***1.8099***

Rough Grading

		Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Dust From Material Movement											
	Onsite truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.883357801	7.32638793	8.8778387	0.012768	0.438145157		0.4381452	0.403093546		0.403093546
	Dust From Material Movement							2.762208715	2.7622087		1.33564727	1.33564727
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**0.883923508**	**7.34372971**	**8.8894672**	**0.012808**	**0.438181754**	**3.070246077**	**3.5084278**	**0.403130142**	**1.366438604**	**1.769568746**
Offsite												
	Worker		0.026455471	0.02959706	0.3631013	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.036606436**	**0.3667813**	**0.5600015**	**0.001504**	**0.001503994**	**0.155255986**	**0.15676**	**0.001503994**	**0.038788533**	**0.040292527**
TOTAL			***0.9205***	***7.7105***	***9.4495***	***0.0143***	***0.4397***	***3.2255***	***3.6652***	***0.4046***	***1.4052***	***1.8099***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.883357801	7.32638793	8.8778387	0.012768	0.438145157	0	0.4381452	0.403093546	0	0.403093546
	Dust From Material Movement		0	0	0	0	0	2.762208715	2.7622087	0	1.33564727	1.33564727
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**0.883923508**	**7.34372971**	**8.8894672**	**0.012808**	**0.438181754**	**3.070246077**	**3.5084278**	**0.403130142**	**1.366438604**	**1.769568746**
Offsite												
	Worker		0.026455471	0.02959706	0.3631013	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.036606436**	**0.3667813**	**0.5600015**	**0.001504**	**0.001503994**	**0.155255986**	**0.15676**	**0.001503994**	**0.038788533**	**0.040292527**
TOTAL			***0.9205***	***7.7105***	***9.4495***	***0.0143***	***0.4397***	***3.2255***	***3.6652***	***0.4046***	***1.4052***	***1.8099***

Fine Grading

		Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Dust From Material Movement											
	Onsite truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		1.007671648	8.56891176	4.8716063	0.005081	0.545998768		0.5459988	0.502318867		0.502318867
	Dust From Material Movement							0	0		0	0
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**1.008237354**	**8.58625354**	**4.8832348**	**0.005121**	**0.546035365**	**0.308037362**	**0.8540727**	**0.502355463**	**0.030791334**	**0.533146798**
Offsite												
	Worker		0.017636981	0.01973137	0.2420676	0	0	0.0653547	0.0653547	0	0.015319037	0.015319037
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.027787945**	**0.35691562**	**0.4389677**	**0.001504**	**0.001503994**	**0.122578636**	**0.1240826**	**0.001503994**	**0.031129015**	**0.032633008**
TOTAL			***1.0360***	***8.9432***	***5.3222***	***0.0066***	***0.5475***	***0.4306***	***0.9782***	***0.5039***	***0.0619***	***0.5658***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		1.007671648	8.56891176	4.8716063	0.005081	0.545998768	0	0.5459988	0.502318867	0	0.502318867
	Dust From Material Movement		0	0	0	0	0	0	0	0	0	0
	Onsite Truck		0.000565706	0.01734178	0.0116285	4.03E-05	3.65967E-05	0.308037362	0.308074	3.65967E-05	0.030791334	0.030827931
	Total		**1.008237354**	**8.58625354**	**4.8832348**	**0.005121**	**0.546035365**	**0.308037362**	**0.8540727**	**0.502355463**	**0.030791334**	**0.533146798**
Offsite												
	Worker		0.017636981	0.01973137	0.2420676	0	0	0.0653547	0.0653547	0	0.015319037	0.015319037
	Vendor		0.010150964	0.33718424	0.1969001	0.001504	0.001503994	0.057223936	0.0587279	0.001503994	0.015809978	0.017313971
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.027787945**	**0.35691562**	**0.4389677**	**0.001504**	**0.001503994**	**0.122578636**	**0.1240826**	**0.001503994**	**0.031129015**	**0.032633008**
TOTAL			***1.0360***	***8.9432***	***5.3222***	***0.0066***	***0.5475***	***0.4306***	***0.9782***	***0.5039***	***0.0619***	***0.5658***

Trenching

	Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.405502948	3.48930359	5.2659177	0.007278	0.142147684		0.1421477	0.130775869		0.130775869
Onsite truck		0	0	0	0	0	0	0	0	0	0
Total		**0.405502948**	**3.48930359**	**5.2659177**	**0.007278**	**0.142147684**	**0**	**0.1421477**	**0.130775869**	**0**	**0.130775869**
Offsite											
Worker		0.026620818	0.0260421	0.4198153	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.026620818**	**0.0260421**	**0.4198153**	**0**	**0**	**0.09803205**	**0.0980321**	**0**	**0.022978556**	**0.022978556**
TOTAL		***0.4321***	***3.5153***	***5.6857***	***0.0073***	***0.1421***	***0.0980***	***0.2402***	***0.1308***	***0.0230***	***0.1538***

	Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.405502948	3.48930359	5.2659177	0.007278	0.142147684		0.1421477	0.130775869		0.130775869
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.405502948**	**3.48930359**	**5.2659177**	**0.007278**	**0.142147684**	**0**	**0.1421477**	**0.130775869**	**0**	**0.130775869**
Offsite											
Worker		0.026455471	0.02959706	0.3631013	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.026455471**	**0.02959706**	**0.3631013**	**0**	**0**	**0.09803205**	**0.0980321**	**0**	**0.022978556**	**0.022978556**
TOTAL		***0.4320***	***3.5189***	***5.6290***	***0.0073***	***0.1421***	***0.0980***	***0.2402***	***0.1308***	***0.0230***	***0.1538***

	Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.405502948	3.48930359	5.2659177	0.007278	0.142147684	0	0.1421477	0.130775869	0	0.130775869
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.405502948**	**3.48930359**	**5.2659177**	**0.007278**	**0.142147684**	**0**	**0.1421477**	**0.130775869**	**0**	**0.130775869**
Offsite											
Worker		0.026620818	0.02959706	0.4198153	0	0	0.09803205	0.0980321	0	0.022978556	0.022978556
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.026620818**	**0.02959706**	**0.4198153**	**0**	**0**	**0.09803205**	**0.0980321**	**0**	**0.022978556**	**0.022978556**
TOTAL		***0.4321***	***3.5189***	***5.6857***	***0.0073***	***0.1421***	***0.0980***	***0.2402***	***0.1308***	***0.0230***	***0.1538***

Pipeline Installation

	Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.812846331	7.42281213	11.227072	0.017347	0.214961085		0.2149611	0.197764199		0.197764199
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.812846331**	**7.42281213**	**11.227072**	**0.017347**	**0.214961085**	**0**	**0.2149611**	**0.197764199**	**0**	**0.197764199**
Offsite											
Worker		0.002376281	0.00232462	0.0374744	0	0	0.008750733	0.0087507	0	0.002051158	0.002051158
Vendor		0.000232693	0.00865917	0.0043048	5.87E-05	5.87492E-05	0.002235288	0.002294	5.87492E-05	0.000617571	0.00067632
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.002608973**	**0.01098379**	**0.0417792**	**5.87E-05**	**5.87492E-05**	**0.010986021**	**0.0110448**	**5.87492E-05**	**0.002668729**	**0.002727478**
TOTAL		***0.8155***	***7.4338***	***11.2689***	***0.0174***	***0.2150***	***0.0110***	***0.2260***	***0.1978***	***0.0027***	***0.2005***

	Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.16034229	1.46422595	2.2146553	0.003422	0.042403283		0.0424033	0.03901102		0.03901102
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.16034229**	**1.46422595**	**2.2146553**	**0.003422**	**0.042403283**	**0**	**0.0424033**	**0.03901102**	**0**	**0.03901102**
Offsite											
Worker		0.000460011	0.00051824	0.0066847	0	0	0.001707105	0.0017071	0	0.000399845	0.000399845
Vendor		4.47649E-05	0.00178673	0.0008594	1.16E-05	1.15889E-05	0.000436831	0.0004484	1.15889E-05	0.000120797	0.000132386
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.000504776**	**0.00230497**	**0.0075441**	**1.16E-05**	**1.15889E-05**	**0.002143936**	**0.0021555**	**1.15889E-05**	**0.000520642**	**0.000532231**
TOTAL		***0.1608***	***1.4665***	***2.2222***	***0.0034***	***0.0424***	***0.0021***	***0.0446***	***0.0390***	***0.0005***	***0.0395***

	Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		0.812846331	7.42281213	11.227072	0.017347	0.214961085	0	0.2149611	0.197764199	0	0.197764199
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.812846331**	**7.42281213**	**11.227072**	**0.017347**	**0.214961085**	**0**	**0.2149611**	**0.197764199**	**0**	**0.197764199**
Offsite											
Worker		0.002376281	0.00232462	0.0374744	0	0	0.008750733	0.0087507	0	0.002051158	0.002051158
Vendor		0.000232693	0.00865917	0.0043048	5.87E-05	5.87492E-05	0.002235288	0.002294	5.87492E-05	0.000617571	0.00067632
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.002608973**	**0.01098379**	**0.0417792**	**5.87E-05**	**5.87492E-05**	**0.010986021**	**0.0110448**	**5.87492E-05**	**0.002668729**	**0.002727478**
TOTAL		***0.8155***	***7.4338***	***11.2689***	***0.0174***	***0.2150***	***0.0110***	***0.2260***	***0.1978***	***0.0027***	***0.2005***

Building Construction

	Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		3.491009758	32.9141357	34.729258	0.067921	0.997398888		0.9973989	0.917606975		0.917606975
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**3.491009758**	**32.9141357**	**34.729258**	**0.067921**	**0.997398888**	**0**	**0.9973989**	**0.917606975**	**0**	**0.917606975**
Offsite											
Worker		0.002376281	0.00232462	0.0374744	0	0	0.008750733	0.0087507	0	0.002051158	0.002051158
Vendor		0.000232693	0.00865917	0.0043048	5.87E-05	5.87492E-05	0.002235288	0.002294	5.87492E-05	0.000617571	0.00067632
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.002608973**	**0.01098379**	**0.0417792**	**5.87E-05**	**5.87492E-05**	**0.010986021**	**0.0110448**	**5.87492E-05**	**0.002668729**	**0.002727478**
TOTAL		***3.4936***	***32.9251***	***34.7710***	***0.0680***	***0.9975***	***0.0110***	***1.0084***	***0.9177***	***0.0027***	***0.9203***

	Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment											
Onsite Truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

	Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	2025										
Off-Road Equipment		3.491009758	32.9141357	34.729258	0.067921	0.997398888	0	0.9973989	0.917606975	0	0.917606975
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**3.491009758**	**32.9141357**	**34.729258**	**0.067921**	**0.997398888**	**0**	**0.9973989**	**0.917606975**	**0**	**0.917606975**
Offsite											
Worker		0.002376281	0.00232462	0.0374744	0	0	0.008750733	0.0087507	0	0.002051158	0.002051158
Vendor		0.000232693	0.00865917	0.0043048	5.87E-05	5.87492E-05	0.002235288	0.002294	5.87492E-05	0.000617571	0.00067632
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.002608973**	**0.01098379**	**0.0417792**	**5.87E-05**	**5.87492E-05**	**0.010986021**	**0.0110448**	**5.87492E-05**	**0.002668729**	**0.002727478**
TOTAL		***3.4936***	***32.9251***	***34.7710***	***0.0680***	***0.9975***	***0.0110***	***1.0084***	***0.9177***	***0.0027***	***0.9203***

Asphalt Paving

			ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.507708951	4.37376366	5.3116359	0.008574	0.193886485		0.1938865	0.178375566		0.178375566
	Paving		0.006322945									
	Onsite Truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.514031896**	**4.37376366**	**5.3116359**	**0.008574**	**0.193886485**	**0**	**0.1938865**	**0.178375566**	**0**	**0.178375566**
Offsite												
	Worker		0.062115242	0.06076491	0.9795689	0	0	0.22874145	0.2287415	0	0.05361663	0.05361663
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.062115242**	**0.06076491**	**0.9795689**	**0**	**0**	**0.22874145**	**0.2287415**	**0**	**0.05361663**	**0.05361663**
TOTAL			***0.5761***	***4.4345***	***6.2912***	***0.0086***	***0.1939***	***0.2287***	***0.4226***	***0.1784***	***0.0536***	***0.2320***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Paving											
	Onsite Truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.507708951	4.37376366	5.3116359	0.008574	0.193886485	0	0.1938865	0.178375566	0	0.178375566
	Paving		0.006322945	0	0	0	0	0	0	0	0	0
	Onsite Truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.514031896**	**4.37376366**	**5.3116359**	**0.008574**	**0.193886485**	**0**	**0.1938865**	**0.178375566**	**0**	**0.178375566**
Offsite												
	Worker		0.062115242	0.06076491	0.9795689	0	0	0.22874145	0.2287415	0	0.05361663	0.05361663
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.062115242**	**0.06076491**	**0.9795689**	**0**	**0**	**0.22874145**	**0.2287415**	**0**	**0.05361663**	**0.05361663**
TOTAL			***0.5761***	***4.4345***	***6.2912***	***0.0086***	***0.1939***	***0.2287***	***0.4226***	***0.1784***	***0.0536***	***0.2320***

Architectural Coating

		Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.127960056	0.8822797	1.1398431	0.001726	0.027426557		0.0274266	0.025232433		0.025232433
	Architectural Coatings		0.234530223									
	Onsite truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.36249028**	**0.8822797**	**1.1398431**	**0.001726**	**0.027426557**	**0**	**0.0274266**	**0.025232433**	**0**	**0.025232433**
Offsite												
	Worker		0.000950512	0.00092985	0.0149898	0	0	0.003500293	0.0035003	0	0.000820463	0.000820463
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.000950512**	**0.00092985**	**0.0149898**	**0**	**0**	**0.003500293**	**0.0035003**	**0**	**0.000820463**	**0.000820463**
TOTAL			***0.3634***	***0.8832***	***1.1548***	***0.0017***	***0.0274***	***0.0035***	***0.0309***	***0.0252***	***0.0008***	***0.0261***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Architectural Coatings											
	Onsite truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.127960056	0.8822797	1.1398431	0.001726	0.027426557	0	0.0274266	0.025232433	0	0.025232433
	Architectural Coatings		0.234530223	0	0	0	0	0	0	0	0	0
	Onsite truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.36249028**	**0.8822797**	**1.1398431**	**0.001726**	**0.027426557**	**0**	**0.0274266**	**0.025232433**	**0**	**0.025232433**
Offsite												
	Worker		0.000950512	0.00092985	0.0149898	0	0	0.003500293	0.0035003	0	0.000820463	0.000820463
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.000950512**	**0.00092985**	**0.0149898**	**0**	**0**	**0.003500293**	**0.0035003**	**0**	**0.000820463**	**0.000820463**
TOTAL			***0.3634***	***0.8832***	***1.1548***	***0.0017***	***0.0274***	***0.0035***	***0.0309***	***0.0252***	***0.0008***	***0.0261***

Finishing/Landscaping

		Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.185373541	1.83956686	2.949448	0.00409	0.081456139		0.0814561	0.074939647		0.074939647
	Onsite Truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.185373541**	**1.83956686**	**2.949448**	**0.00409**	**0.081456139**	**0**	**0.0814561**	**0.074939647**	**0**	**0.074939647**
Offsite												
	Worker		0.017747212	0.0173614	0.2798768	0	0	0.0653547	0.0653547	0	0.015319037	0.015319037
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.017747212**	**0.0173614**	**0.2798768**	**0**	**0**	**0.0653547**	**0.0653547**	**0**	**0.015319037**	**0.015319037**
TOTAL			***0.2031***	***1.8569***	***3.2293***	***0.0041***	***0.0815***	***0.0654***	***0.1468***	***0.0749***	***0.0153***	***0.0903***

		Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment											
	Onsite Truck											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite												
	Worker											
	Vendor											
	Hauling											
	Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

		Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite		**2025**										
	Off-Road Equipment		0.185373541	1.83956686	2.949448	0.00409	0.081456139	0	0.0814561	0.074939647	0	0.074939647
	Onsite Truck		0	0	0	0	0	0	0	0	0	0
	Total		**0.185373541**	**1.83956686**	**2.949448**	**0.00409**	**0.081456139**	**0**	**0.0814561**	**0.074939647**	**0**	**0.074939647**
Offsite												
	Worker		0.017747212	0.0173614	0.2798768	0	0	0.0653547	0.0653547	0	0.015319037	0.015319037
	Vendor		0	0	0	0	0	0	0	0	0	0
	Hauling		0	0	0	0	0	0	0	0	0	0
	Total		**0.017747212**	**0.0173614**	**0.2798768**	**0**	**0**	**0.0653547**	**0.0653547**	**0**	**0.015319037**	**0.015319037**
TOTAL			***0.2031***	***1.8569***	***3.2293***	***0.0041***	***0.0815***	***0.0654***	***0.1468***	***0.0749***	***0.0153***	***0.0903***

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Site Preparation, Rough Grading, & Fine Grading Overlap	2.8771	24.3642	24.2211	0.0352	1.4269	6.8816	8.3085	1.3131	2.8724	4.1855
Site Preparation	0.9205	7.7105	9.4495	0.0143	0.4397	3.2255	3.6652	0.4046	1.4052	1.8099
Pipeline Trenching	0.4321	3.5189	5.6857	0.0073	0.1421	0.0980	0.2402	0.1308	0.0230	0.1538
Pipeline Installation	0.8155	7.4338	11.2689	0.0174	0.2150	0.0110	0.2260	0.1978	0.0027	0.2005
Pipeline Installation, Building Construction, Paving, Architectural Coating, & Finishing/Landscaping Overlap	5.4518	47.5336	56.7153	0.0998	1.5152	0.3196	1.8348	1.3940	0.0751	1.4691
Building Construction, Paving, Architectural Coating, & Finishing Overlap	4.6363	40.0998	45.4464	0.0824	1.3002	0.3086	1.6088	1.1962	0.0724	1.2686
Finishing/Landscaping	0.2031	1.8569	3.2293	0.0041	0.0815	0.0654	0.1468	0.0749	0.0153	0.0903
Max Daily	5.4518	47.5335818	56.715251	0.099776	1.515246653	6.881620124	8.308531	1.394036319	2.872374623	4.185502352
South Coast AQMD Regional Significance Thresholds	**75**	**100**	**550**	**150**	**n/a**	**n/a**	**150**	**n/a**	**n/a**	**55**

Localized Construction Emissions Worksheet

Maximum Emissions per phase (tons/year)

Site Preparation

	Summer		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Dust From Material Movement					
	Onsite Truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		7.32638793	8.87783868	0.4381452	0.403093546
	Dust From Material Movement				2.7622087	1.33564727
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**7.34372971**	**8.88946718**	**3.5084278**	**1.769568746**
TOTAL			***7.3437***	***8.8895***	***3.5084***	***1.7696***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		7.32638793	8.87783868	0.4381452	0.403093546
	Dust From Material Movement		0	0	2.7622087	1.33564727
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**7.34372971**	**8.88946718**	**3.5084278**	**1.769568746**
TOTAL			***7.3437***	***8.8895***	***3.5084***	***1.7696***

Rough Grading

	Summer		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Dust From Material Movement					
	Onsite truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		7.32638793	8.87783868	0.4381452	0.403093546
	Dust From Material Movement				2.7622087	1.33564727
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**7.34372971**	**8.88946718**	**3.5084278**	**1.769568746**
TOTAL			***7.3437***	***8.8895***	***3.5084***	***1.7696***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		7.32638793	8.87783868	0.4381452	0.403093546
	Dust From Material Movement		0	0	2.7622087	1.33564727
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**7.34372971**	**8.88946718**	**3.5084278**	**1.769568746**
TOTAL			***7.3437***	***8.8895***	***3.5084***	***1.7696***

Fine Grading

	Summer		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Dust From Material Movement					
	Onsite truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		8.56891176	4.87160633	0.5459988	0.502318867
	Dust From Material Movement				0	0
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**8.58625354**	**4.88323484**	**0.8540727**	**0.533146798**
TOTAL			***8.5863***	***4.8832***	***0.8541***	***0.5331***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		8.56891176	4.87160633	0.5459988	0.502318867
	Dust From Material Movement		0	0	0	0
	Onsite Truck		0.01734178	0.0116285	0.308074	0.030827931
	Total		**8.58625354**	**4.88323484**	**0.8540727**	**0.533146798**
TOTAL			***8.5863***	***4.8832***	***0.8541***	***0.5331***

Trenching

			NOx	CO	PM10 Total	PM2.5 Total
	Summer					
Onsite		**2025**				
	Off-Road Equipment		3.489303590	5.265917660	0.142147700	0.130775869
	Onsite truck					
	Total		**3.48930359**	**5.26591766**	**0.1421477**	**0.130775869**
TOTAL			***3.4893***	***5.2659***	***0.1421***	***0.1308***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		3.489303590	5.265917660	0.142147700	0.130775869
	Onsite Truck					
	Total		**3.48930359**	**5.26591766**	**0.1421477**	**0.130775869**
TOTAL			***3.4893***	***5.2659***	***0.1421***	***0.1308***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		3.489303590	5.265917660	0.142147700	0.130775869
	Onsite Truck					
	Total		**3.48930359**	**5.26591766**	**0.1421477**	**0.130775869**
TOTAL			***3.4893***	***5.2659***	***0.1421***	***0.1308***

Pipeline Installation

			NOx	CO	PM10 Total	PM2.5 Total
	Summer					
Onsite		**2025**				
	Off-Road Equipment		7.422812130	11.22707230	0.214961100	0.197764199
	Onsite Truck					
	Total		**7.42281213**	**11.2270723**	**0.2149611**	**0.197764199**
TOTAL			***7.4228***	***11.2271***	***0.2150***	***0.1978***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		1.464225950	2.214655350	0.042403300	0.039011020
	Onsite Truck					
	Total		**1.46422595**	**2.21465535**	**0.0424033**	**0.03901102**
TOTAL			***1.4642***	***2.2147***	***0.0424***	***0.0390***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		7.422812130	11.22707230	0.214961100	0.197764199
	Onsite Truck					
	Total		**7.42281213**	**11.2270723**	**0.2149611**	**0.197764199**
TOTAL			***7.4228***	***11.2271***	***0.2150***	***0.1978***

Building Construction

			NOx	CO	PM10 Total	PM2.5 Total
	Summer					
Onsite		**2025**				
	Off-Road Equipment		32.914135700	34.729257700	0.997398900	0.917606975
	Onsite Truck					
	Total		**32.9141357**	**34.7292577**	**0.9973989**	**0.917606975**
TOTAL			***32.9141***	***34.7293***	***0.9974***	***0.9176***
	Winter		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Onsite Truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
	Max		NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		32.914135700	34.729257700	0.997398900	0.917606975
	Onsite Truck					
	Total		**32.9141357**	**34.7292577**	**0.9973989**	**0.917606975**
TOTAL			***32.9141***	***34.7293***	***0.9974***	***0.9176***

Asphalt Paving

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		4.373763660	5.311635900	0.193886500	0.178375566
	Paving					
	Onsite Truck		0	0	0	0
	Total		**4.37376366**	**5.3116359**	**0.1938865**	**0.178375566**
TOTAL			***4.3738***	***5.3116***	***0.1939***	***0.1784***

		Winter	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Paving					
	Onsite Truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
		Max	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		4.37376366	5.3116359	0.1938865	0.178375566
	Paving		0	0	0	0
	Onsite Truck		0	0	0	0
	Total		**4.37376366**	**5.3116359**	**0.1938865**	**0.178375566**
TOTAL			***4.3738***	***5.3116***	***0.1939***	***0.1784***

Architectural Coating

		Summer	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		0.8822797	1.13984314	0.0274266	0.025232433
	Architectural Coatings					
	Onsite truck		0	0	0	0
	Total		**0.8822797**	**1.13984314**	**0.0274266**	**0.025232433**
TOTAL			***0.8823***	***1.1398***	***0.0274***	***0.0252***
		Winter	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Architectural Coatings					
	Onsite truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
		Max	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		0.8822797	1.13984314	0.0274266	0.025232433
	Architectural Coatings		0	0	0	0
	Onsite truck		0	0	0	0
	Total		**0.8822797**	**1.13984314**	**0.0274266**	**0.025232433**
TOTAL			***0.8823***	***1.1398***	***0.0274***	***0.0252***

Finishing/Landscaping

		Summer	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		1.83956686	2.94944803	0.0814561	0.074939647
	Onsite Truck		0	0	0	0
	Total		**1.83956686**	**2.94944803**	**0.0814561**	**0.074939647**
TOTAL			***1.8396***	***2.9494***	***0.0815***	***0.0749***
		Winter	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment					
	Onsite Truck					
	Total		**0**	**0**	**0**	**0**
TOTAL			***0.0000***	***0.0000***	***0.0000***	***0.0000***
		Max	NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2025**				
	Off-Road Equipment		1.83956686	2.94944803	0.0814561	0.074939647
	Onsite Truck		0	0	0	0
	Total		**1.83956686**	**2.94944803**	**0.0814561**	**0.074939647**
TOTAL			***1.8396***	***2.9494***	***0.0815***	***0.0749***

		NOx	CO	PM10 Total	PM2.5 Total
Site Preparation, Rough Grading, & Fine Grading Overlap		23.2737	22.6622	7.8709	4.0723
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Site Preparation		7.3437	8.8895	3.5084	1.7696
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Pipeline Trenching		3.4893	5.2659	0.1421	0.1308
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No

Pipeline Installation		7.4228	11.2271	0.2150	0.1978
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Pipeline Installation, Building Construction, Paving, Architectural Coating, & Finishing/Landscaping Overlap		47.4326	55.3573	1.5151	1.3939
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Building Construction, Paving, Architectural Coating, & Finishing Overlap		40.0097	44.1302	1.3002	1.1962
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Finishing/Landscaping		1.8396	2.9494	0.0815	0.0749
	<1-Acre Screening-Level LSTs	**188**	**4,959**	**103**	**55**
	Exceeds?	No	No	No	No
Rough Grading (Laydown Parking Area)		7.3437	8.8895	3.5084	1.7696
	<1-Acre Screening-Level LSTs	**194**	**5,320**	**156**	**90**
	Exceeds?	No	No	No	No

Regional Operational Emissions Worksheet: Total Emissions

Max Daily (Pounds Per Day)

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Stationary Equipment[1]	24.53	76.64	210.88	29.23	38.85	38.85
Land Uses	0.07	0.10	0.23	0.00	0.04	0.01
Total	**25**	**77**	**211**	**29**	**39**	**39**
Existing OCWR Flare Emissions	11	88	58	41	24	24
Net Change	**14**	**-12**	**153**	**-12**	**15**	**15**
South Coast AQMD Regional Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

Annual (Tons Per Year)

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Stationary Equipment*	2.35	4.00	12.51	2.35	1.24	1.24
Total	**2**	**4**	**13**	**2**	**1.24**	**1.24**
Rule 1304 Offset Trigger Limits[2]	**4**	**4**	**29**	**4**	**4**	**n/a**
Exceeds Thresholds?	No	No	No	No	No	n/a

[1] *SCS Engineers.*

[2] *South Coast AQMD Rule 1304(d)(2)(B)*

Regional Operational Emissions Worksheet: Non-Permitted Sources

Summer

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile	0.01337282	0.08190146	0.14459799	0.00071	0.000851626	0.041019073	0.0418707	0.000809359	0.010573165	0.011382524
Area	0.0507073	0.00058377	0.06931633	4.14E-06	0.000123204		0.0001232	9.3087E-05		9.3087E-05
Energy	0.00100791	0.01832562	0.01539352	0.00011	0.001392747		0.00139275	0.001392747		0.001392747
Total	**0.065**	**0.101**	**0.229**	**0.001**	**0.002**	**0.041**	**0.043**	**0.002**	**0.011**	**0.013**

Winter

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile	0.01314835	0.08560517	0.13747401	0.000698	0.000856038	0.041019073	0.04187511	0.00081358	0.010573165	0.011386745
Area	0.03933324									
Energy	0.00100791	0.01832562	0.01539352	0.00011	0.001392747		0.00139275	0.001392747		0.001392747
Total	**0.053**	**0.104**	**0.153**	**0.001**	**0.002**	**0.041**	**0.043**	**0.002**	**0.011**	**0.013**

Max Daily

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile	0.013	0.086	0.145	0.001	0.001	0.041	0.042	0.001	0.011	0.011
Area	0.051	0.001	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Energy	0.001	0.018	0.015	0.000	0.001	0.000	0.001	0.001	0.000	0.001
Total	**0.065**	**0.105**	**0.229**	**0.001**	**0.002**	**0.041**	**0.043**	**0.002**	**0.011**	**0.013**
Regional Thresholds	**55**	**55**	**550**	**150**			**150**			**55**
Exceeds Thresholds?	**No**	**No**	**No**	**No**			No			No

Regional Operational Emissions Worksheet: South Coast AQMD Permitted Sources

Equipment		Criteria Pollutant Emissions																	
		NOx			CO			PM-10/PM-2.5			SOx			VOCs			HAPs		
		lb/hr	lbs/day	tons/yr	lb/hr	lbs/day	tons/yr	lb/hr	lbs/day	tons/yr	lb/hr	lbs/day	tons/yr	lb/hr	lbs/day	tons/yr	lb/hr	lbs/day	tons/yr
Thermal Oxidizer	Main Fuel	0.73	17.44	2.60	2.42	58.14	8.65	0.229	5.49	0.92	0.459	11.01	2.01	0.484	11.62	2.12	0.56	13.43	2.45
	Supplemental Fuel	0.50	11.88	0.54	1.65	39.61	1.81	0.01	0.34	0.06	0.010	0.24	0.01	0.00	0.02	0.004	0.004	31.00	0.02
RNG Flare		1.94	46.67	0.85	4.67	112.01	2.04	1.368	32.83	0.25	0.749	17.97	0.33	0.48	11.60	0.21	2.73	20.50	3.74
Emergency Generator		0.08	0.64	0.01	0.14	1.13	0.01	0.023	0.18	0.00	0.001	0.01	0.00	0.16	1.29	0.02			
TOTAL EMISSIONS		**3.25**	**76.64**	**3.996**	**8.88**	**210.88**	**12.515**	**1.63**	**38.85**	**1.236**	**1.22**	**29.23**	**2.347**	**1.13**	**24.53**	**2.352**	**3.29**	**64.94**	**6.21**

Note: Pounds per day are based on 24 hours of operation a day.

Source: SCS Engineers

Existing Emissions: OCWR Landfill Gas Flares[1]

Tons Per Year

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
2021	2.16	17.40	11.39	8.09	4.87	4.87
2022	1.83	14.83	9.75	6.83	4.02	4.02
2-Year Average	**2.00**	**16.12**	**10.57**	**7.46**	**4.44**	**4.44**

Pounds Per Year

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
2021	4,320.63	34,809.90	22,773.79	16,184.16	9,739.11	9,739.11
2022	3,659.87	29,656.72	19,507.43	13,667.87	8,031.43	8,031.43
2-Year Average	**3,990**	**32,233**	**21,141**	**14,926**	**8,885**	**8,885**

Pounds Per Day[2]

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
2-Year Average	**10.93**	**88.31**	**57.92**	**40.89**	**24.34**	**24.34**

[1] *Based on emissions data for the four flares reported in the Annual Emission Report for the OC Waste & Recycling, Coyote, Facility ID 181426.*

[2] *Assumes 365 days per year.*

Localized Significance Thresholds[1]

[1] *Based on information provided by SCS Engineers.*

Criteria Air Pollutant	Pollutant Concentration for Maximum Flare and TOX Emissions	Unit of Measurement	Background Concentration	Unit of Measurement	Total Concentration	Unit of Measurement
Nitrogen Oxides (NO_X) - 1hr	0.0532	ppm	0.0532	ppm	0.1064	ppm
Nitrogen Oxides (NO_X) - Annual	0.0124	ppm	0.0124	ppm	0.0248	ppm
Carbon Monoxide (CO) - 1hr	2.1	ppm	2.1	ppm	4.2	ppm
Carbon Monoxide (CO) - 8hr	1.5	ppm	1.5	ppm	3	ppm
Particulate Matter (PM_{10}) - 24 hr	1.77	ug/m3	n/a		1.77	ug/m3
Particulate Matter (PM_{10}) - Annual	0.13	ug/m3	n/a		0.13	ug/m3
Particulate Matter ($PM_{2.5}$) - 24 hr	0.56	ug/m3	n/a		0.56	ug/m3

	Carbon Monoxide (CO) - 1hr	**Carbon Monoxide (CO) - 8hr**	**Nitrogen Oxides (NO_X) - 1hr**	**Nitrogen Oxides (NO_X) - Annual**
Pollutant Concentration for Maximum Flare and TOX Emissions	2.10	1.50	0.05	0.01
Background Concentration	2.10	1.50	0.05	0.01
Total Concentration	4.20	3.00	0.11	0.02
South Coast AQMD Threshold (State)	20	9	0.18	0.03
Exceeds?	No	No	No	No
South Coast AQMD Threshold (Federal)	35	9	n/a	0.0534
Exceeds?	No	No	n/a	No

	Particulate Matter (PM_{10}) - 24 hr	**Particulate Matter (PM_{10}) - Annual**	**Particulate Matter ($PM_{2.5}$) - 24 hr**
Pollutant Concentration for Maximum Flare and TOX Emissions	1.77	0.13	0.56
South Coast AQMD Threshold	2.50	1.00	2.50
Exceeds?	No	No	No

Pollutant Concentrations[1]

[1] *Provided by SCS Engineers*

Criteria Air Pollutants	SC	SIL	Maximum Emission from Flare (lbs/hr)	Flare Modelled Emission Rate (ug/m3 per lb/hr)	Maximum Emission from TOX Main (lbs/hr)	Maximum Emission from TOX Supplemental (lbs/hr)	Total Maximum Emission from TOX (lbs/hr)	TOX Modelled Emission Rate (ug/m3 per lb/hr)	Pollutant Concentration for Maximum Flare and TOX Emissions (ug/m3)	Pollutant Concentration for Maximum Flare and TOX Emissions (ppm)	SIL	SC	Below SIL and SC?	Background Concentration	Unit	Background Concentration (ug/m3)	Total Concentration (ug/m3)	Below Threshhold
Nitrogen Oxides (NO_x) - 1hr	470	7.5	1.94	4.33	0.73	0.5	1.23	17.11	29.45	0.053	7.5	20	No	53.2	ppb	100.0490597	129.4945597	Y
Nitrogen Oxides (NO_x) - Annual	100	1	1.94	5.02E-02	0.73	0.5	1.23	0.256	0.41	0.012	1.00	1.00	Yes	12.4	ppb	23.31970564	23.73197364	Y
Carbon Monoxide (CO) - 1hr	1100	2000	4.67	4.33	2.42	1.65	4.07	17.11	89.86	2.100	2000.00	1100.00	Yes	2.1	ppm	2404.78332	2494.64212	Y
Carbon Monoxide (CO) - 8hr	500	500	4.67	1.63	2.42	1.65	4.07	4.53	26.05	1.500	500.00	500.00	Yes	1.5	ppm	1717.702371	1743.751571	Y
Sulfur Dioxide (SO_2) - 1hr	650	7.8	0.75	4.33	0.46	0.01	0.47	17.11	11.29	0.002	7.80		No	2.2	ppb	5.762273099	17.0514731	Y
Sulfur Dioxide (SO_2) - 3hr	1300	25	0.75	2.44	0.46	0.01	0.47	9.54	6.31	0.002	25.00		Yes	2.2		5.762273099		
Sulfur Dioxide (SO_2) - 24 hr	109	5	0.75	0.98	0.46	0.01	0.47	1.79	1.58	0.002	5.00		Yes	2.2	ppb	5.762273099	7.338573099	Y
Sulfur Dioxide (SO_2) - Annual	80	1	0.75	5.02E-02	0.46	0.01	0.47	0.256	0.16	0.002	1.00		Yes	2.2	ppb	5.762273099	5.920243099	Y
Particulate Matter (PM_{10}) - 24 hr	2.50	2.50	1.37	0.98	0.23	0.01	0.24	1.79	1.77		2.50	1.00	No	115	ug/m3	115	116.7722	Y
Particulate Matter (PM_{10}) - Annual	1.00	5.00	1.37	5.02E-02	0.23	0.01	0.24	0.256	0.13		5.00	2.50	Yes	22.9	ug/m3	22.9	23.030214	Y
Particulate Matter ($PM_{2.5}$) - 24 hr		2.50	1.37	0.22	0.23	0.01	0.24	1.06	0.56		2.50	1.00	Yes	36.7	ug/m3	36.7	37.2558	N
Particulate Matter ($PM_{2.5}$) - Annual		0.20	1.37	5.02E-02	0.23	0.01	0.24	0.256	0.13		0.20	2.50	Yes	11.44	ug/m3	11.44	11.570214	Y

Criteria Pollutant	Threshold Value	Unit	Threshold Value (ug/m3)
Nitrogen Oxides (NO2) - 1hr	0.1	ppm	188
Nitrogen Oxides (NO_2) - Annual	0.053	ppm	100
Carbon Monoxide (CO) - 1hr	35	ppm	43200
Carbon Monoxide (CO) - 8hr	9	ppm	11100
Sulfur Dioxide (SO_2) - 1hr	75	ppb	196.5
Sulfur Dioxide (SO_2) - 24 hr	0.14	ppm	395
Sulfur Dioxide (SO_2) - Annual	0.03	ppm	84.6
Particulate Matter (PM_{10}) - 24 hr	150	ug/m3	150
Particulate Matter ($PM_{2.5}$) - 24 hr	35	ug/m3	35
Particulate Matter ($PM_{2.5}$) - Annual	15	ug/m3	15

https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf

SIL represents PSD Class 2 Significant Impact Level. SC represents "Significant Change in Air Quality" under the California Environmental Quality Act (CEQA).

Values from Central Orange County which is the closest to the landfill

Values from Central LA as other close areas didn't have a value

ag_card_2021_final.pdf (aqmd.gov)

GHG Emissions Worksheet

Construction Total

Year	Annual $MTCO_2e$
2025	346.2394543

Land Use Emissions

Quantification Methodology	Source	Emissions (Mtons/Yr) Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O	R	CO_2e	Total CO_2e $MTCO_2e/yr$	Percent of Project Total
CalEEMod	Mobile	0	12.54065724	0.000969768	0.001450164	0.014435765	13.01	13.01	<1%
CalEEMod	Area	0	0.032327744	1.3562E-06	2.77E-07		0.03	0.03	0.00%
CalEEMod	Energy- Electricity	0	7725.407511	0.4793	0.0581		7754.69	7754.69	99.61%
CalEEMod	Energy - Natural Gas	0	3.620087128	3.620087128	0.000320376		3.63	3.63	0.05%
CalEEMod	Water	0	0.722439085	0.012028832	0.000289462		1.11	1.11	0.01%
CalEEMod	Waste	0	0.176363446	0.017626893	0		0.62	0.62	0.01%
CalEEMod	Refrig.	0				0.068695616	0.07	0.07	0.00%
CalEEMod	Amortized Construction Emissions[1]						11.54	12	0.15%
	Total	***0***	***7,742***	***4***	***0***	***0***	***7,785***	***7,785***	100%

Permitted Equipment Emissions[2]

Quantification Methodology	Source	Emissions (Mtons/Yr) Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O	R	CO_2e	Total CO_2e $MTCO_2e/yr$	Percent of Project Total
SCS Engineers	Thermal Oxidizer - Main	6089		0.3742	0.0737	NA	6089.00	6089.00	12%
SCS Engineers	Thermal Oxidizer - Supplemental	4227		0.0797	0.0080	NA	4227.00	4227.00	8%
SCS Engineers	Enclosed RNG Flare	39861		0.7512	0.0751	NA	39861.00	39861.00	79%
SCS Engineers	Emergency Generator	27		0.0005	0.0001	NA	27.00	27.00	0%
	Total	***50,204***	***0***	***1***	***0***	***NA***	***50,204***	***50,204***	100%

Permitted Equipment Emissions - Regulated[2,3]

Quantification Methodology	Source	Emissions (Mtons/Yr) Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O	R	CO_2e	Total CO_2e $MTCO_2e/yr$	Percent of Project Total
SCS Engineers	Thermal Oxidizer - Main			0.3742	0.0737	NA	31.31	31.31	52%
SCS Engineers	Thermal Oxidizer - Supplemental			0.0797	0.0080	NA	4.37	4.37	7%
SCS Engineers	Enclosed RNG Flare			0.0750	0.0751	NA	24.26	24.26	40%
SCS Engineers	Emergency Generator			0.0005	0.0001	NA	0.03	0.03	0%
	Total	***0***	***0***	***1***	***0***		***60***	***60***	100%

Total GHG Emissions - Land Use & Permitted Equipment	**57,989**	**MTCO2e per year**
Total GHG Emissions - Land Use & Regulated Permitted Equipment[4]	**7,845**	**MTCO2e per year**
South Coast AQMD Threshold	**10,000**	**MTCO2e per year**
Exceeds Threshold?	**No**	

Notes:

[1] *Total construction emissions are amortized over 30 years per South Coast AQMD methodology; SCAQMD. 2010, September 28. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 15. http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html.*

[2] *Based on emissions data provided by SCS Engineers.*

[3] *Emissions of CO_2 generated from combustion of natural gas are considered biogenic and do not contribute to a net increase in atmospheric CO_2*

[4] *Only the regulated GHG emissions from the proposed permitted stationary sources are evaluated to the 10,000 $MTCO_2e/yr$ threshold.*

	Global Warming Potentials (GWP)
CO_2	1
CH_4	25
N_2O	298

Source: Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf.

Assumptions Worksheet

CalEEMod Inputs- Coyote Canyon Landfill Gas Recovery Facility Project, Construction

Name:	Coyote Canyon Landfill Gas Recovery Facility Project
Project Number:	CNB-25
Project Location:	20662 Newport Coast Dr, Newport Beach, CA 92657
County/Air Basin:	Orange County - (South Coast)
Climate Zone:	Urban
Operational Year:	N/A
Utility Company:	SCE
Air Basin:	South Coast Air Basin
Air District:	South Coast Air Quality Management District
SRA:	20 - Central Orange County Coastal

Project Site Acreage	0.88	**acre**
Offsite Construction Laydown Area (24,132SF) Acreage:	0.55	**acre**
Disturbed Site Acreage	1.44	**acres**

Project Components[1]	SQFT[1]	Building Footprint	Acres
New Construction			
Building Area			
Building 1	520	520	0.01
Building 2 (E-House BOP)	584	584	0.01
Building 3 (E-House Process)	490	490	0.01
TOTAL	**1,594**	**1,594**	**0.04**

Surface Work	Stalls[1]	SQFT[1]	Acres
Parking Lot[1]	2	324	0.01
Other Asphalt Surfaces		7,245	0.17

Notes

[1] Provided by project applicant.

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet	Landscaping Square Feet
Industrial	Light Industrial	1.594	1000 sqft	0.70987	1,594	0
Parking	Parking Lot	0.324	1000 sqft	0.00744	324	0
Parking	Other Asphalt Surfaces	7.245	1000 sqft	0.16632	7,245	0
				0.88		

Architectural Coating

	Percent Painted		
	Building 1	**Building 2**	**Building 3**
Interior Painted:	100%	100%	100%
Exterior Painted:	100%	100%	100%

	Building 1	**Building 2**	**Building 3**
Interior Paint VOC content (gram/liter):	100	100	100
Exterior Paing VOC content (gram/liter):	100	100	100

Structures	**Land Use Square Feet**	**CalEEMod Factor[2]**	**Total Paintable Surface Area**	**Paintable Interior Area[1]**	**Paintable Exterior Area[1]**
Non-Residential Structures					
Building 1	520	2.0	1,040	780	260
Building 2	584	2.0	1,168	876	292
Building 3	490	2.0	980	735	245
			3,188	**2,391**	**797**
Parking					
Parking Lot	324	6%	19	-	19
Asphalt Surfaces	7,245	6%	435	-	435
			454		454

Notes

[1] CalEEMod defaults and methodology

Construction Mitigation

South Coast AQMD Rule 403

Water Exposed Area	Frequency:	2	per day
	PM10:	61	% Reduction
	PM25:	61	% Reduction
Water Demolished Area	Frequency:	2	per day
	PM10:	36	% Reduction
	PM25:	36	% Reduction
Water Unpaved Roads	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	25	mph

South Coast AQMD Rule 1186

	Clean Paved Road	9	% PM Reduction

Construction Activities and Schedule Assumptions[1]

Construction Activity	Start Date	End Date	Workdays
Site Preparation	1/6/2025	2/12/2025	28
Site Preparation Soil Haul (if applicable)	1/6/2025	2/12/2025	28
Rough Grading	1/6/2025	1/6/2025	1
Rough Grading Soil Haul (if applicable)	1/6/2025	1/6/2025	1
Fine Grading	1/6/2025	1/6/2025	1
Fine Grading Soil Haul (if applicable)	1/6/2025	1/6/2025	1
Pipeline Trenching	2/18/2025	4/14/2025	40
Pipeline Installation	4/15/2025	7/23/2025	72
Building/Facility Construction	5/13/2025	8/20/2025	72
Paving	5/13/2025	8/20/2025	72
Architectural Coating	5/13/2025	8/20/2025	72
Finishing/Landscaping	5/13/2025	9/18/2025	93

[1] *Based on information provided by the project applicant.*

CalEEMod Construction Off-Road Equipment Inputs

Construction Equipment Details						
Equipment[1]		**# of Equipment**[1]	**Hrs/Day**	**Horsepower Rating**[1]	**Load Factor**[2]	**Total 1-Way Trips Per Day**
Site Preparation						
Bulldozer	Rubber Tired Dozer	1	8	130	0.4	
Grader	Grader	1	8	100	0.41	
Front End Loader	Tractor/Loader/Backhoe	1	8	150	0.37	
Worker Trips[2]						8
Vendor Trips						18
Worker Shuttles [1]						*4*
Equipment Deliveries [1]						*8*
Water Trucks [3]			Acres Disturbed:	1.00		*6*
			Onsite Travel (mi/day)[4]	0.83		
Rough Grading						
Bulldozer	Rubber Tired Dozer	1	8	130		
Grader	Grader	1	8	100		
Front End Loader	Tractor/Loader/Backhoe	1	8	150		
Worker Trips						8
Vendor Trips						18
Worker Shuttles [1]						*4*
Equipment Deliveries [1]						*8*
Water Trucks [3]			Acres Disturbed:	1		*6*
			Onsite Travel (mi/day)[4]	0.83		
Fine Grading						
Bobcat	Skid Steer Loader	1	8	80	0.37	
Backhoe	Tractor/Loader/Backhoe	1	8	80	0.37	
Worker Trips[2]						5
Vendor Trips						18
Worker Shuttles [1]						4
Equipment Deliveries [1]						8
Water Trucks [3]			Acres Disturbed:	1		6
			Onsite Travel (mi/day)[4]	0.83		
Pipeline Trenching						
Backhoe	Tractor/Loader/Backhoe	2	8	84	0.37	
Ditching Machine	Trencher	1	8	40	0.5	
Worker Trips[2]						8
Vendor Trips						14
Worker Shuttles [1]						4
Vacuum Truck [5]		1				2
Equipment Deliveries [1]						8
Pipeline Installation						
Side Boom Tractor	Tractor/Loader/Backhoe	1	8	84	0.37	
Coating Rig	Welder	1	8	46	0.45	
Forklift telescoping – all terrain	Rough Terrain Forklift	2	8	96	0.4	
Welding Trucks (weld pipe)	Welder	2	8	46	0.45	
Worker Trips[2]						
Vendor Trips						18
Worker Shuttles [1]						4
Pipe Truck [5]		3				6
Welding Trucks (weld pipe)		2				4
Equipment Deliveries [1]						8
Facility Construction						
Crane	Crane	1	8	270	0.29	
Backhoe	Tractor/Loader/Backhoe	1	8	80	0.37	
Welder	Welder	1	8	20	0.45	
Concrete pump	Pump	1	8	350	0.74	
Forklift	Forklift	1	8	80	0.2	
Jackhammer	Concrete/Industrial Saw	1	8	20	0.73	
Scissor Lift	Aerial Lift	4	8	46	0.31	
Forklift telescoping – all terrain	Rough Terrain Forklift	2	8	96	0.4	
Cement Trucks	Cement and Mortar Mixer	10	8	10	0.56	
Worker Trips[2]						
Vendor Trips						52
Worker Shuttles [1]						*4*
Cement Trucks [5]						*20*
Utility Tool Truck [5]						*12*
Material Delivery [1]						*8*
Equipment Deliveries [1]						*8*
Hauling Trips						0

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance[1]	18.5	8	18.5
Worker Shuttle: [2]	0.59	4	n/a
Equipment Delivery: [2]	0.59	8	n/a
Water Truck:	10.20	6	n/a
Vendor Trip		18	3.79

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance[1]	18.5	8	18.5
Worker Shuttle: [2]	0.59	4	n/a
Equipment Delivery: [2]	0.59	8	n/a
Water Truck: [1]	10.20	6	n/a
Vendor Trip		18	3.79

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance[1]	**18.5**	**5**	**18.5**
Worker Shuttle: [2]	*0.59*	*4*	*n/a*
Equipment Delivery: [2]	*0.59*	*8*	*n/a*
Water Truck: [1]	*10.20*	*6*	*n/a*
Vendor Trip		**18**	**3.79**

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance[1]	**18.5**	**8**	**18.5**
Worker Shuttle: [2]	*0.59*	*4*	*n/a*
Equipment Delivery: [2]	*0.59*	*8*	*n/a*
Vacuum Truck [1]	*10.20*	*2*	*n/a*
Vendor Trip		**14**	**1.96**

<--For Materials loading and unloading at offsite and onsite areas

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance	**18.5**	**0**	**18.5**
Worker Shuttle: [2]	0.59	4	n/a
Pipe Truck [2]	0.59	6	n/a
Welding Trucks (weld pipe) [2]	0.59	4	n/a
Equipment Delivery [2]	0.59	8	
Vendor Trip		**22**	**0.59**

<--For Materials loading and unloading at offsite and onsite areas

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance	**18.5**	**0**	**18.5**
Worker Shuttle: [2]	0.59	4	n/a
Cement Trucks [1]	10.20	20	n/a
Utility Tool Truck [2]	0.59	12	n/a
Material Delivery [1]	10.20	8	
Equipment Delivery [2]	0.59	8	
Vendor Trip		**52**	**5.76**

Paving						
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	1	7	84	0.37	
Cement and Mortar Mixers	Cement and Mortar Mixers	4	6	10	0.56	
Pavers	Pavers	1	7	81	0.42	
Rollers	Rollers	1	7	36	0.38	
Rough Terrain Forklift		2	8			
Worker Trips[2]						18
Vendor Trips						12
Worker Shuttles [1]						*4*
Equipment Deliveries [1]						*8*
Architectural Coating						
Air Compressors	Air Compressors	1	6	37	0.45	
Worker Trips[2]						2
Vendor Trips						4
Worker Shuttles [1]						*4*
Hauling Trips						0
Finishing/Landscaping						
Forklift	Forklift	1	8	82	0.2	
Tractor/Loader/Backhoe	Tractor/Loader/Backhoe	1	8	84	0.37	
Worker Trips[2]						5
Vendor Trips						12
Worker Shuttles [1]						*4*
Equipment Deliveries [1]						*8*

<--For Materials loading and un

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance	**18.5**	**18**	**18.5**
Worker Shuttle: [2]	0.59	4	n/a
Equipment Delivery [2]	0.59	8	n/a
Vendor Trip		**12**	**0.59**

Trip Type	Trip Distance (mile)	Number of Trips	Average Trip Distance
Worker Trip Distance	**18.5**	**5**	**18.5**
Worker Shuttle: [2]	0.59	4	n/a
Equipment Delivery [2]	0.59	8	n/a
Vendor Trip		**12**	**0.59**

Water Truck Vendor Trip Calculation

Amount of Water (gal/acre/day)[3]	Water Truck Capacity (gallons)[3]
10,000	4,000

Notes:

[1] Based on data provided by the project applicant.

[2] CalEEMod defaults.

[3] Maricopa County Air Quality Department. 2005, June. Guidance for Application of Dust Control Permit. https://www.epa.gov/sites/default/files/2019-04/documents/mr_guidanceforapplicationfordustcontrolpermit.pdf

[4] Based on 0.4125 mile per acre disturbed per watering and two times watering per day.

[5] SCS Engineers. 2023, October 10. Project Description for Renewable Natural Gas Plant for Biofuels Coyote Canyon Biogas, LLC, Newport Beach, California.

Notes

[1] Based on CalEEMod default trip distance.

[2] Based on measured distance of 3,113 feet between the project site and the off-site laydown area.

Construction Equipment Assumptions Worksheet

Table 2

Equipment	Approximate Number	Use	Activity
Backhoe	2	Excavation and backfilling	Trenching
Boom truck	1	Deliver and load/unload materials and equipment	All
Boom Man Lift – all terrain 60’	1	Access to elevated work areas	Building Construction
Bulldozer	1	Strip topsoil and move spoils and other materials	Site Preparation, Grading
Cement Trucks	10	Pouring foundations	Building Construction
Coating Rig	1	Apply coating to pipe welds	Building Construction
Ditching Machine	1	Dig trench	Trenching
Dump Truck	1	Haul spoils and import backfill	
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials	All
Forklift telescoping – all terrain	2	Load and unload and move materials	Building Construction, Pipeline
Mobile Crane 120 ton	1	Hoist plant equipment and structures	Building Construction, Pipeline
Motor Grader	1	Remove topsoil and grade	Site Preparation, Grading
Pickup Truck	3	Transport project personnel and light materials	All
Pipe Truck	1	Transport pipe sections	Pipeline
Radiograph truck	1	X-ray welds	Building Construction
Scissor Lift – all terrain 26’	4	Access to elevated work areas	Building Construction
Side Boom Tractor	1	Lower pipe into open trenches	Pipeline
Tractor Trailer	8	Haul materials and equipment	All
Utility Tool Truck	6	Store tools	All
Vacuum Truck	1	Remove water, mud, and other materials from excavations	Trenching
Water Truck	1	Control dust	All
Welding Trucks	2	Weld pipe	Pipeline

Source: SCS Engineers. 2023, October 10. Project Description for Renewable Natural Gas Plant for Biofuels Coyote Canyon Biogas, LLC, Newport Beach, California

Equipment	Approximate Number	Use
Site Preparation		
Bulldozer	1	Strip topsoil and move spoils and other materials
Motor Grader	1	Remove topsoil and grade
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials
Pickup Truck	3	Transport project personnel and light materials
Tractor Trailer	8	Haul materials and equipment
Utility Tool Truck	6	Store tools
Water Truck	1	Control dust
Grading		
Bulldozer	1	Strip topsoil and move spoils and other materials
Motor Grader	1	Remove topsoil and grade
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials
Pickup Truck	3	Transport project personnel and light materials
Tractor Trailer	8	Haul materials and equipment
Utility Tool Truck	6	Store tools
Water Truck	1	Control dust
Trenching		
Backhoe	2	Excavation and backfilling
Ditching Machine	1	Dig trench
Vacuum Truck	1	Remove water, mud, and other materials from excavations
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials
Pickup Truck	3	Transport project personnel and light materials
Tractor Trailer	8	Haul materials and equipment
Utility Tool Truck	6	Store tools
Water Truck	1	Control dust

Building Construction		
Boom Man Lift – all terrain 60’	1	Access to elevated work areas
Cement Trucks	10	Pouring foundations
Coating Rig	1	Apply coating to pipe welds
Forklift telescoping – all terrain	2	Load and unload and move materials
Mobile Crane 120 ton	1	Hoist plant equipment and structures
Radiograph truck	1	X-ray welds
Scissor Lift – all terrain 26’	4	Access to elevated work areas
Boom truck	1	Deliver and load/unload materials and equipment
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials
Pickup Truck	3	Transport project personnel and light materials
Tractor Trailer	8	Haul materials and equipment
Utility Tool Truck	6	Store tools
Water Truck	1	Control dust
Pipeline		
Mobile Crane 120 ton	1	Hoist plant equipment and structures
Motor Grader	1	Remove topsoil and grade
Pipe Truck	1	Transport pipe sections
Side Boom Tractor	1	Lower pipe into open trenches
Welding Trucks	2	Weld pipe
Boom truck	1	Deliver and load/unload materials and equipment
Flatbed trucks, 1.5 ton	2	Haul construction equipment and materials
Pickup Truck	3	Transport project personnel and light materials
Tractor Trailer	8	Haul materials and equipment
Utility Tool Truck	6	Store tools
Water Truck	1	Control dust

CalEEMod Inputs- Coyote Canyon Landfill Gas Recovery Facility Project, Operation

Name: Coyote Canyon Landfill Gas Recovery Facility Project
Project Number: CNB-25
Project Location: 20662 Newport Coast Dr, Newport Beach, CA 92657
County/Air Basin: Orange County - (South Coast)
Climate Zone: Urban
Operational Year: 2025
Utility Company: Souther California Gas Company; Southern California Edison
Air Basin: South Coast Air Basin
Air District: South Coast Air Quality Management District
SRA: 20 - Central Coastal Orange County

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Industrial	Light Industrial	1.594	1000 sqft	0.71	1,594
Parking	Parking Lot	0.324	1000 sqft	0.01	324
Parking	Other Asphalt Surfaces	7.245	1000 sqft	0.17	7,245
				0.88	

Vehicle Trips

Number of Employees:	3	employees
Number of Daily Employee Roundtrips:	3	roundtrips
Number of Daily Employee Trip Ends:	6	trip ends
Number of Daily Truck Roundtrips:	1	roundtrips
Number of Daily Truck Trip Ends:	2	trip ends

Trip Type	Daily Trip Ends	Percent Proportion
Daily Passenger Vehicle Trip Ends:	6	75%
Daily Truck Trip Ends:	2	25%
Total Daily Trip Ends:	8	100%

Land Use Type	Average Daily Trips	CalEEMod Trip Rate	Saturday Trips	CalEEMod Trip Rate	Sunday Trips	CalEEMod Trip Rate
General Light Industrial	8	**5.02**	8	**5.02**	8	**5.02**

Water Use (CalEEMod Default)

	Indoor (gpy)	Outdoor (gpy)	Total
General Light Industrial	368,613.00	0.00	368,613.00
		Total Water Use	**368,613**

Solid Waste (CalEEMod Defaults)

Land Use	Annual Solid Waste Amount (ton)
General Light Industrial	1.98

Electricity (Buildings)

Land Use Subtype	Total Annual Electricity Consumption (kWh/size/year)	Total Annual Natural Gas Consumption (kBTU/size/year)	Title-24 Electricity Energy Intensity (kWhr/size/year)	Title-24 Natural Gas Energy Intensity (KBTU/size/year)	Nontitle-24 Electricity Energy Intensity (kWhr/size/year)	Nontitle-24 Natural Gas Energy Intensity (KBTU/size/year)
General Light Industrial	15,290.82	68,226.29	13,043.57	25,685.01	2,247.25	42,541.28
Default Energy Use Percent Proportion	100%	100%	85%	38%	15%	62%

Adjusted Energy Inputs

Land Use Subtype	Total Annual Electricity Consumption (kWh/year)	Total Annual Natural Gas Consumption (kBTU/year)	Title-24 Electricity Electricity (kWhr/year)	Title-24 Natural Gas (KBTU/year)*	Nontitle-24 Electricity (kWhr/year)	Nontitle-24 Natural Gas (KBTU/year)
Adjusted Energy Use - General Light Industrial[1]	32,000,000	68,226.29	27,297,044	25,685.01	4,702,951.88	42,541.28
Parking Lot (CalEEMod defaults)	283.82	0	283.82	0	0	0

Notes

[1] Electricity amounts adjusted to the anticipated electricity demand of 32,000,000 kWh/yr per the project applicant.

Architectural Coating

	Percent Painted		
	Building 1	**Building 2**	**Building 3**
Interior Painted:	100%	100%	100%
Exterior Painted:	100%	100%	100%

	Building 1	**Building 2**	**Building 3**
Interior Paint VOC content (gram/liter):	100	100	100
Exterior Paing VOC content (gram/liter):	100	100	100

Structures	**Land Use Square Feet**	**CalEEMod Factor[2]**	**Total Paintable Surface Area**	**Paintable Interior Area[1]**	**Paintable Exterior Area[1]**
Non-Residential Structures					
Building 1	520	2.0	1,040	780	260
Building 2	584	2.0	1,168	876	292
Building 3	490	2.0	980	735	245
			3,188	**2,391**	**797**
Parking					
Parking Lot	324	6%	19	-	19
Asphalt Surfaces	7,245	6%	435	-	435
			454		454

Notes

[1] CalEEMod defaults and methodology

Changes to the CalEEMod Defaults - Fleet Mix 2025

									Total ADTs:	8					
Default	HHD	LDA	LDT1	LDT2	LHD1	LHD2	MCY	MDV	MH	MHD	OBUS	SBUS	UBUS	
FleetMix (Model Default)	0.551821	49.969435	4.144941	23.152655	2.737984	0.701154	2.182420	14.457737	0.377404	1.531488	0.060485	0.096622	0.035856	100
FleetMix (Model Default)	0.005518	0.499694	0.041449	0.231527	0.027380	0.007012	0.021824	0.144577	0.003774	0.015315	0.000605	0.000966	0.000359	100%
Trips	0	4	0	2	0	0	0	1	0	0	0	0	0	8
Percent	1%	97%							2%					100%
Proportion	1.000000	0.513316	0.042579	0.237838	0.028126	0.007203	0.022419	0.148519	0.179558	0.728637	0.028777	0.045970	0.017059	
Assumed Mix	25.00%	75.00%							0.00%					100.00%
adjusted with Assumed	0.250000	0.384987	0.031934	0.178378	0.021095	0.005402	0.016814	0.111389	0.000000	0.000000	0.000000	0.000000	0.000000	100%
Trips	2	3	0	1	0	0	0	1	0	0	0	0	0	8
	25%	38%	3%	18%	2%	1%	2%	11%	0%	0%	0%	0%	0%	100%
Modified	0.250000	0.384987	0.031934	0.178378	0.021095	0.005402	0.016814	0.111389	0.000000	0.000000	0.000000	0.000000	0.000000	100.0%
Trips Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assumed MDV/HDT Mix	25.00%	75%							0.00%					
MDT truck adjustment (no buses or MH)		0.384987	0.031934	0.178378	0	0	0	0	0	0.000000	0	0	0	60%
Adjusted MHD Fleet Mix		0.646711	0.053644	0.299645	0	0	0	0	0	0.000000	0	0	0	0%
Assumed Truck Mix	**0.250000**	0.485033	0.040233	0.224734	0	0	0	0	**0**	**0**	**0**	**0**	**0**	100%
Trips - Final Check	2	4	0	2	0	0	0	0	0	0	0	0	0	8
Adjusted CalEEMod Inputs	25.0000000000000000	48.5033212092259000	4.0233271147635000	22.4733516760106000	0	0	0	0	0	0	0	0	0	

CalEEMod Construction Model Output

CNB-25 Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CNB-25 Construction
Construction Start Date	1/6/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	17.2
Location	33.613231898777684, -117.82214696277009
County	Orange
City	Newport Beach
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5901
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

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
General Light Industry	1.59	1000sqft	0.71	1,594	0.00	—	—	—

B1-70

Parking Lot	0.32	1000sqft	0.01	0.00	0.00	—	—	—
Other Asphalt Surfaces	7.25	1000sqft	0.17	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.27	5.45	47.5	56.7	0.10	1.52	0.32	1.83	1.39	0.08	1.47	—	9,229	9,229	0.37	0.09	1.26	9,265
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.46	2.88	24.4	24.2	0.04	1.43	6.88	8.31	1.31	2.87	4.19	—	4,259	4,259	0.19	0.13	0.07	4,303
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.40	1.21	10.5	12.7	0.02	0.36	0.33	0.69	0.33	0.13	0.46	—	2,082	2,082	0.08	0.02	0.17	2,091
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.22	1.92	2.32	< 0.005	0.06	0.06	0.13	0.06	0.02	0.08	—	345	345	0.01	< 0.005	0.03	346

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.27	5.45	47.5	56.7	0.10	1.52	0.32	1.83	1.39	0.08	1.47	—	9,229	9,229	0.37	0.09	1.26	9,265
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.46	2.88	24.4	24.2	0.04	1.43	6.88	8.31	1.31	2.87	4.19	—	4,259	4,259	0.19	0.13	0.07	4,303
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.40	1.21	10.5	12.7	0.02	0.36	0.33	0.69	0.33	0.13	0.46	—	2,082	2,082	0.08	0.02	0.17	2,091
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.26	0.22	1.92	2.32	< 0.005	0.06	0.06	0.13	0.06	0.02	0.08	—	345	345	0.01	< 0.005	0.03	346

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.33	8.88	0.01	0.44	—	0.44	0.40	—	0.40	—	1,383	1,383	0.06	0.01	—	1,388

Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	4.47	4.47	< 0.005	< 0.005	< 0.005	4.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.56	0.68	< 0.005	0.03	—	0.03	0.03	—	0.03	—	106	106	< 0.005	< 0.005	—	106
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.6	17.6	< 0.005	< 0.005	—	17.6
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.7	94.7	< 0.005	< 0.005	0.01	95.8
Vendor	0.03	0.01	0.34	0.20	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	225	225	0.02	0.03	0.02	234
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.37	7.37	< 0.005	< 0.005	0.01	7.46
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	0.02	18.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.85	2.85	< 0.005	< 0.005	< 0.005	2.98
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.33	8.88	0.01	0.44	—	0.44	0.40	—	0.40	—	1,383	1,383	0.06	0.01	—	1,388
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	4.47	4.47	< 0.005	< 0.005	< 0.005	4.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.79	3.79	< 0.005	< 0.005	—	3.80

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.63	0.63	< 0.005	< 0.005	—	0.63
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.7	94.7	< 0.005	< 0.005	0.01	95.8
Vendor	0.03	0.01	0.34	0.20	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	225	225	0.02	0.03	0.02	234
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.64
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Fine Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	1.01	8.57	4.87	0.01	0.55	—	0.55	0.50	—	0.50	—	552	552	0.02	< 0.005	—	554
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	4.47	4.47	< 0.005	< 0.005	< 0.005	4.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.51	1.51	< 0.005	< 0.005	—	1.52
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.25	0.25	< 0.005	< 0.005	—	0.25

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.2	63.2	< 0.005	< 0.005	0.01	63.9
Vendor	0.03	0.01	0.34	0.20	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	225	225	0.02	0.03	0.02	234
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.64
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Facility Construction (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.21	3.49	32.9	34.7	0.07	1.00	—	1.00	0.92	—	0.92	—	5,864	5,864	0.24	0.05	—	5,884
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.69	6.49	6.85	0.01	0.20	—	0.20	0.18	—	0.18	—	1,157	1,157	0.05	0.01	—	1,161
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.25	< 0.005	0.04	—	0.04	0.03	—	0.03	—	191	191	0.01	< 0.005	—	192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.89	8.89	< 0.005	< 0.005	0.03	9.02
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.33	8.33	< 0.005	< 0.005	0.02	8.71
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Pipeline Installation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.81	7.42	11.2	0.02	0.21	—	0.21	0.20	—	0.20	—	1,629	1,629	0.07	0.01	—	1,635
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.46	2.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	321	321	0.01	< 0.005	—	322
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.27	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.2	53.2	< 0.005	< 0.005	—	53.4

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.89	8.89	< 0.005	< 0.005	0.03	9.02
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.33	8.33	< 0.005	< 0.005	0.02	8.71
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.72
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

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

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

Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.86	1.05	< 0.005	0.04	—	0.04	0.04	—	0.04	—	162	162	0.01	< 0.005	—	163
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.9	26.9	< 0.005	< 0.005	—	27.0
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.98	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	232	232	< 0.005	0.01	0.88	236
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.2	44.2	< 0.005	< 0.005	0.07	44.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.32	7.32	< 0.005	< 0.005	0.01	7.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.17	0.22	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	26.3	26.3	< 0.005	< 0.005	—	26.4
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.36	4.36	< 0.005	< 0.005	—	4.38
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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.55	3.55	< 0.005	< 0.005	0.01	3.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Pipeline Trenching (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.41	3.49	5.27	0.01	0.14	—	0.14	0.13	—	0.13	—	788	788	0.03	0.01	—	791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.41	3.49	5.27	0.01	0.14	—	0.14	0.13	—	0.13	—	788	788	0.03	0.01	—	791
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.58	< 0.005	0.02	—	0.02	0.01	—	0.01	—	86.4	86.4	< 0.005	< 0.005	—	86.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.3	14.3	< 0.005	< 0.005	—	14.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.42	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	99.6	99.6	< 0.005	< 0.005	0.38	101

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.36	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.7	94.7	< 0.005	< 0.005	0.01	95.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Finishing/Landscaping (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.19	1.84	2.95	< 0.005	0.08	—	0.08	0.07	—	0.07	—	443	443	0.02	< 0.005	—	444
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.47	0.75	< 0.005	0.02	—	0.02	0.02	—	0.02	—	113	113	< 0.005	< 0.005	—	113
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	66.4	66.4	< 0.005	< 0.005	0.25	67.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.70	2.70	< 0.005	< 0.005	< 0.005	2.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/6/2025	2/12/2025	5.00	28.0	—
Grading	Grading	1/6/2025	1/6/2025	5.00	1.00	—
Fine Grading	Grading	1/6/2025	1/6/2025	5.00	1.00	—
Facility Construction	Building Construction	5/13/2025	8/20/2025	5.00	72.0	—
Pipeline Installation	Building Construction	4/15/2025	7/23/2025	5.00	72.0	—
Paving	Paving	5/13/2025	8/20/2025	5.00	72.0	—
Architectural Coating	Architectural Coating	5/13/2025	8/20/2025	5.00	72.0	—
Pipeline Trenching	Trenching	2/18/2025	4/14/2025	5.00	40.0	—
Finishing/Landscaping	Trenching	5/13/2025	9/18/2025	5.00	93.0	—

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	Average	1.00	8.00	100	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	150	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	130	0.40
Grading	Graders	Diesel	Average	1.00	8.00	100	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	130	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	150	0.37
Fine Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	80.0	0.37
Fine Grading	Skid Steer Loaders	Diesel	Average	1.00	8.00	80.0	0.37
Facility Construction	Cranes	Diesel	Average	1.00	8.00	270	0.29
Facility Construction	Forklifts	Diesel	Average	1.00	8.00	80.0	0.20
Facility Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	80.0	0.37
Facility Construction	Welders	Diesel	Average	1.00	8.00	20.0	0.45
Facility Construction	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	20.0	0.73
Facility Construction	Aerial Lifts	Diesel	Average	4.00	8.00	46.0	0.31
Facility Construction	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Facility Construction	Cement and Mortar Mixers	Diesel	Average	10.0	8.00	10.0	0.56
Facility Construction	Pumps	Diesel	Average	1.00	8.00	350	0.74
Pipeline Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Pipeline Installation	Welders	Diesel	Average	3.00	8.00	46.0	0.45

Pipeline Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Pipeline Trenching	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Pipeline Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Finishing/Landscaping	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Finishing/Landscaping	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	18.0	3.79	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	1.00	0.83	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	18.0	3.79	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	1.00	0.83	HHDT

Facility Construction	—	—	—	—
Facility Construction	Worker	0.67	18.5	LDA,LDT1,LDT2
Facility Construction	Vendor	0.26	10.2	HHDT,MHDT
Facility Construction	Hauling	0.00	20.0	HHDT
Facility Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.27	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
Fine Grading	—	—	—	—
Fine Grading	Worker	5.00	18.5	LDA,LDT1,LDT2
Fine Grading	Vendor	18.0	3.79	HHDT,MHDT
Fine Grading	Hauling	0.00	20.0	HHDT
Fine Grading	Onsite truck	1.00	0.83	HHDT
Pipeline Installation	—	—	—	—
Pipeline Installation	Worker	0.67	18.5	LDA,LDT1,LDT2
Pipeline Installation	Vendor	0.26	10.2	HHDT,MHDT
Pipeline Installation	Hauling	0.00	20.0	HHDT
Pipeline Installation	Onsite truck	—	—	HHDT
Pipeline Trenching	—	—	—	—
Pipeline Trenching	Worker	7.50	18.5	LDA,LDT1,LDT2

Pipeline Trenching	Vendor	—	10.2	HHDT,MHDT
Pipeline Trenching	Hauling	0.00	20.0	HHDT
Pipeline Trenching	Onsite truck	—	—	HHDT
Finishing/Landscaping	—	—	—	—
Finishing/Landscaping	Worker	5.00	18.5	LDA,LDT1,LDT2
Finishing/Landscaping	Vendor	—	10.2	HHDT,MHDT
Finishing/Landscaping	Hauling	0.00	20.0	HHDT
Finishing/Landscaping	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%
Sweep paved roads once per month	9%	9%

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	2,391	797	454

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	—	—	28.0	0.00	—

Grading	—	—	1.00	0.00	—
Fine Grading	—	—	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.17

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Parking Lot	0.01	100%
Other Asphalt Surfaces	0.17	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

5.18. 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	8.47	annual days of extreme heat
Extreme Precipitation	4.25	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	6.38	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	1	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	1	1	1	2
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	58.2
AQ-PM	49.3
AQ-DPM	12.9
Drinking Water	32.3
Lead Risk Housing	1.60
Pesticides	0.00
Toxic Releases	70.7
Traffic	67.4
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	2.72
Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	0.98
Cardio-vascular	0.40

Low Birth Weights	61.9
Socioeconomic Factor Indicators	—
Education	5.86
Housing	8.50
Linguistic	30.7
Poverty	4.17
Unemployment	11.9

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	95.21365328
Employed	52.13653279
Median HI	99.93583986
Education	—
Bachelor's or higher	97.52341845
High school enrollment	100
Preschool enrollment	95.7141024
Transportation	—
Auto Access	89.83703323
Active commuting	6.043885538
Social	—
2-parent households	82.90773771
Voting	75.99127422
Neighborhood	—
Alcohol availability	85.62812781

Park access	31.50263057
Retail density	21.82728089
Supermarket access	38.76555883
Tree canopy	67.52213525
Housing	—
Homeownership	89.43924034
Housing habitability	94.00744258
Low-inc homeowner severe housing cost burden	86.12857693
Low-inc renter severe housing cost burden	81.35506224
Uncrowded housing	90.74810728
Health Outcomes	—
Insured adults	87.48877197
Arthritis	39.1
Asthma ER Admissions	98.2
High Blood Pressure	22.4
Cancer (excluding skin)	11.3
Asthma	88.8
Coronary Heart Disease	61.0
Chronic Obstructive Pulmonary Disease	84.0
Diagnosed Diabetes	80.8
Life Expectancy at Birth	97.9
Cognitively Disabled	88.7
Physically Disabled	84.3
Heart Attack ER Admissions	98.7
Mental Health Not Good	96.1
Chronic Kidney Disease	73.0
Obesity	93.4

Pedestrian Injuries	42.3
Physical Health Not Good	91.4
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	45.1
Current Smoker	96.7
No Leisure Time for Physical Activity	94.0
Climate Change Exposures	—
Wildfire Risk	99.9
SLR Inundation Area	88.1
Children	69.7
Elderly	14.2
English Speaking	80.7
Foreign-born	65.3
Outdoor Workers	83.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.7
Traffic Density	62.4
Traffic Access	23.0
Other Indices	—
Hardship	0.2
Other Decision Support	—
2016 Voting	81.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	6.00

Healthy Places Index Score for Project Location (b)	99.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on information provided by the applicant.
Construction: Construction Phases	Based on information provided by the applicant.
Construction: Off-Road Equipment	Based on information provided by the applicant.
Construction: Trips and VMT	Based on information provided by applicant and CalEEMod defaults.

CalEEMod Operation Model Output

CNB-25 Operation Detailed Report

Table of Contents

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CNB-25 Operation
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	17.2
Location	33.613231898777684, -117.82214696277009
County	Orange
City	Newport Beach
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5901
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

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
General Light Industry	1.59	1000sqft	0.71	1,594	0.00	—	—	—

Parking Lot	0.32	1000sqft	0.01	0.00	0.00	—	—	—
Other Asphalt Surfaces	7.25	1000sqft	0.17	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.07	0.10	0.23	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,743	46,744	3.08	0.36	0.62	46,930
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.05	0.10	0.15	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,741	46,743	3.08	0.36	0.42	46,928
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.06	0.10	0.20	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,741	46,743	3.08	0.36	0.50	46,928
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.02	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.29	7,739	7,739	0.51	0.06	0.08	7,770

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.01	0.08	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	76.7	76.7	0.01	0.01	0.20	79.6
Area	0.01	0.05	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.29	0.29	< 0.005	< 0.005	—	0.29
Energy	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46,662	46,662	2.90	0.35	—	46,839
Water	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Waste	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Total	0.03	0.07	0.10	0.23	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,743	46,744	3.08	0.36	0.62	46,930
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.01	0.09	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	75.4	75.4	0.01	0.01	0.01	78.2
Area	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46,662	46,662	2.90	0.35	—	46,839
Water	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Waste	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Total	0.02	0.05	0.10	0.15	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,741	46,743	3.08	0.36	0.42	46,928
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.01	0.09	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	75.7	75.7	0.01	0.01	0.09	78.6
Area	0.01	0.05	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.20	0.20	< 0.005	< 0.005	—	0.20
Energy	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46,662	46,662	2.90	0.35	—	46,839
Water	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Waste	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41

Total	0.03	0.06	0.10	0.20	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.77	46,741	46,743	3.08	0.36	0.50	46,928
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.01	13.0
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.03	0.03	< 0.005	< 0.005	—	0.03
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7,725	7,725	0.48	0.06	—	7,755
Water	—	—	—	—	—	—	—	—	—	—	—	0.12	0.61	0.72	0.01	< 0.005	—	1.11
Waste	—	—	—	—	—	—	—	—	—	—	—	0.18	0.00	0.18	0.02	0.00	—	0.62
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	0.01	0.01	0.02	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.29	7,739	7,739	0.51	0.06	0.08	7,770

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.01	0.08	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	76.7	76.7	0.01	0.01	0.20	79.6
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	0.01	0.08	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	76.7	76.7	0.01	0.01	0.20	79.6

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.01	0.09	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	75.4	75.4	0.01	0.01	0.01	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	0.01	0.09	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	75.4	75.4	0.01	0.01	0.01	78.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.01	13.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.02	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.01	13.0

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	46,640	46,640	2.89	0.35	—	46,816
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41	< 0.005	< 0.005	—	0.42
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46,640	46,640	2.89	0.35	—	46,817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	46,640	46,640	2.89	0.35	—	46,816
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41	< 0.005	< 0.005	—	0.42
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46,640	46,640	2.89	0.35	—	46,817
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	7,722	7,722	0.48	0.06	—	7,751
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7,722	7,722	0.48	0.06	—	7,751

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	21.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	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	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	21.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	21.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	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	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.62	3.62	< 0.005	< 0.005	—	3.63
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	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	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.62	3.62	< 0.005	< 0.005	—	3.63

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.29	0.29	< 0.005	< 0.005	—	0.29
Total	0.01	0.05	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.29	0.29	< 0.005	< 0.005	—	0.29
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.03	0.03	< 0.005	< 0.005	—	0.03
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.03	0.03	< 0.005	< 0.005	—	0.03

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.71	3.66	4.36	0.07	< 0.005	—	6.70
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.12	0.61	0.72	0.01	< 0.005	—	1.11
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	0.61	0.72	0.01	< 0.005	—	1.11

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.07	0.00	1.07	0.11	0.00	—	3.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.18	0.00	0.18	0.02	0.00	—	0.62
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.18	0.00	0.18	0.02	0.00	—	0.62

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. 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

General Light Industry	8.00	8.00	8.00	2,921	54.5	54.5	54.5	19,874
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	2,391	797	454

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)
General Light Industry	32,000,000	532	0.0330	0.0040	68,226
Parking Lot	284	532	0.0330	0.0040	0.00

Other Asphalt Surfaces	0.00	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)
General Light Industry	368,613	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.98	—
Parking Lot	0.00	—
Other Asphalt Surfaces	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
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

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	8.47	annual days of extreme heat
Extreme Precipitation	4.25	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	6.38	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	1	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	1	1	1	2
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	58.2
AQ-PM	49.3
AQ-DPM	12.9
Drinking Water	32.3
Lead Risk Housing	1.60
Pesticides	0.00
Toxic Releases	70.7
Traffic	67.4
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	2.72
Haz Waste Facilities/Generators	37.7
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	0.98
Cardio-vascular	0.40
Low Birth Weights	61.9
Socioeconomic Factor Indicators	—
Education	5.86
Housing	8.50

Linguistic	30.7
Poverty	4.17
Unemployment	11.9

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	95.21365328
Employed	52.13653279
Median HI	99.93583986
Education	—
Bachelor's or higher	97.52341845
High school enrollment	100
Preschool enrollment	95.7141024
Transportation	—
Auto Access	89.83703323
Active commuting	6.043885538
Social	—
2-parent households	82.90773771
Voting	75.99127422
Neighborhood	—
Alcohol availability	85.62812781
Park access	31.50263057
Retail density	21.82728089
Supermarket access	38.76555883
Tree canopy	67.52213525

Housing	—
Homeownership	89.43924034
Housing habitability	94.00744258
Low-inc homeowner severe housing cost burden	86.12857693
Low-inc renter severe housing cost burden	81.35506224
Uncrowded housing	90.74810728
Health Outcomes	—
Insured adults	87.48877197
Arthritis	39.1
Asthma ER Admissions	98.2
High Blood Pressure	22.4
Cancer (excluding skin)	11.3
Asthma	88.8
Coronary Heart Disease	61.0
Chronic Obstructive Pulmonary Disease	84.0
Diagnosed Diabetes	80.8
Life Expectancy at Birth	97.9
Cognitively Disabled	88.7
Physically Disabled	84.3
Heart Attack ER Admissions	98.7
Mental Health Not Good	96.1
Chronic Kidney Disease	73.0
Obesity	93.4
Pedestrian Injuries	42.3
Physical Health Not Good	91.4
Stroke	80.6
Health Risk Behaviors	—

Binge Drinking	45.1
Current Smoker	96.7
No Leisure Time for Physical Activity	94.0
Climate Change Exposures	—
Wildfire Risk	99.9
SLR Inundation Area	88.1
Children	69.7
Elderly	14.2
English Speaking	80.7
Foreign-born	65.3
Outdoor Workers	83.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.7
Traffic Density	62.4
Traffic Access	23.0
Other Indices	—
Hardship	0.2
Other Decision Support	—
2016 Voting	81.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	6.00
Healthy Places Index Score for Project Location (b)	99.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on information provided by the applicant.
Construction: Construction Phases	Based on information provided by the applicant.
Construction: Off-Road Equipment	Based on information provided by the applicant.
Construction: Trips and VMT	Based on information provided by applicant and CalEEMod defaults.
Operations: Energy Use	Based on electricity usage information provided by Applicant.
Operations: Fleet Mix	Based on vehicle trips information provided by Applicant.
Operations: Vehicle Data	Based on vehicle trips information provided by Applicant.

LST Worksheets

Construction Localized Significance Thresholds: From Off-Site Laydown Area

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
20	0.55	404	1325	576	1890	0.55

Source Receptor	**Central Orange County Coastal**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	404	Tractors	0.5	0.0625			0
NOx	**194**	Tractors	0.5	0.0625	7	3	1.3125
CO	**5,320**	Graders	0.5	0.0625			0
PM10	**155.54**	Dozers	0.5	0.0625			0
PM2.5	**89.69**	Scrapers	1	0.125			0
						Acres	1.31

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	92	93	108	140	219
	1	92	93	108	140	219
		92	93	108	140	219
CO	1	647	738	1090	2096	6841
	1	647	738	1090	2096	6841
		647	738	1090	2096	6841
PM10	1	4	13	27	54	135
	1	4	13	27	54	135
		4	13	27	54	135
PM2.5	1	3	5	9	22	76
	1	3	5	9	22	76
		3	5	9	22	76

Central Orange County Coastal

0.55 Acres

	25	**50**	**100**	**200**	**500**
NOx	92	93	108	140	219
CO	647	738	1090	2096	6841
PM10	4	13	27	54	135
PM2.5	3	5	9	22	76

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
20	1	20	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Project Site Area

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
20	0.88	381	1250	381	1250	0.88

Source Receptor	**Central Orange County Coastal**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	381	Tractors	0.5	0.0625			0
NOx	**188**	Tractors	0.5	0.0625	7	3	1.3125
CO	**4,959**	Graders	0.5	0.0625			0
PM10	**102.87**	Dozers	0.5	0.0625			0
PM2.5	**54.58**	Scrapers	1	0.125			0
						Acres	1.31

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	92	93	108	140	219
	1	92	93	108	140	219
		92	93	108	140	219
CO	1	647	738	1090	2096	6841
	1	647	738	1090	2096	6841
		647	738	1090	2096	6841
PM10	1	4	13	27	54	135
	1	4	13	27	54	135
		4	13	27	54	135
PM2.5	1	3	5	9	22	76
	1	3	5	9	22	76
		3	5	9	22	76

Central Orange County Coastal

0.88 Acres

	25	**50**	**100**	**200**	**500**
NOx	92	93	108	140	219
CO	647	738	1090	2096	6841
PM10	4	13	27	54	135
PM2.5	3	5	9	22	76

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
20	1	20	1
Distance Increment Below			
200			
Distance Increment Above			
500			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Orange County Waste & Recycling AER Data

South Coast

AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

StatusUpdate

Facility ID	181426
Facility Shutdown Date	N/A
Change of Ownership Date	N/A
Change in Equipment Location Date	N/A
Emissions are zero for this year's report, or emissions reduced by 50%	N/A
Exemption Request	N/A
Use of alternative Calculation methodology	N/A
Other	N/A
Refund Request	N/A
Data is Confidential	NO

South Coast AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

External Combustion Process List Overview

AER Device ID	Permit Device ID	A/N	Process ID	Equipment	Fuel	Fuel Usage	Units		Criteria Pollutant Units	ROG	SPOG	NOx	SOx	CO	PM
ES12		610997	P1	Flare	Landfill Gas (Biogas)	453.202650	mmscf	EF	lbs/ mmscf	3.220000		19.030000	8.590000	22.720000	4.670000
								Emissions	lbs	1,459.31		8,624.45	3,893.01	10,296.76	2,116.46
ES13		610997	P1	Flare	Landfill Gas (Biogas)	472.062159	mmscf	EF	lbs/ mmscf	1.820000		18.910000	8.000000	2.670000	5.090000
								Emissions	lbs	859.15		8,926.70	3,776.50	1,260.41	2,402.80
ES14		610997	P1	Flare	Landfill Gas (Biogas)	556.552035	mmscf	EF	lbs/ mmscf	2.600000		17.330000	9.910000	18.810000	7.010000
								Emissions	lbs	1,447.04		9,645.05	5,515.43	10,468.74	3,901.43
ES15		610997	P1	Flare	Landfill Gas (Biogas)	385.504494	mmscf	EF	lbs/ mmscf	1.440000		19.750000	7.780000	1.940000	3.420000
								Emissions	lbs	555.13		7,613.71	2,999.22	747.88	1,318.43
								Total Emissions	lbs	4,320.63		34,809.90	16,184.16	22,773.79	9,739.11
								Total Emissions	tons	2.16	0.00	17.40	8.09	11.39	4.87

South Coast AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Internal Combustion Process List Overview

AER Device ID	Permit Device ID	A/N	Process ID	Equipment	Fuel	Fuel Usage	Units		Criteria Pollutant Units	ROG	SPOG	NOx	SOx	CO	PM
ES2	D2	580871	P1	Stationary I.C. Engines, 4 Stroke-Lean Burn	Distillate Fuel Oil No. 2 (Diesel)	0.009000	M gal	EF	lbs/ M gal	37.500000		469.000000	0.210000	102.000000	33.500000
								Emissions	lbs	0.34		4.22	0.00	0.92	0.30
							Total Emissions		lbs	0.34		4.22	0.00	0.92	0.30
							Total Emissions		tons	0.00	0.00	0.00	0.00	0.00	0.00

South Coast AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Criteria Pollutants Permitted Emissions Summary

	VOC (tons)	SPOG (tons)	NOx (tons)	NOx RECLAIM (tons)	SOx (tons)	SOx RECLAIM (tons)	CO (tons)	PM (tons)
External Combustion	2.16	0.00	17.40	0.00	8.09	0.00	11.39	4.87
Internal Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Coating/ Spray Booth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Use of Organics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Process Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown/Startup/Turnaround and Upsets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Permitted Emissions	**2.16**	**0.00**	**17.40**	**0.00**	**8.09**	**0.00**	**11.39**	**4.87**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Criteria Pollutants Non-Permitted Emissions Summary

	VOC (tons)	SPOG (tons)	NOx (tons)	NOx RECLAIM (tons)	SOx (tons)	SOx RECLAIM (tons)	CO (tons)	PM (tons)
External Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Coating/ Spray Booth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Use of Organics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Process Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown/Startup/Turnaround and Upsets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Permitted Emissions	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

South Coast AQMD

Annual Emission Report

Reporting Year: **2021**

Print Date: **02/08/2022**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Toxic Air Contaminants (TAC) / Ozone Depleting Compounds (ODC) Emissions and Fees Summary

For detailed TAC Records please see related “AER TAC Report” Excel file

South Coast

AQMD

Annual Emission Report

Reporting Year: **2022**

Print Date: **04/26/2023**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

StatusUpdate

Facility ID	181426
Facility Shutdown Date	N/A
Change of Ownership Date	N/A
Change in Equipment Location Date	N/A
Emissions are zero for this year's report, or emissions reduced by 50%	N/A
Exemption Request	N/A
Use of alternative Calculation methodology	N/A
Other	N/A
Refund Request	N/A
Data is Confidential	NO

South Coast AQMD

Annual Emission Report

Reporting Year: **2022**

Print Date: **04/26/2023**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

External Combustion Process List Overview

AER Device ID	Permit Device ID	A/N	Process ID	Equipment	Fuel	Fuel Usage	Units		Criteria Pollutant Units	ROG	SPOG	NOx	SOx	CO	PM
ES12		610997	P1	Flare	Landfill Gas (Biogas)	423.558659	mmscf	EF	lbs/ mmscf	3.220000		19.030000	8.590000	22.720000	4.670000
								Emissions	lbs	1,363.86		8,060.32	3,638.37	9,623.25	1,978.02
ES13		610997	P1	Flare	Landfill Gas (Biogas)	304.316588	mmscf	EF	lbs/ mmscf	1.820000		18.910000	8.000000	2.670000	5.090000
								Emissions	lbs	553.86		5,754.63	2,434.53	812.53	1,548.97
ES14		610997	P1	Flare	Landfill Gas (Biogas)	439.307507	mmscf	EF	lbs/ mmscf	2.600000		17.330000	9.910000	18.810000	7.010000
								Emissions	lbs	1,142.20		7,613.20	4,353.54	8,263.37	3,079.55
ES15		610997	P1	Flare	Landfill Gas (Biogas)	416.636456	mmscf	EF	lbs/ mmscf	1.440000		19.750000	7.780000	1.940000	3.420000
								Emissions	lbs	599.96		8,228.57	3,241.43	808.27	1,424.90
								Total Emissions	lbs	3,659.87		29,656.72	13,667.87	19,507.43	8,031.43
								Total Emissions	tons	1.83	0.00	14.83	6.83	9.75	4.02

South Coast AQMD

Annual Emission Report

Reporting Year: **2022**

Print Date: **04/26/2023**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Internal Combustion Process List Overview

AER Device ID	Permit Device ID	A/N	Process ID	Equipment	Fuel	Fuel Usage	Units		Criteria Pollutant Units	ROG	SPOG	NOx	SOx	CO	PM
ES2	D2	580871	P1	Stationary I.C. Engines, 4 Stroke-Lean Burn	Distillate Fuel Oil No. 2 (Diesel)	0.069000	M gal	EF	lbs/ M gal	37.500000		469.000000	0.210000	102.000000	33.500000
								Emissions	lbs	2.59		32.36	0.01	7.04	2.31
ES16			P1	Stationary I.C. Engines, 4 Stroke-Lean Burn	Distillate Fuel Oil No. 2 (Diesel)	2.481000	M gal	EF	lbs/ M gal	37.500000		469.000000	0.210000	102.000000	33.500000
								Emissions	lbs	93.04		1,163.59	0.52	253.06	83.11
							Total Emissions		lbs	95.63		1,195.95	0.54	260.10	85.43
							Total Emissions		tons	0.05	0.00	0.60	0.00	0.13	0.04

South Coast

AQMD

Annual Emission Report

Reporting Year: **2022**

Print Date: **04/26/2023**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Criteria Pollutants Permitted Emissions Summary (Excluding PERP)

	VOC (tons)	SPOG (tons)	NOx (tons)	NOx RECLAIM (tons)	SOx (tons)	SOx RECLAIM (tons)	CO (tons)	PM (tons)
External Combustion	1.83	0.00	14.83	0.00	6.83	0.00	9.75	4.02
Internal Combustion	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Spray Coating/ Spray Booth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Use of Organics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Process Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown/Startup/Turnaround and Upsets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Permitted Emissions	**1.83**	**0.00**	**14.85**	**0.00**	**6.83**	**0.00**	**9.75**	**4.02**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2022**

Print Date: **04/26/2023**

Facility Id: **181426**

Facility Name **OC WASTE & RECYCLING, COYOTE**

Facility Type: **Landfill - Municipal Solid Waste**

Criteria Pollutants Non-Permitted Emissions Summary (Excluding PERP)

	VOC (tons)	SPOG (tons)	NOx (tons)	NOx RECLAIM (tons)	SOx (tons)	SOx RECLAIM (tons)	CO (tons)	PM (tons)
External Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal Combustion	0.05	0.00	0.58	0.00	0.00	0.00	0.13	0.04
Spray Coating/ Spray Booth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Use of Organics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Process Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown/Startup/Turnaround and Upsets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Permitted Emissions	**0.05**	**0.00**	**0.58**	**0.00**	**0.00**	**0.00**	**0.13**	**0.04**