

Appendix B Air Quality and Greenhouse Gas Emissions Analysis

Appendices

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Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Climate/Meteorology

SAN DIEGO AIR BASIN

The San Diego Air Basin (SDAB) includes the entire County of San Diego. Emissions sources within the SDAB are primarily in the western region and dispersion of air pollutants is highly affected by the region's climate and geography. The climate in the project area is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii. This high-pressure center creates cool summers, mild winters, and infrequent rainfall, and drives the cool, daytime breezes, maintaining a comfortable level of humidity and ample sunshine.

Inversions

The influence of this semi-permanent high-pressure system results in strong high-altitude temperature inversions associated with warm descending air. The subsidence inversions within the SDAB generally occur during the warmer months (May through October) as descending air from the Pacific high-pressure cell comes into contact with cool marine air. Within the SDAB, the inversion layer is approximately 2,000 feet (610 meters) above mean sea level (msl) between May and October. During the winter months (November through April), the temperature inversion rises to approximately 3,000 feet (914 meters) above msl. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, resulting in a temporary degradation of air quality. On days without inversions or on days of winds averaging over 15 mph, smog potential is greatly reduced in the SDAB.

Temperature and Precipitation

The annual average temperature varies little throughout the 4,225 square-mile basin. The overall climate is Mediterranean, with average temperatures reaching 92°F in the summer and 38°F in the winter. High temperatures are often accompanied by very low relative humidity (often less than 20 percent). The Western Regional Climate Center maintains historical climate information for the western US. The climatological station nearest to the project site with temperature data is the San Jacinto RS Monitoring Station (ID No. 047813). The lowest average temperature is reported at 36.1°F in December, and the highest average temperature is 98.4°F in August (WRCC 2019).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. The total average annual precipitation is 12.17 inches as measured by the Western Regional Climate Center, and the majority of precipitation occurs between October and April (WRCC 2019).

Wind

Wind patterns across the south coastal region are characterized by westerly onshore winds during the day and occasional easterly breezes at night as a result of cold air drainage. Wind speed is somewhat greater during the dry summer months than during the rainy winter season. The onshore light-to-moderate winds at San Diego Lindbergh Field average 6.6 knots. The offshore flow is less persistent in the winter when occasional hot, dry Santa Ana winds blow from the east with great force (SDAPCD 2009).

Air Quality Regulations

The proposed 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 SDAB and is subject to the rules and regulations imposed by the San Diego Air Pollution Control District (SDAPCD). However, SDAPCD 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 proposed 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, these pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), 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	12 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 ₂ S) 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.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

- California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled 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.
- National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ 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 PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ 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.
- On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- On June 2, 2010, a new 1-hour SO₂ 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

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. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, 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 (O₃) and NO₂ 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 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. 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 (SCAQMD 2005; USEPA 2019a). The SDAB is designated under the California AAQS as being in attainment and under the National AAQS as being in unclassified/attainment of CO criteria levels (SDAPCD 2019).

Nitrogen Oxides (NO_x) are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). 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 NO₂ produced by combustion is NO, but NO reacts with oxygen quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including people with asthma, children, and the elderly. Current scientific evidence links short-term NO₂ 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 breathing elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2019a). The SDAB is designated as an attainment area for NO₂ under both the National and California AAQS (SDAPCD 2019).

Ozone (O₃) is commonly referred to as “smog;” it is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2019a). The SDAB is designated as nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (SDAPCD 2019).

Sulfur Dioxide (SO₂) 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 from chemical

processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂ (SCAQMD 2005; USEPA 2019a). When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. The SDAB is designated as attainment under the California and National AAQS (SDAPCD 2019).

Suspended Particulate Matter (PM₁₀ 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 PM₁₀, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading (i.e., fugitive dust). Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005).

The US Environmental Protection Agency's (EPA) scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at concentrations that extend well below those allowed by the current PM₁₀ standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms (SCAQMD 2005). There has been emerging evidence that even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is classified by the CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³ (SCAQMD 2005; USEPA 2019a). The SDAB is designated under the California AAQS as a nonattainment area for PM₁₀ and PM_{2.5} (SDAPCD 2019).

Volatile Organic Compounds (VOC) are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of VOCs include evaporative emissions associated with the use of paints and solvents, the application of

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² 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.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

asphalt paving, and the use of household consumer products such as aerosols. There are no ambient air quality standards established for VOCs. However, because they contribute to the formation of ozone (O₃), SCAQMD has established a significance threshold for this pollutant.

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 (SCAQMD 2005; USEPA 2019a). 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. Lead emissions have steadily declined due to catalytic converters and increased use of lead-free gasoline. San Diego is no longer required to monitor for lead (San Diego 2016). Because emissions of lead are found only in projects that are permitted by SDAPCD, lead is not a pollutant of concern for the project.

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

To ensure continued progress toward clean air and to comply with state and federal requirements, the San Diego Air Pollution Control District (SDAPCD), in conjunction with CARB and the San Diego Association of Governments (SANDAG), prepared the 2016 San Diego Regional Air Quality Strategy (RAQS) (SDAPCD 2016). The 2016 RAQS employs up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources.

The SDAB adopted its first RAQS in 1992 and it has undergone six revisions since. The amended and new rules considered in the current 2016 Triennial Revision of the RAQS are estimated to reduce NO_x by approximately 1.2 tons per day and VOC by approximately 0.3 tons per day. The 2016 RAQS provides additional reductions of O₃ precursor emissions relative to the 2009 RAQS and, therefore, is more effective in improving air quality.

The SDAPCD also is required to submit separate attainment plans to demonstrate to the United States Environmental Protection Agency (EPA) how the SDAB will achieve compliance with the federal CAA for nonattainment designations. These plans include:

- 2016 Attainment Plan – 8-Hour Ozone (2008 Standard)
- 2012 Maintenance Plan – 8-Hour Ozone (1997 Standard)
- 2007 Attainment Plan – 8-Hour Ozone (1997 Standard)
- 2005 Wildfire Natural Events Action Plan
- 2002 Maintenance Plan – 1-Hour Ozone (1979 Standard)

AREA DESIGNATIONS

The RAQS provides the framework for the SDAB to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Severity classifications for ozone nonattainment are marginal, moderate, serious, severe, and extreme. The following are descriptions of the attainment classifications and the attainment status for the SDAB is included in Table 2, *Attainment Status of Criteria Pollutants in the San Diego Air Basin*:

- **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 SDAB is shown in Table 2.

Table 2 Attainment Status of Criteria Pollutants in the San Diego Air Basin

Pollutant	State	Federal
Ozone – 8-hour	Nonattainment	Nonattainment
Ozone – 1-hour	Nonattainment	Attainment/Revoked ²
CO	Attainment	Attainment
PM ₁₀	Nonattainment	Unclassifiable ³
PM _{2.5} ¹	Nonattainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	No federal standard

Source: SDAPCD 2019.

1 The SDAB is designated as nonattainment for fine particulate matter due to the 8-hour ozone nonattainment designation. PM_{2.5} is precursor to ozone formation.

2 The federal 1-hour standard of 12 parts per hundred million (pphm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

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

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the proposed project site, are best documented by measurements taken by the SDAPCD. The SDAPCD air quality monitoring station closest to the project site is the Del Mar – Mira Costa College Monitoring Station, which monitors O₃. Data for NO₂, PM₁₀, and PM_{2.5} is supplemented from the San Diego – Kearny Villa Road Monitoring Station. The most current five years of data monitored at these monitoring stations are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show recurring violations of state 1- and 8-hour and federal 8-hour standards in the last five years.

Table 3 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2014	2015	2016	2017	2018
Ozone (O₃)¹					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	1	1	0	0	*
State 8-hour ≥ 0.07 ppm (days exceed threshold)	4	2	1	0	*
Federal 8-Hour > 0.075 ppm (days exceed threshold)	2	1	0	0	*
Max. 1-Hour Conc. (ppm)	0.100	0.098	0.079	0.075	*
Max. 8-Hour Conc. (ppm)	0.087	0.078	0.071	0.061	*
Nitrogen Dioxide (NO₂)¹					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.051	0.051	0.053	0.054	0.045
Coarse Particulates (PM₁₀)¹					
State 24-Hour > 50 µg/m ³ (days exceed threshold)	0	0	0	0	0
Federal 24-Hour > 150 µg/m ³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m ³)	39.0	39.0	39.0	36.0	47.0
Fine Particulates (PM_{2.5})¹					
Federal 24-Hour > 35 µg/m ³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m ³)	22.0	20.2	25.7	19.4	27.5

Source: CARB 2019.

ppm: parts per million; parts per billion, µg/m³: micrograms per cubic meter

Notes: * Data not available.

¹ Data obtained from the Del Mar – Mira Costa College Monitoring Station.

² Data obtained from the San Diego – Kearny Villa Road Monitoring Station.

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 sensitive receptors to the proposed project site are the residences along Whitmore Street, Prospect Avenue, Garvey Avenue, and New Avenue to the north, east, south, and west, respectively.

Methodology

Projected construction- and operation-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod compiles an emissions inventory of construction, area, energy (natural gas and purchased energy), water, waste, and vehicle emissions sources.

Thresholds of Significance

CEQA allows for 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. However, the SDAPCD does not provide CEQA significance thresholds for any air pollutant source they do not directly regulate. The SDAPCD regulates emissions from stationary sources and not mobile sources under SDAPCD Regulation II, Rule 20.2, Table 20-2-1, *Air Quality Impact Analysis (AQIA) Trigger Levels*. Because the SDAPCD does not prescribe emissions thresholds for all air pollutants during construction and operation, the City of San Diego's *California Environmental Quality Act Significance Determination Thresholds* (2016), were used to evaluate potential air quality impacts relative to CEQA.

REGIONAL SIGNIFICANCE THRESHOLDS

Table 4, *City of San Diego Air Quality Significance Thresholds*, lists regional emissions thresholds used in the following analysis.

Table 4 City of San Diego Air Quality Significance Thresholds

Air Pollutant	Threshold	
	lb/day	Tons/year
Volatile Organic Gases (VOC)	137 lbs/day	15 tons/year
Nitrogen Oxides (NO _x)	250 lbs/day	40 tons/year
Carbon Monoxide (CO)	550 lbs/day	100 tons/year
Sulfur Oxides (SO _x)	250 lbs/day	40 tons/year
Coarse Inhalable Particulates (PM ₁₀)	100 lbs/day	15 tons/year
Fine Inhalable Particulates (PM _{2.5}) ¹	55 lbs/day	N/A

Source: San Diego 2016.

Notes: Based on SDAPCD Regulation 2, 20.2 (d) (2): Operational Emission Thresholds, and SDAPCD Regulation 20.3.

¹ Threshold for VOCs based on the threshold of significance for VOCs from per the Monterey Bay APCD which has similar federal and state attainment status as San Diego.

² Based on the EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.

CO HOTSPOTS

The significance of localized project impacts depends on whether the project would cause substantial concentrations of CO. Prior to 1998 the SDAB was designated as nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations in the SDAB and in the state have steadily declined. In 1998, the SDAPCD was designated as in attainment for CO under both the CAAQS and NAAQS

and was under a 10-year federal maintenance plan for CO as a result of its redesignation. The current version of the maintenance plan is the 2004 Revision to the *California State Implementation Plan (SIP) for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas*, which was approved as an SIP revision in January 2006 (CARB 2004).

Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by 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 2017). Therefore, the potential for CO hotspots to be generated in the SDAB is extremely unlikely because of the improvements in vehicle emission rates and control efficiencies.

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,⁴ carbon (CO₂), methane (CH₄), and ozone (O₃)—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 (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).⁵ The major GHG are briefly described below.

- **Carbon dioxide (CO₂)** 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 (CH₄)** 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 (N₂O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

⁴ Water vapor (H₂O) 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.

⁵ 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 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 2017b). 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.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.
 - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
 - **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.
 - **Sulfur Hexafluoride (SF₆)** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
 - **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.
 - **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (IPCC 2001; USEPA 2019b).

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 8. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) 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 Fourth Assessment Report (AR4) GWP values for CH₄, a project that generates 10 metric tons (MT) of CH₄ would be equivalent to 250 MT of CO₂.⁶

Table 8 GHG Emissions and Their Relative Global Warming Potential Compared to CO₂

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	50 to 200	50 to 200	1	1
Methane ² (CH ₄)	12 (±3)	12	21	25
Nitrous Oxide (N ₂ O)	120	114	310	298

Source: IPCC 1995; IPCC 2007.

Notes: The GWP values in the IPCC's Fifth Assessment Report (2013) reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂. However, the AR4 GWP values are used to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the AR4 GWP values.

¹ Based on 100-year time horizon of the GWP of the air pollutant relative to CO₂.

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 CO₂ is not included.

California's Greenhouse Gas Sources and Relative Contribution

In 2019, the statewide GHG emissions inventory was updated for 2000 to 2017 emissions using the GWPs in IPCC's AR4.⁷ Based on these GWPs, California produced 424.10 MMTCO₂e GHG emissions in 2017. California's transportation sector was the single largest generator of GHG emissions, producing 40.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.7 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.6 percent) high GWP (4.7 percent), and recycling and waste (2.1 percent) (CARB 2019a).

California's GHG emissions have followed a declining trend since 2007. In 2017, emissions from routine GHG emitting activities statewide were 424 MMTCO₂e, 5 MMTCO₂e lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 MMTCO₂e below the 1990 level and the state's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 MTCO₂e per capita to 10.7 MTCO₂e per capita in 2017, a 24 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 41 percent decline since the 2001 peak, while the state's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources (hydro, solar, wind, and nuclear energy). (CARB 2019b).

Regulatory Settings

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The U.S. 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 vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG

⁷ Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

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 (USEPA 2009).

To regulate GHGs from passenger vehicles, EPA was required to issue an endangerment finding. The finding identifies emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—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 SDAPCD 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 CO₂ per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017–2025 that will require a fleet average of 54.5 miles per gallon in 2025.

While the EPA is reexamining the 2017–2025 emissions and CAFE standards, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards (CARB 2019c).

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new, large, stationary sources of emissions, such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy (ACE) rule which became effective on August 19, 2019. The ACE rule was crafted under the direction of President Trump's Energy Independence Executive

Order. It officially rescinds the Clean Power Plan rule issued during the Obama Administration and sets emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants.

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32) and Senate Bill 375 (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)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32. 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 Executive Order S-03-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. The *2008 Scoping Plan* identified that GHG emissions in California are anticipated to be approximately 596 MMTCO_{2e} in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO_{2e} (471 million tons) for the state (CARB 2008). In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MTCO_{2e} per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014, board hearing. The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 MMTCO_{2e} 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 MMTCO_{2e} (CARB 2014).

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020

element provides a high-level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014). CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs 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 Executive Order 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.

2017 Climate Change Scoping Plan Update

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlines potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks;

- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the State's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 MTCO_{2e} or less per capita by 2030 and 2 MTCO_{2e} or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the State's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have discretion to develop evidenced-based numeric thresholds (mass emissions, per capita, or per service population)—consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual (BAU) yardstick—that is, what would the GHG emissions look like if the State did nothing at all beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 9. It includes the existing renewables requirements, advanced clean cars, the “10 percent” Low Carbon Fuel Standard (LCFS), and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. Also shown in the table, the known commitments are expected to result in emissions that are 60 MMTCO_{2e} above the target in 2030. If

the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table 9 2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions MMTCO ₂ e
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	260
Gap to 2030 Target	60

Source: CARB 2017c.

Table 10 provides estimated GHG emissions by sector, compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 10 2017 Climate Change Scoping Plan Emissions Change by Sector

Scoping Plan Sector	1990 MMTCO ₂ e	2030 Proposed Plan Ranges MMTCO ₂ e	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink ¹	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	431	260	-40%

Source: CARB 2017c.

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.

¹ Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

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 CH₄. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that 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, as specified. The bill also establishes targets for reducing organic waste in landfill. On

March 14, 2017, CARB adopted the “Final Proposed 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 2017b). In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Senate Bill 375

In 2008, Senate Bill 375 (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 (MPOs). The San Diego Association of Governments (SANDAG) is the MPO for the San Diego region.

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. CARB’s per-capita GHG targets for San Diego are 7 percent per capita reduction by year 2020 and a 13 percent per capita reduction for 2035 (CARB 2010).

2017 Update to the SB 375 Targets

The targets for the MPOs are required to be updated every eight years. In March 2018, CARB adopted revised SB 375 targets for the MPOs, which became effective on October 1, 2018. The updated SB 375 targets for the SANDAG region are a 15 percent per capita GHG reduction in 2020 from 2005 levels (compared to the 2010 target of 7 percent) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018c).

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 reduction 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 SCS 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 2018c).

SANDAG SCS

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their Regional Transportation Plan (RTP) (CARB 2010). SANDAG adopted the San Diego Forward: The Regional Plan, which combines the region's Regional Comprehensive Plan (RCP) and the RTP/SCS (SANDAG 2015). SANDAG's SCS shows how the region will meet the Scoping Plan targets for the region by using land in ways that make developments more compact, conserving open space, and investing in a transportation network that gives residents alternatives to driving alone. The proposed land uses pattern within SANDAG's SCS would accommodate 79 percent of all housing and 86 percent of all jobs within the Urban Area Transit Strategy Study Area where the greatest investments in public transit would be made. It is estimated that 82 percent of new housing in the region will be attached multifamily dwellings (SANDAG 2015). In addition to land use strategies, SANDAG's SCS relies on improvements to the transportation network (e.g., transit system, bicycle network), expansion of transportation demand measures, transportation system management measures, and pricing strategies. The SCS would result in a 15 percent reduction in emissions by 2020, and a 21 percent reduction by 2035—far more than what CARB mandates for the SANDAG region (SANDAG 2015).

The SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers. The five strategies toward sustainability in the SCS include:

- Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.
- Protect the environment by preserving sensitive habitat, open space, and farmland.
- Invest in a transportation network that gives people transportation options and reduces greenhouse gas emissions.
- Address the housing needs of all economic segments of the population.
- Implement the Regional Plan through Incentives and Collaboration.

The Regional Plan's actions applicable for local agencies include:

- Promote the use of both zero-emission vehicles and alternative fuels and ensure that we have the infrastructure to support these innovations.
- Support the efforts of local jurisdictions to implement their Energy Roadmap Programs to save energy in their own operations and in their larger communities.
- Work with partner agencies to implement the transportation projects contained in the Regional Plan. These include:
 - Implement state-of-the-art technologies and Transportation Demand and Systems Management Programs to provide more mobility choices and allow the transportation system to function more efficiently.
 - Continue to pursue opportunities to expand shared mobility services near Smart Growth Opportunity Areas in the region. Examples of shared mobility services including carsharing, bike-sharing, real-time ridesharing, Transportation Network Companies (e.g., Uber, Lyft, Sidecar), neighborhood electric vehicles, scooter-share, and on-demand shuttle and jitney services.

- Support the development of policies, programs, and funding for moving goods in the state and nation, as well as for infrastructure in the region that supports moving goods.

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 was 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 year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). 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 global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer 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 carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires 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 would use 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 zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission 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 zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

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

A major component of California's Renewable Energy Program is the RPS 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 was signed in November 2008, which 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 in September 2015. SB 350 establishes tiered increases to the RPS of 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, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a 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.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets 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 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 not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_{2e} from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

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 zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission 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 zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2016 (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 June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards, which were recently adopted on May 9, 2018, go into effect starting January 1, 2020.

The 2016 Standards continues to improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015a). Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. While the 2016 standards do not achieve zero net energy, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

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.⁸ The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2016. The 2016 CALGreen became effective on January 1, 2017. The 2019 CALGreen standards become effective January 1, 2020.

⁸ The green building standards became mandatory in the 2010 edition of the code.

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 Regulations

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 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 (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 the 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.

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.

Section 5.408 of the 2016 and 2019 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.

In October 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, including multifamily residential dwellings that consist of 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 in with food waste.

Water Efficiency Regulations

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 requires 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.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or 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.

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.⁹

BRIGHT-LINE GHG EMISSIONS SIGNIFICANCE THRESHOLDS

The latest guidance for evaluating GHG emissions released by the City of San Diego is the guidance document entitled, *California Environmental Quality Act Significance Determination Thresholds* (San Diego 2016). In general, the guidelines to determine potential project impacts is based on consistency to the City's adopted Climate Action Plan (CAP). However, the City's CAP is not directly applicable to the Del Mar Union School District because measures in the City's CAP only apply to development projects in the City's jurisdictional authority. Until the SDAPCD provides updated formal guidance to account for the recent ruling, the District has identified the following alternative bright-line metric to assess GHG emissions impacts:

The bright-line significance threshold is a numeric, mass emissions threshold. In general, the bright-line threshold identifies the point at which additional analysis of project-related GHG emissions impacts is necessary. Projects below the established bright-line significance criteria have a *de minimis* contribution the local,

⁹ 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.

regional, and/or statewide GHG emissions inventory and have less than significant impacts. Projects above this threshold may result in a substantial increase in GHG emissions.

The bright-line threshold is based on the methodology identified in the 2008 California Air Pollution Control Officers Association (CAPCOA) white paper (CAPCOA 2008). It is based on the market capture approach and reflects the amount of emissions that 90 percent of development projects surveyed in four cities within California would generate. CAPCOA identified that a bright-line threshold set at 900 MTCO_{2e} would capture 90 percent of projects. In general, 900 MTCO_{2e}/yr corresponds to (1) a residential development of 50 dwelling units; (2) 35,000 square feet of office space; (3) 11,000 square feet of retail space; and (4) 6,300 square feet of supermarket space.

The 900 MTCO_{2e}/yr is a conservative bright-line threshold. As a comparison, the Bay Area Air Quality Management District (BAAQMD) and South Coast Air Quality Management District (SCAQMD) have also established bright-line screening thresholds of 1,100 MTCO_{2e} and 3,000 MTCO_{2e} per year, respectively, for development projects based on similar market capture methodologies utilized by CAPCOA. The SCAQMD based their bright-line screening threshold on review of 711 CEQA projects and determined that 90 percent of the projects reviewed would exceed 3,000 MTCO_{2e} per year (SCAQMD 2009). Similarly, the bright-line screening threshold established by BAAQMD captures approximately 59 percent of all development projects (BAAQMD 2017).

Overall, for the purpose of this CEQA assessment, projects that are not exempt from CEQA are required to quantify project-level GHG emissions and compared to the bright-line threshold of 900 MTCO_{2e}/yr. A GHG inventory for a development project should include GHG emissions for the following GHG sectors where applicable: electricity, transportation, waste generation, wastewater treatment, and commercial and residential (e.g., natural gas use, area sources).¹⁰ In addition, construction-related emissions are amortized over the lifetime of a project, which is conservatively estimated at 20 years unless a longer project lifetime can be substantiated. Projects that do not exceed the bright-line threshold of significance are considered to have a less than cumulatively considerable impact to climate change. Projects that do exceed the applicable GHG bright-line significance threshold would be considered potentially significant and would require inclusion of all feasible mitigation measures to reduce GHG emissions.

¹⁰ Permitted sources are evaluated separately under the stationary source threshold of 10,000 MTCO_{2e}.

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Regional Construction Emissions Worksheet:

Demolition		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer					
	Off-Road	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
	Total	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	7.47E-03	0.2255	0.0575	5.50E-04	0.0138	4.74E-03
	Worker	0.055	0.0371	0.4252	1.27E-03	0.1145	0.0311
	Total	0.0625	0.2626	0.4826	1.82E-03	0.1282	0.0359
TOTAL		3.3746	33.4636	22.2358	0.0406	1.7869	1.5778
Onsite		2020 Winter					
	Off-Road	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
	Total	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	7.83E-03	0.2253	0.0638	5.30E-04	0.0138	4.76E-03
	Worker	0.0623	0.0416	0.4009	1.19E-03	0.1145	0.0311
	Total	0.0702	0.267	0.4646	1.72E-03	0.1282	0.0359
TOTAL		3.3823	33.4680	22.2178	0.0405	1.7869	1.5778
Onsite		2020					
	Off-Road	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
	Total	3.3121	33.201	21.7532	0.0388	1.6587	1.5419
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.00783	0.2255	0.0638	0.00055	0.0138	0.00476
	Worker	0.0623	0.0416	0.4252	0.00127	0.1145	0.0311
	Total	0.0702	0.267	0.4826	0.00182	0.1282	0.0359
TOTAL		3.3823	33.468	22.2358	0.04062	1.7869	1.5778
Demolition Haul		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer					
	Fugitive Dust					0.8509	0.1289
	Off-Road	0	0	0	0	0	0
	Total	0	0	0	0	0.8509	0.1289
Offsite							
	Hauling	0.1537	5.4259	1.2319	0.0152	0.334	0.104
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	0.1537	5.4259	1.2319	0.0152	0.334	0.104
TOTAL		0.1537	5.4259	1.2319	0.0152	1.1849	0.2329
Onsite		2020 Winter					
	Fugitive Dust					0.8509	0.1289
	Off-Road	0	0	0	0	0	0
	Total	0	0	0	0	0.8509	0.1289
Offsite							
	Hauling	0.158	5.4781	1.3133	0.015	0.3344	0.1044
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	0.158	5.4781	1.3133	0.015	0.3344	0.1044
TOTAL		0.1580	5.4781	1.3133	0.0150	1.1853	0.2333
Onsite		2020					
	Fugitive Dust	0	0	0	0	0.8509	0.1289
	Off-Road	0	0	0	0	0	0
	Total	0	0	0	0	0.8509	0.1289
Offsite							
	Hauling	0.158	5.4781	1.3133	0.0152	0.3344	0.1044
	Vendor	0	0	0	0	0	0
	Worker	0	0	0	0	0	0
	Total	0.158	5.4781	1.3133	0.0152	0.3344	0.1044
TOTAL		0.158	5.4781	1.3133	0.0152	1.1853	0.2333

Site Preparation

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
		2020 Summer					
Onsite	Fugitive Dust					3.6584	2.011
	Off-Road	4.0765	42.4173	21.5136	0.038	2.1974	2.0216
	Total	4.0765	42.4173	21.5136	0.038	5.8558	4.0326
Offsite	Hauling	0	0	0	0	0	0
	Vendor	7.47E-03	0.2255	0.0575	5.50E-04	0.0138	4.74E-03
	Worker	0.0661	0.0445	0.5102	1.52E-03	0.1373	0.0373
	Total	0.0735	0.27	0.5677	2.07E-03	0.1511	0.0421
TOTAL		4.1500	42.6873	22.0813	0.0401	6.0069	4.0747
		2020 Winter					
Onsite	Fugitive Dust					3.6584	2.011
	Off-Road	4.0765	42.4173	21.5136	0.038	2.1974	2.0216
	Total	4.0765	42.4173	21.5136	0.038	5.8558	4.0326
Offsite	Hauling	0	0	0	0	0	0
	Vendor	7.83E-03	0.2253	0.0638	5.30E-04	0.0138	4.76E-03
	Worker	0.0748	0.05	0.481	1.43E-03	0.1373	0.0373
	Total	0.0826	0.2753	0.5448	1.96E-03	0.1511	0.0421
TOTAL		4.1591	42.6926	22.0584	0.0400	6.0069	4.0747
		2020					
Onsite	Fugitive Dust	0	0	0	0	3.6584	2.011
	Off-Road	4.0765	42.4173	21.5136	0.038	2.1974	2.0216
	Total	4.0765	42.4173	21.5136	0.038	5.8558	4.0326
Offsite	Hauling	0	0	0	0	0	0
	Vendor	0.00783	0.2255	0.0638	0.00055	0.0138	0.00476
	Worker	0.0748	0.05	0.5102	0.00152	0.1373	0.0373
	Total	0.0826	0.2753	0.5677	0.00207	0.1511	0.0421
TOTAL		4.1591	42.6926	22.0813	0.04007	6.0069	4.0747

Grading

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
		2020 Summer					
Onsite	Fugitive Dust					1.3269	0.6819
	Off-Road	2.4288	26.3859	16.053	0.0297	1.2734	1.1716
	Total	2.4288	26.3859	16.053	0.0297	2.6003	1.8535
Offsite	Hauling	0	0	0	0	0	0
	Vendor	7.47E-03	0.2255	0.0575	5.50E-04	0.0138	4.74E-03
	Worker	0.055	0.0371	0.4252	1.27E-03	0.1145	0.0311
	Total	0.0625	0.2626	0.4826	1.82E-03	0.1282	0.0359
TOTAL		2.4913	26.6485	16.5356	0.0315	2.7285	1.8894
		2020 Winter					
Onsite	Fugitive Dust					1.3269	0.6819
	Off-Road	2.4288	26.3859	16.053	0.0297	1.2734	1.1716
	Total	2.4288	26.3859	16.053	0.0297	2.6003	1.8535
Offsite	Hauling	0	0	0	0	0	0
	Vendor	7.83E-03	0.2253	0.0638	5.30E-04	0.0138	4.76E-03
	Worker	0.0623	0.0416	0.4009	1.19E-03	0.1145	0.0311
	Total	0.0702	0.267	0.4646	1.72E-03	0.1282	0.0359
TOTAL		2.4990	26.6529	16.5176	0.0314	2.7285	1.8894
		2020					
Onsite	Fugitive Dust	0	0	0	0	1.3269	0.6819
	Off-Road	2.4288	26.3859	16.053	0.0297	1.2734	1.1716
	Total	2.4288	26.3859	16.053	0.0297	2.6003	1.8535
Offsite	Hauling	0	0	0	0	0	0
	Vendor	0.00783	0.2255	0.0638	0.00055	0.0138	0.00476
	Worker	0.0623	0.0416	0.4252	0.00127	0.1145	0.0311
	Total	0.0702	0.267	0.4826	0.00182	0.1282	0.0359
TOTAL		2.499	26.6529	16.5356	0.03152	2.7285	1.8894

Trenching

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer					
	Off-Road	0.245	2.4126	3.2678	5.17E-03	0.1169	0.1075
	Total	0.245	2.4126	3.2678	5.17E-03	0.1169	0.1075
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.011	7.42E-03	0.085	2.50E-04	0.0229	6.22E-03
	Total	0.011	7.42E-03	0.085	2.50E-04	0.0229	6.22E-03
TOTAL		0.2560	2.4200	3.3528	0.0054	0.1398	0.1137
Onsite		2020 Winter					
	Off-Road	0.245	2.4126	3.2678	5.17E-03	0.1169	0.1075
	Total	0.245	2.4126	3.2678	5.17E-03	0.1169	0.1075
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.0125	8.33E-03	0.0802	2.40E-04	0.0229	6.22E-03
	Total	0.0125	8.33E-03	0.0802	2.40E-04	0.0229	6.22E-03
TOTAL		0.2575	2.4209	3.3480	0.0054	0.1398	0.1137
Onsite		2020					
	Off-Road	0.245	2.4126	3.2678	0.00517	0.1169	0.1075
	Total	0.245	2.4126	3.2678	0.00517	0.1169	0.1075
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.0125	0.00833	0.085	0.00025	0.0229	0.00622
	Total	0.0125	0.00833	0.085	0.00025	0.0229	0.00622
TOTAL		0.2575	2.42093	3.3528	0.00542	0.1398	0.11372

Building Construction 2020

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2020 Summer					
	Off-Road	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
	Total	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.2466	7.442	1.8959	0.0181	0.4545	0.1564
	Worker	0.6165	0.4154	4.7621	0.0142	1.2818	0.3485
	Total	0.8631	7.8574	6.6581	0.0323	1.7364	0.5049
TOTAL		2.9829	27.0434	23.5066	0.0592	2.8535	1.5552
Onsite		2020 Winter					
	Off-Road	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
	Total	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.2583	7.436	2.1041	0.0176	0.4552	0.1571
	Worker	0.6982	0.4664	4.4898	0.0133	1.2818	0.3485
	Total	0.9565	7.9024	6.5939	0.031	1.7371	0.5056
TOTAL		3.0763	27.0884	23.4424	0.0579	2.8542	1.5559
Onsite		2020					
	Off-Road	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
	Total	2.1198	19.186	16.8485	0.0269	1.1171	1.0503
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0.2583	7.442	2.1041	0.0181	0.4552	0.1571
	Worker	0.6982	0.4664	4.7621	0.0142	1.2818	0.3485
	Total	0.9565	7.9024	6.6581	0.0323	1.7371	0.5056
TOTAL		3.0763	27.0884	23.5066	0.0592	2.8542	1.5559

Building Construction 2021

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2021 Summer						
Off-Road		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Total		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.1996	6.7208	1.7127	0.0179	0.4322	0.1351
Worker		0.5811	0.3775	4.456	0.0137	1.2817	0.3484
Total		0.7807	7.0983	6.1687	0.0316	1.7139	0.4834
TOTAL		2.6816	24.5304	22.7439	0.0585	2.6725	1.3847
Onsite	2021 Winter						
Off-Road		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Total		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.2104	6.7029	1.907	0.0174	0.4328	0.1356
Worker		0.659	0.4238	4.1887	0.0129	1.2817	0.3484
Total		0.8693	7.1266	6.0957	0.0303	1.7145	0.484
TOTAL		2.7702	24.5587	22.6709	0.0572	2.6731	1.3853
Onsite	2021						
Off-Road		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Total		1.9009	17.4321	16.5752	0.0269	0.9586	0.9013
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0.2104	6.7208	1.907	0.0179	0.4328	0.1356
Worker		0.659	0.4238	4.456	0.0137	1.2817	0.3484
Total		0.8693	7.1266	6.1687	0.0316	1.7145	0.484
TOTAL		2.7702	24.5587	22.7439	0.0585	2.6731	1.3853

Paving 2021

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2021 Summer						
Off-Road		1.2556	12.9191	14.6532	0.0228	0.6777	0.6235
Paving		0.1808				0	0
Total		1.4363	12.9191	14.6532	0.0228	0.6777	0.6235
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0519	0.0337	0.3979	1.23E-03	0.1144	0.0311
Total		0.0519	0.0337	0.3979	1.23E-03	0.1144	0.0311
TOTAL		1.4882	12.9528	15.0511	0.0240	0.7921	0.6546
Onsite	2021 Winter						
Off-Road		1.2556	12.9191	14.6532	0.0228	0.6777	0.6235
Paving		0.1808				0	0
Total		1.4363	12.9191	14.6532	0.0228	0.6777	0.6235
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0588	0.0378	0.374	1.15E-03	0.1144	0.0311
Total		0.0588	0.0378	0.374	1.15E-03	0.1144	0.0311
TOTAL		1.4951	12.9569	15.0272	0.0240	0.7921	0.6546
Onsite	2021						
Off-Road		1.2556	12.9191	14.6532	0.0228	0.6777	0.6235
Paving		0.1808	0		0	0	0
Total		1.4363	12.9191	14.6532	0.0228	0.6777	0.6235
Offsite							
Hauling		0	0	0	0	0	0
Vendor		0	0	0	0	0	0
Worker		0.0588	0.0378	0.3979	0.00123	0.1144	0.0311
Total		0.0588	0.0378	0.3979	0.00123	0.1144	0.0311
TOTAL		1.4951	12.9569	15.0511	0.02403	0.7921	0.6546

Architectural Coating

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2021 Summer					
	Archit. Coating	18.2758				0	0
	Off-Road	0.2189	1.5268	1.8176	2.97E-03	0.0941	0.0941
	Total	18.4947	1.5268	1.8176	2.97E-03	0.0941	0.0941
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.1176	0.0764	0.9018	2.78E-03	0.2594	0.0705
	Total	0.1176	0.0764	0.9018	2.78E-03	0.2594	0.0705
TOTAL		18.6123	1.6032	2.7194	0.0058	0.3535	0.1646
Onsite		2021 Winter					
	Archit. Coating	18.2758				0	0
	Off-Road	0.2189	1.5268	1.8176	2.97E-03	0.0941	0.0941
	Total	18.4947	1.5268	1.8176	2.97E-03	0.0941	0.0941
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.1334	0.0858	0.8477	2.61E-03	0.2594	0.0705
	Total	0.1334	0.0858	0.8477	2.61E-03	0.2594	0.0705
TOTAL		18.6281	1.6126	2.6653	0.0056	0.3535	0.1646
Onsite		2021					
	Archit. Coating	18.2758	0	0	0	0	0
	Off-Road	0.2189	1.5268	1.8176	0.00297	0.0941	0.0941
	Total	18.4947	1.5268	1.8176	0.00297	0.0941	0.0941
Offsite							
	Hauling	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0
	Worker	0.1334	0.0858	0.9018	0.00278	0.2594	0.0705
	Total	0.1334	0.0858	0.9018	0.00278	0.2594	0.0705
TOTAL		18.6281	1.6126	2.7194	0.00575	0.3535	0.1646
Demolition and Demolition Haul		3.3823	33.4680	22.2358	0.0406	1.7869	1.5778
Site Preparation		4.1591	42.6926	22.0813	0.0401	6.0069	4.0747
Grading		2.4990	26.6529	16.5356	0.0315	2.7285	1.8894
Utility Trenching		0.2575	2.4209	3.3528	0.0054	0.1398	0.1137
Building Construction 2020		3.0763	27.0884	23.5066	0.0592	2.8542	1.5559
Building Construction 2021		2.7702	24.5587	22.7439	0.0585	2.6731	1.3853
Building Construction 2021 and Paving		4.2653	37.5156	37.7950	0.0825	3.4652	2.0399
Building Construction 2021, Paving, and Architectural Coating		22.8934	39.1282	40.5144	0.0883	3.8187	2.2045
Building Construction 2021 and Architectural Coating		21.3983	26.1713	25.4633	0.0643	3.0266	1.5499
MAX DAILY		23	43	41	0	6	4
Regional Thresholds		137	250	550	250	100	55
Exceeds Thresholds?		No	No	No	No	No	No

GHG Emissions Inventory

Proposed Project Buildout

Construction

	<u>MTCO₂e Total Project*</u>
2020	348
2021	422
Total Construction	769

*CalEEMod, Version 2016.3.2.

Operation*

Amortized Construction Emissions***	38	MTCO ₂ e/Year
Bright-Line Screening Threshold	900	MTCO ₂ e/Year
Exceed Threshold?	No	

*CalEEMod, Version 2016.3.2.

** MTCO₂e=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 20 years as an estimate for building <https://www.usgbc.org/drupal/legacy/usgbc/docs/News/News477.pdf>

CalEEMod Inputs - Del Mar Heights School Project

Del Mar Heights School
 Name:
 Project Number: DMSD-02.0
 Project Location: 13555 Boquita Dr, Del Mar, CA
 County/Air Basin: San Diego County
 Climate Zone: 13
 Land Use Setting: Urban
 Operational Year: 2022-23
 Utility Company: San Diego Gas&Electric
 Air Basin: San Diego Air Basin
 Air District: SDAPCD

Project Site Acreage 11.29
 Disturbed Site Acreage 9.19

Project Components	SQFT	Tons
Demolition		
Admin Building + science/tech classrooms	7,062	
Kindergarten Building	4,024	
MUR Building + associated classrooms	12,430	
Library Building + associated classrooms	12,430	
Relocatable Classrooms (13)	12,480	
Total Building Demolition	48,426	2,228
Asphalt Demolition*	111,500	1,652
New Construction		
Total Building Construction	69,817	1.60
Total Other Non-Asphalt Surfaces	270,360	6.21
Parking	60,276	1.38
Total	400,453	

Notes

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Total Building Construction	Educational	Elementary School	69.817	1000sqft	1.60	69,817
Parking	Parking	Parking Lot	60.276	1000sqft	1.38	60,276
Total Other Non-asphalt Surfaces	Parking	Other Non-asphalt Surfaces	270.360	1000sqft	6.21	270,360
Total					9.19	

Demolition

Component	Amount to be Demolished (Tons)	Haul Truck Capacity (tons) ²	Haul Distance (miles) ²	Total Trip Ends	Duration (days)	Trip Ends/ day
Total Building Demo	2,228	20	20	223	20	11
Total Asphalt Demo ¹	1652	20	20	166	20	9
Total	3,879			389		

¹ Based on information provided by the applicant

² CalEEMod Default

Architectural Coating

Percentage of Proposed Buildings' Interior Painted: 100%

Percentage of Proposed Buildings' Exterior Painted: 100%

SDAPCD Rule 67.0.1

Interior Paint VOC content: 50 grams per liter
 Exterior Paing VOC content: 50 grams per liter

Non-Residential Structures	Land Use Square Feet	CalEEMod Factor ²	Total Paintable Surface Area	Paintable Interior Area ¹	Paintable Exterior Area ¹
Total Building Construction	69,817	2	139,634	104,726	34,909
Parking Lot	60,276	6%	3,617	-	3,617
			3,617	-	3,617

¹ CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

² The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user.

³ We assume 100% of the interior and exterior of buildings to be modernized will be painted

Construction Mitigation

SDAPCD Rule 55			
Replace Ground Cover	PM10:	5	% Reduction
Replace Ground Cover	PM10:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
Street Sweeping	Clean Paved Road	9	% PM Reduction

Construction Activities and Schedule Assumptions: Del Mar Heights School Project

* CalEEMod defaults based on info provided by applicant, normalized to fit duration provided by applicant

CalEEMod Defaults

Construction Activities	Phase Type	Construction Schedule		
		Start Date	End Date	CalEEMod Duration (Workday)
Demolition	Demolition	6/1/2020	6/26/2020	20
Site Preparation	Site Preparation	6/27/2020	7/10/2020	10
Grading	Grading	7/11/2020	8/7/2020	20
Building Construction	Building Construction	8/8/2020	6/25/2021	230
Paving	Paving	6/26/2021	7/23/2021	20
Architectural Coating	Architectural Coating	7/24/2021	8/20/2021	20

Normalized Schedules

6/1/2020-7/30/2021 (14 Months)

Construction Activities	Phase Type	Construction Schedule		
		Start Date	End Date	CalEEMod Duration (Workday)
Demolition	Demolition	6/1/2020	6/26/2020	20
<i>Demolition Haul</i>	<i>Demolition</i>	6/1/2020	6/26/2020	20
Site Preparation	Site Preparation	6/27/2020	7/10/2020	10
Grading	Grading	7/11/2020	8/7/2020	20
Utility Trenching	Trenching	8/8/2020	8/23/2020	10
Building Construction	Building Construction	8/24/2020	7/31/2021	245
Paving	Paving	6/22/2021	7/19/2021	20
Architectural Coating	Architectural Coating	7/3/2021	7/31/2021	20

CalEEMod Construction Off-Road Equipment Inputs

*Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results

General Construction Hours: btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Construction Equipment Details					
Equipment	# of Equipment	hr/day	hp	load factor*	total trips
Phase 1					
Demolition					
Concrete/Industrial Saws	1	8	81	0.73	
Excavators	3	8	158	0.38	
Rubber Tired Dozers	2	8	247	0.4	
Worker Trips					15
Vendor Trips					
Hauling Trips					
Water Trucks					2
Demo Haul					
no additional equipment needed for Demo Haul					
Worker Trips					
Vendor Trips					
Hauling Trips					389
Site Preparation					
Rubber Tired Dozers	3	8	247	0.4	
Tractors/Loaders/Backhoes	4	8	97	0.37	
Worker Trips					18
Vendor Trips					
Hauling Trips					
Water Trucks					2
Grading					
Excavators	1	8	158	0.38	
Graders	1	8	187	0.41	
Rubber Tired Dozers	1	8	247	0.4	
Tractors/Loaders/Backhoes	3	8	97	0.37	
Worker Trips					15
Vendor Trips					
Hauling Trips					
Water Trucks					2
Utility Trenching					
Excavators	1	8	158	0.38	
Worker Trips					3
Vendor Trips					
Hauling Trips					0
Building Construction					
Cranes	1	7	231	0.29	
Forklifts	3	8	89	0.2	
Generator Sets	1	8	84	0.74	
Tractors/Loaders/Backhoes	3	7	97	0.37	
Welders	1	8	46	0.45	
Worker Trips					168
Vendor Trips					66
Hauling Trips					
Paving					
Pavers	2	8	130	0.42	
Paving Equipment	2	8	132	0.36	
Rollers	2	8	80	0.38	
Worker Trips					15
Vendor Trips					
Hauling Trips					
Architectural Coating (surface lots, etc...)					
Air Compressors	1	6	78	0.48	
Worker Trips					34
Vendor Trips					
Hauling Trips					

Construction Trips Worksheet

Phase Name	Worker Trip Ends Per	Vendor Trip Ends Per	Haul Truck Trip Ends	Total Haul Truck Trip
	Day	Day	Per Day	Ends
Demolition	15	2	0	0
Demolition Haul	0	0	20	389
Site Preparation	18	2	0	0
Grading	15	2	0	0
Utility Trenching	3	0	0	0
Building Construction	168	66	0	0
Paving	15	0	0	0
Architectural Coating	34	0	0	0

Construction Activity (Overlapping)	Worker Trip Ends Per	Vendor Trip Ends Per	Haul Truck Trip Ends	Total Trip Ends Per
	Day	Day	Per Day	Day
Demolition and Demolition Haul	15	2	20	37
Site Preparation	18	2	0	20
Grading	15	2	0	17
Utility Trenching	3	0	0	3
Building Construction	168	66	0	234
Building Construction and Paving	183	66	0	249
Building Construction , Paving, and Architectural Coating	217	66	0	283
Building Construction and Architectural Coating	202	66	0	268
Maximum Daily Trips	217	66	20	283

Pavement Volume to Weight Conversion

Component	Total SF of Area¹	Assumed Thickness (foot)²	Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf)³	AC Mass (lbs)	AC Mass (tons)
Asphalt Phase 1	111,500	0.333	37,167	89	3,303,704	1,652

¹ Based on aerial image of existing project site.

² Pavements and Surface Materials. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Connecticut Cooperative Extension System, 1999.

³ <https://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations>

Del Mar Heights School
Construction Run - San Diego County, Summer

Del Mar Heights School
San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	69.82	1000sqft	1.60	69,817.00	0
Other Non-Asphalt Surfaces	270.36	1000sqft	6.21	270,360.00	0
Parking Lot	60.28	1000sqft	1.38	60,276.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use -
- Construction Phase - Overlaps with Paving and arch coat
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - no additional equipment from demolition phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for any trenching to be done

Trips and VMT - 2 VT per water truck, debris assigned to haul phase

Demolition - all demo debris assigned to haul

Grading -

Architectural Coating - SDAPCD rule 67.0.1

Construction Off-road Equipment Mitigation - SDAPCD rule 55

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	19,838.00	3,617.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	245.00
tblLandUse	LandUseSquareFeet	69,820.00	69,817.00
tblLandUse	LandUseSquareFeet	60,280.00	60,276.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	384.00	389.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/26/2020	5	20	a
2	Demolition Haul	Demolition	6/1/2020	6/26/2020	5	20	b
3	Site Preparation	Site Preparation	6/27/2020	7/10/2020	5	10	c
4	Grading	Grading	7/11/2020	8/7/2020	5	20	d
5	Utility Trenching	Trenching	8/8/2020	8/23/2020	5	10	e
6	Building Construction	Building Construction	8/24/2020	7/31/2021	5	245	f
7	Paving	Paving	6/22/2021	7/19/2021	5	20	g
8	Architectural Coating	Architectural Coating	7/3/2021	7/31/2021	5	20	h

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 104,726; Non-Residential Outdoor: 34,909; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Haul	Excavators	0	8.00	158	0.38
Demolition Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Haul	0	0.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	168.00	66.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0135	1.1000e-003	0.0146	3.9000e-003	1.0600e-003	4.9500e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0550	0.0371	0.4252	1.2700e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		126.4121	126.4121	3.7700e-003		126.5064
Total	0.0625	0.2626	0.4826	1.8200e-003	0.1368	1.9600e-003	0.1387	0.0366	1.8600e-003	0.0384		185.2201	185.2201	8.1100e-003		185.4229

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0127	1.1000e-003	0.0138	3.6800e-003	1.0600e-003	4.7400e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0550	0.0371	0.4252	1.2700e-003	0.1136	8.6000e-004	0.1145	0.0303	8.0000e-004	0.0311		126.4121	126.4121	3.7700e-003		126.5064
Total	0.0625	0.2626	0.4826	1.8200e-003	0.1263	1.9600e-003	0.1282	0.0340	1.8600e-003	0.0359		185.2201	185.2201	8.1100e-003		185.4229

3.3 Demolition Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.2021	0.0000	4.2021	0.6364	0.0000	0.6364			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	4.2021	0.0000	4.2021	0.6364	0.0000	0.6364		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1537	5.4259	1.2319	0.0152	0.3399	0.0173	0.3572	0.0931	0.0166	0.1097		1,665.5554	1,665.5554	0.1467		1,669.2232
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1537	5.4259	1.2319	0.0152	0.3399	0.0173	0.3572	0.0931	0.0166	0.1097		1,665.5554	1,665.5554	0.1467		1,669.2232

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8509	0.0000	0.8509	0.1289	0.0000	0.1289			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.8509	0.0000	0.8509	0.1289	0.0000	0.1289	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1537	5.4259	1.2319	0.0152	0.3167	0.0173	0.3340	0.0875	0.0166	0.1040		1,665.5554	1,665.5554	0.1467		1,669.2232
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1537	5.4259	1.2319	0.0152	0.3167	0.0173	0.3340	0.0875	0.0166	0.1040		1,665.5554	1,665.5554	0.1467		1,669.2232

3.4 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0135	1.1000e-003	0.0146	3.9000e-003	1.0600e-003	4.9500e-003		58.8080	58.8080	4.3400e-003			58.9165
Worker	0.0661	0.0445	0.5102	1.5200e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		151.6945	151.6945	4.5300e-003			151.8077
Total	0.0735	0.2700	0.5677	2.0700e-003	0.1614	2.1400e-003	0.1635	0.0431	2.0200e-003	0.0451		210.5025	210.5025	8.8700e-003			210.7242

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					3.6584	0.0000	3.6584	2.0110	0.0000	2.0110			0.0000			0.0000	
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918			3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	3.6584	2.1974	5.8558	2.0110	2.0216	4.0326	0.0000	3,685.1016	3,685.1016	1.1918			3,714.8975

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0127	1.1000e-003	0.0138	3.6800e-003	1.0600e-003	4.7400e-003		58.8080	58.8080	4.3400e-003			58.9165
Worker	0.0661	0.0445	0.5102	1.5200e-003	0.1363	1.0400e-003	0.1373	0.0364	9.6000e-004	0.0373		151.6945	151.6945	4.5300e-003			151.8077
Total	0.0735	0.2700	0.5677	2.0700e-003	0.1490	2.1400e-003	0.1511	0.0401	2.0200e-003	0.0421		210.5025	210.5025	8.8700e-003			210.7242

3.5 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.4851	2,872.4851	0.9290		2,895.7106

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0135	1.1000e-003	0.0146	3.9000e-003	1.0600e-003	4.9500e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0550	0.0371	0.4252	1.2700e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		126.4121	126.4121	3.7700e-003		126.5064
Total	0.0625	0.2626	0.4826	1.8200e-003	0.1368	1.9600e-003	0.1387	0.0366	1.8600e-003	0.0384		185.2201	185.2201	8.1100e-003		185.4229

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3269	0.0000	1.3269	0.6819	0.0000	0.6819			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	1.3269	1.2734	2.6003	0.6819	1.1716	1.8535	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0127	1.1000e-003	0.0138	3.6800e-003	1.0600e-003	4.7400e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0550	0.0371	0.4252	1.2700e-003	0.1136	8.6000e-004	0.1145	0.0303	8.0000e-004	0.0311		126.4121	126.4121	3.7700e-003		126.5064
Total	0.0625	0.2626	0.4826	1.8200e-003	0.1263	1.9600e-003	0.1282	0.0340	1.8600e-003	0.0359		185.2201	185.2201	8.1100e-003		185.4229

3.6 Utility Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621
Total	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0110	7.4200e-003	0.0850	2.5000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.2824	25.2824	7.5000e-004		25.3013
Total	0.0110	7.4200e-003	0.0850	2.5000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		25.2824	25.2824	7.5000e-004		25.3013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621
Total	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0110	7.4200e-003	0.0850	2.5000e-004	0.0227	1.7000e-004	0.0229	6.0600e-003	1.6000e-004	6.2200e-003		25.2824	25.2824	7.5000e-004		25.3013
Total	0.0110	7.4200e-003	0.0850	2.5000e-004	0.0227	1.7000e-004	0.0229	6.0600e-003	1.6000e-004	6.2200e-003		25.2824	25.2824	7.5000e-004		25.3013

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2466	7.4420	1.8959	0.0181	0.4468	0.0364	0.4832	0.1286	0.0348	0.1635		1,940.6645	1,940.6645	0.1432		1,944.2436
Worker	0.6165	0.4154	4.7621	0.0142	1.3801	9.6900e-003	1.3898	0.3661	8.9200e-003	0.3750		1,415.8151	1,415.8151	0.0423		1,416.8720
Total	0.8631	7.8574	6.6581	0.0323	1.8269	0.0461	1.8730	0.4947	0.0438	0.5384		3,356.4796	3,356.4796	0.1854		3,361.1156

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2466	7.4420	1.8959	0.0181	0.4181	0.0364	0.4545	0.1216	0.0348	0.1564		1,940.6645	1,940.6645	0.1432		1,944.2436
Worker	0.6165	0.4154	4.7621	0.0142	1.2721	9.6900e-003	1.2818	0.3396	8.9200e-003	0.3485		1,415.8151	1,415.8151	0.0423		1,416.8720
Total	0.8631	7.8574	6.6581	0.0323	1.6903	0.0461	1.7364	0.4612	0.0438	0.5049		3,356.4796	3,356.4796	0.1854		3,361.1156

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1996	6.7208	1.7127	0.0179	0.4468	0.0141	0.4609	0.1286	0.0135	0.1421		1,922.9228	1,922.9228	0.1374		1,926.3578
Worker	0.5811	0.3775	4.4560	0.0137	1.3801	9.5300e-003	1.3896	0.3661	8.7800e-003	0.3748		1,368.2607	1,368.2607	0.0391		1,369.2369
Total	0.7807	7.0983	6.1687	0.0316	1.8269	0.0237	1.8505	0.4947	0.0223	0.5170		3,291.1835	3,291.1835	0.1765		3,295.5947

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1996	6.7208	1.7127	0.0179	0.4181	0.0141	0.4322	0.1216	0.0135	0.1351		1,922.9228	1,922.9228	0.1374		1,926.3578
Worker	0.5811	0.3775	4.4560	0.0137	1.2721	9.5300e-003	1.2817	0.3396	8.7800e-003	0.3484		1,368.2607	1,368.2607	0.0391		1,369.2369
Total	0.7807	7.0983	6.1687	0.0316	1.6903	0.0237	1.7139	0.4612	0.0223	0.4834		3,291.1835	3,291.1835	0.1765		3,295.5947

3.8 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4363	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0519	0.0337	0.3979	1.2300e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335		122.1661	122.1661	3.4900e-003		122.2533
Total	0.0519	0.0337	0.3979	1.2300e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335		122.1661	122.1661	3.4900e-003		122.2533

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4363	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0519	0.0337	0.3979	1.2300e-003	0.1136	8.5000e-004	0.1144	0.0303	7.8000e-004	0.0311		122.1661	122.1661	3.4900e-003		122.2533
Total	0.0519	0.0337	0.3979	1.2300e-003	0.1136	8.5000e-004	0.1144	0.0303	7.8000e-004	0.0311		122.1661	122.1661	3.4900e-003		122.2533

3.9 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	18.4947	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1176	0.0764	0.9018	2.7800e-003	0.2793	1.9300e-003	0.2812	0.0741	1.7800e-003	0.0759		276.9099	276.9099	7.9000e-003		277.1075
Total	0.1176	0.0764	0.9018	2.7800e-003	0.2793	1.9300e-003	0.2812	0.0741	1.7800e-003	0.0759		276.9099	276.9099	7.9000e-003		277.1075

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	18.4947	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1176	0.0764	0.9018	2.7800e-003	0.2575	1.9300e-003	0.2594	0.0687	1.7800e-003	0.0705		276.9099	276.9099	7.9000e-003		277.1075
Total	0.1176	0.0764	0.9018	2.7800e-003	0.2575	1.9300e-003	0.2594	0.0687	1.7800e-003	0.0705		276.9099	276.9099	7.9000e-003		277.1075

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Del Mar Heights School
Construction Run - San Diego County, Winter

Del Mar Heights School
San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	69.82	1000sqft	1.60	69,817.00	0
Other Non-Asphalt Surfaces	270.36	1000sqft	6.21	270,360.00	0
Parking Lot	60.28	1000sqft	1.38	60,276.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Overlaps with Paving and arch coat

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - no additional equipment from demolition phase

Off-road Equipment -

Off-road Equipment - assuming 1 excavator for any trenching to be done

Trips and VMT - 2 VT per water truck, debris assigned to haul phase

Demolition - all demo debris assigned to haul

Grading -

Architectural Coating - SDAPCD rule 67.0.1

Construction Off-road Equipment Mitigation - SDAPCD rule 55

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	19,838.00	3,617.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	245.00
tblLandUse	LandUseSquareFeet	69,820.00	69,817.00
tblLandUse	LandUseSquareFeet	60,280.00	60,276.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	384.00	389.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/26/2020	5	20	a
2	Demolition Haul	Demolition	6/1/2020	6/26/2020	5	20	b
3	Site Preparation	Site Preparation	6/27/2020	7/10/2020	5	10	c
4	Grading	Grading	7/11/2020	8/7/2020	5	20	d
5	Utility Trenching	Trenching	8/8/2020	8/23/2020	5	10	e
6	Building Construction	Building Construction	8/24/2020	7/31/2021	5	245	f
7	Paving	Paving	6/22/2021	7/19/2021	5	20	g
8	Architectural Coating	Architectural Coating	7/3/2021	7/31/2021	5	20	h

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 104,726; Non-Residential Outdoor: 34,909; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Haul	Excavators	0	8.00	158	0.38
Demolition Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Haul	0	0.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	168.00	66.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		118.6698	118.6698	3.5700e-003		118.7591
Total	0.0702	0.2670	0.4646	1.7200e-003	0.1368	1.9800e-003	0.1388	0.0366	1.8800e-003	0.0385		175.9622	175.9622	8.1800e-003		176.1668

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0127	1.1200e-003	0.0138	3.6800e-003	1.0800e-003	4.7600e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1136	8.6000e-004	0.1145	0.0303	8.0000e-004	0.0311		118.6698	118.6698	3.5700e-003		118.7591
Total	0.0702	0.2670	0.4646	1.7200e-003	0.1263	1.9800e-003	0.1282	0.0340	1.8800e-003	0.0359		175.9622	175.9622	8.1800e-003		176.1668

3.3 Demolition Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.2021	0.0000	4.2021	0.6364	0.0000	0.6364			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	4.2021	0.0000	4.2021	0.6364	0.0000	0.6364		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1580	5.4781	1.3133	0.0150	0.3399	0.0177	0.3575	0.0931	0.0169	0.1101		1,636.9809	1,636.9809	0.1517		1,640.7743
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1580	5.4781	1.3133	0.0150	0.3399	0.0177	0.3575	0.0931	0.0169	0.1101		1,636.9809	1,636.9809	0.1517		1,640.7743

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8509	0.0000	0.8509	0.1289	0.0000	0.1289			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.8509	0.0000	0.8509	0.1289	0.0000	0.1289	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1580	5.4781	1.3133	0.0150	0.3167	0.0177	0.3344	0.0875	0.0169	0.1044		1,636.9809	1,636.9809	0.1517		1,640.7743
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.1580	5.4781	1.3133	0.0150	0.3167	0.0177	0.3344	0.0875	0.0169	0.1044		1,636.9809	1,636.9809	0.1517		1,640.7743

3.4 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003		57.2924	57.2924	4.6100e-003			57.4077
Worker	0.0748	0.0500	0.4810	1.4300e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		142.4038	142.4038	4.2900e-003			142.5109
Total	0.0826	0.2753	0.5448	1.9600e-003	0.1614	2.1600e-003	0.1636	0.0431	2.0400e-003	0.0452		199.6962	199.6962	8.9000e-003			199.9186

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					3.6584	0.0000	3.6584	2.0110	0.0000	2.0110			0.0000			0.0000	
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918			3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	3.6584	2.1974	5.8558	2.0110	2.0216	4.0326	0.0000	3,685.1016	3,685.1016	1.1918			3,714.8975

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0127	1.1200e-003	0.0138	3.6800e-003	1.0800e-003	4.7600e-003		57.2924	57.2924	4.6100e-003			57.4077
Worker	0.0748	0.0500	0.4810	1.4300e-003	0.1363	1.0400e-003	0.1373	0.0364	9.6000e-004	0.0373		142.4038	142.4038	4.2900e-003			142.5109
Total	0.0826	0.2753	0.5448	1.9600e-003	0.1490	2.1600e-003	0.1511	0.0401	2.0400e-003	0.0421		199.6962	199.6962	8.9000e-003			199.9186

3.5 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.4851	2,872.4851	0.9290		2,895.7106

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335		118.6698	118.6698	3.5700e-003		118.7591
Total	0.0702	0.2670	0.4646	1.7200e-003	0.1368	1.9800e-003	0.1388	0.0366	1.8800e-003	0.0385		175.9622	175.9622	8.1800e-003		176.1668

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3269	0.0000	1.3269	0.6819	0.0000	0.6819			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	2.4288	26.3859	16.0530	0.0297	1.3269	1.2734	2.6003	0.6819	1.1716	1.8535	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0127	1.1200e-003	0.0138	3.6800e-003	1.0800e-003	4.7600e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1136	8.6000e-004	0.1145	0.0303	8.0000e-004	0.0311		118.6698	118.6698	3.5700e-003		118.7591
Total	0.0702	0.2670	0.4646	1.7200e-003	0.1263	1.9800e-003	0.1282	0.0340	1.8800e-003	0.0359		175.9622	175.9622	8.1800e-003		176.1668

3.6 Utility Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621
Total	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075		500.1184	500.1184	0.1618		504.1621

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0125	8.3300e-003	0.0802	2.4000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.7340	23.7340	7.1000e-004		23.7518
Total	0.0125	8.3300e-003	0.0802	2.4000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.7000e-003		23.7340	23.7340	7.1000e-004		23.7518

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621
Total	0.2450	2.4126	3.2678	5.1700e-003		0.1169	0.1169		0.1075	0.1075	0.0000	500.1184	500.1184	0.1618		504.1621

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0125	8.3300e-003	0.0802	2.4000e-004	0.0227	1.7000e-004	0.0229	6.0600e-003	1.6000e-004	6.2200e-003		23.7340	23.7340	7.1000e-004		23.7518
Total	0.0125	8.3300e-003	0.0802	2.4000e-004	0.0227	1.7000e-004	0.0229	6.0600e-003	1.6000e-004	6.2200e-003		23.7340	23.7340	7.1000e-004		23.7518

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2583	7.4360	2.1041	0.0176	0.4468	0.0371	0.4839	0.1286	0.0355	0.1641		1,890.6506	1,890.6506	0.1521		1,894.4540
Worker	0.6982	0.4664	4.4898	0.0133	1.3801	9.6900e-003	1.3898	0.3661	8.9200e-003	0.3750		1,329.1017	1,329.1017	0.0400		1,330.1021
Total	0.9565	7.9024	6.5939	0.0310	1.8269	0.0468	1.8737	0.4947	0.0444	0.5391		3,219.7523	3,219.7523	0.1922		3,224.5561

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2583	7.4360	2.1041	0.0176	0.4181	0.0371	0.4552	0.1216	0.0355	0.1571		1,890.6506	1,890.6506	0.1521		1,894.4540
Worker	0.6982	0.4664	4.4898	0.0133	1.2721	9.6900e-003	1.2818	0.3396	8.9200e-003	0.3485		1,329.1017	1,329.1017	0.0400		1,330.1021
Total	0.9565	7.9024	6.5939	0.0310	1.6903	0.0468	1.7371	0.4612	0.0444	0.5056		3,219.7523	3,219.7523	0.1922		3,224.5561

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2104	6.7029	1.9070	0.0174	0.4468	0.0147	0.4615	0.1286	0.0140	0.1427		1,873.2074	1,873.2074	0.1459		1,876.8556
Worker	0.6590	0.4238	4.1887	0.0129	1.3801	9.5300e-003	1.3896	0.3661	8.7800e-003	0.3748		1,284.4399	1,284.4399	0.0369		1,285.3625
Total	0.8693	7.1266	6.0957	0.0303	1.8269	0.0242	1.8511	0.4947	0.0228	0.5175		3,157.6473	3,157.6473	0.1828		3,162.2181

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2104	6.7029	1.9070	0.0174	0.4181	0.0147	0.4328	0.1216	0.0140	0.1356		1,873.2074	1,873.2074	0.1459		1,876.8556
Worker	0.6590	0.4238	4.1887	0.0129	1.2721	9.5300e-003	1.2817	0.3396	8.7800e-003	0.3484		1,284.4399	1,284.4399	0.0369		1,285.3625
Total	0.8693	7.1266	6.0957	0.0303	1.6903	0.0242	1.7145	0.4612	0.0228	0.4840		3,157.6473	3,157.6473	0.1828		3,162.2181

3.8 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4363	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0378	0.3740	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335		114.6821	114.6821	3.2900e-003		114.7645
Total	0.0588	0.0378	0.3740	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335		114.6821	114.6821	3.2900e-003		114.7645

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4363	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0588	0.0378	0.3740	1.1500e-003	0.1136	8.5000e-004	0.1144	0.0303	7.8000e-004	0.0311		114.6821	114.6821	3.2900e-003		114.7645
Total	0.0588	0.0378	0.3740	1.1500e-003	0.1136	8.5000e-004	0.1144	0.0303	7.8000e-004	0.0311		114.6821	114.6821	3.2900e-003		114.7645

3.9 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	18.4947	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1334	0.0858	0.8477	2.6100e-003	0.2793	1.9300e-003	0.2812	0.0741	1.7800e-003	0.0759		259.9462	259.9462	7.4700e-003		260.1329
Total	0.1334	0.0858	0.8477	2.6100e-003	0.2793	1.9300e-003	0.2812	0.0741	1.7800e-003	0.0759		259.9462	259.9462	7.4700e-003		260.1329

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	18.4947	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1334	0.0858	0.8477	2.6100e-003	0.2575	1.9300e-003	0.2594	0.0687	1.7800e-003	0.0705		259.9462	259.9462	7.4700e-003		260.1329
Total	0.1334	0.0858	0.8477	2.6100e-003	0.2575	1.9300e-003	0.2594	0.0687	1.7800e-003	0.0705		259.9462	259.9462	7.4700e-003		260.1329

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Del Mar Heights School
Construction Run - San Diego County, Annual

Del Mar Heights School
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	69.82	1000sqft	1.60	69,817.00	0
Other Non-Asphalt Surfaces	270.36	1000sqft	6.21	270,360.00	0
Parking Lot	60.28	1000sqft	1.38	60,276.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use -
- Construction Phase - Overlaps with Paving and arch coat
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - no additional equipment from demolition phase
- Off-road Equipment -

Off-road Equipment - assuming 1 excavator for any trenching to be done

Trips and VMT - 2 VT per water truck, debris assigned to haul phase

Demolition - all demo debris assigned to haul

Grading -

Architectural Coating - SDAPCD rule 67.0.1

Construction Off-road Equipment Mitigation - SDAPCD rule 55

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	19,838.00	3,617.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	245.00
tblLandUse	LandUseSquareFeet	69,820.00	69,817.00
tblLandUse	LandUseSquareFeet	60,280.00	60,276.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	384.00	389.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2228	2.1590	1.6241	3.8400e-003	0.2887	0.0958	0.3845	0.1143	0.0894	0.2038	0.0000	346.2397	346.2397	0.0603	0.0000	347.7461
2021	0.4040	2.0053	1.8818	4.6500e-003	0.1387	0.0819	0.2206	0.0376	0.0770	0.1146	0.0000	420.0253	420.0253	0.0612	0.0000	421.5542
Maximum	0.4040	2.1590	1.8818	4.6500e-003	0.2887	0.0958	0.3845	0.1143	0.0894	0.2038	0.0000	420.0253	420.0253	0.0612	0.0000	421.5542

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2228	2.1590	1.6241	3.8400e-003	0.1241	0.0958	0.2199	0.0412	0.0894	0.1306	0.0000	346.2395	346.2395	0.0603	0.0000	347.7459
2021	0.4040	2.0053	1.8818	4.6500e-003	0.1284	0.0819	0.2103	0.0351	0.0770	0.1120	0.0000	420.0251	420.0251	0.0612	0.0000	421.5540
Maximum	0.4040	2.1590	1.8818	4.6500e-003	0.1284	0.0958	0.2199	0.0412	0.0894	0.1306	0.0000	420.0251	420.0251	0.0612	0.0000	421.5540

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	40.92	0.00	28.90	49.83	0.00	23.79	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2020	8-31-2020	1.0724	1.0724
2	9-1-2020	11-30-2020	0.9789	0.9789
3	12-1-2020	2-28-2021	0.9098	0.9098
4	3-1-2021	5-31-2021	0.8954	0.8954
5	6-1-2021	8-31-2021	0.9466	0.9466
		Highest	1.0724	1.0724

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/26/2020	5	20	a
2	Demolition Haul	Demolition	6/1/2020	6/26/2020	5	20	b
3	Site Preparation	Site Preparation	6/27/2020	7/10/2020	5	10	c
4	Grading	Grading	7/11/2020	8/7/2020	5	20	d
5	Utility Trenching	Trenching	8/8/2020	8/23/2020	5	10	e
6	Building Construction	Building Construction	8/24/2020	7/31/2021	5	245	f
7	Paving	Paving	6/22/2021	7/19/2021	5	20	g
8	Architectural Coating	Architectural Coating	7/3/2021	7/31/2021	5	20	h

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 7.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 104,726; Non-Residential Outdoor: 34,909; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Haul	Excavators	0	8.00	158	0.38
Demolition Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Haul	0	0.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	168.00	66.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5277	0.5277	4.0000e-005	0.0000	0.5287
Worker	5.5000e-004	4.1000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0873	1.0873	3.0000e-005	0.0000	1.0881
Total	6.3000e-004	2.6900e-003	4.6200e-003	2.0000e-005	1.3300e-003	2.0000e-005	1.3500e-003	3.6000e-004	2.0000e-005	3.8000e-004	0.0000	1.6150	1.6150	7.0000e-005	0.0000	1.6169

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5277	0.5277	4.0000e-005	0.0000	0.5287
Worker	5.5000e-004	4.1000e-004	4.0100e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0873	1.0873	3.0000e-005	0.0000	1.0881
Total	6.3000e-004	2.6900e-003	4.6200e-003	2.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.4000e-004	2.0000e-005	3.5000e-004	0.0000	1.6150	1.6150	7.0000e-005	0.0000	1.6169

3.3 Demolition Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0420	0.0000	0.0420	6.3600e-003	0.0000	6.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0420	0.0000	0.0420	6.3600e-003	0.0000	6.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5600e-003	0.0553	0.0127	1.5000e-004	3.3300e-003	1.7000e-004	3.5000e-003	9.1000e-004	1.7000e-004	1.0800e-003	0.0000	15.0008	15.0008	1.3500e-003	0.0000	15.0346
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5600e-003	0.0553	0.0127	1.5000e-004	3.3300e-003	1.7000e-004	3.5000e-003	9.1000e-004	1.7000e-004	1.0800e-003	0.0000	15.0008	15.0008	1.3500e-003	0.0000	15.0346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.5100e-003	0.0000	8.5100e-003	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	8.5100e-003	0.0000	8.5100e-003	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5600e-003	0.0553	0.0127	1.5000e-004	3.1000e-003	1.7000e-004	3.2800e-003	8.6000e-004	1.7000e-004	1.0300e-003	0.0000	15.0008	15.0008	1.3500e-003	0.0000	15.0346
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5600e-003	0.0553	0.0127	1.5000e-004	3.1000e-003	1.7000e-004	3.2800e-003	8.6000e-004	1.7000e-004	1.0300e-003	0.0000	15.0008	15.0008	1.3500e-003	0.0000	15.0346

3.4 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2639	0.2639	2.0000e-005	0.0000	0.2644
Worker	3.3000e-004	2.5000e-004	2.4100e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6524	0.6524	2.0000e-005	0.0000	0.6529
Total	3.7000e-004	1.3900e-003	2.7100e-003	1.0000e-005	7.9000e-004	2.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.9163	0.9163	4.0000e-005	0.0000	0.9173

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0183	0.0000	0.0183	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0183	0.0110	0.0293	0.0101	0.0101	0.0202	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2639	0.2639	2.0000e-005	0.0000	0.2644
Worker	3.3000e-004	2.5000e-004	2.4100e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6524	0.6524	2.0000e-005	0.0000	0.6529
Total	3.7000e-004	1.3900e-003	2.7100e-003	1.0000e-005	7.3000e-004	2.0000e-005	7.4000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.9163	0.9163	4.0000e-005	0.0000	0.9173

3.5 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	0.0243	0.2639	0.1605	3.0000e-004	0.0655	0.0127	0.0783	0.0337	0.0117	0.0454	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5277	0.5277	4.0000e-005	0.0000	0.5287
Worker	5.5000e-004	4.1000e-004	4.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0873	1.0873	3.0000e-005	0.0000	1.0881
Total	6.3000e-004	2.6900e-003	4.6200e-003	2.0000e-005	1.3300e-003	2.0000e-005	1.3500e-003	3.6000e-004	2.0000e-005	3.8000e-004	0.0000	1.6150	1.6150	7.0000e-005	0.0000	1.6169

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	6.8200e-003	0.0000	6.8200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	0.0243	0.2639	0.1605	3.0000e-004	0.0133	0.0127	0.0260	6.8200e-003	0.0117	0.0185	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5277	0.5277	4.0000e-005	0.0000	0.5287
Worker	5.5000e-004	4.1000e-004	4.0100e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0873	1.0873	3.0000e-005	0.0000	1.0881
Total	6.3000e-004	2.6900e-003	4.6200e-003	2.0000e-005	1.2300e-003	2.0000e-005	1.2600e-003	3.4000e-004	2.0000e-005	3.5000e-004	0.0000	1.6150	1.6150	7.0000e-005	0.0000	1.6169

3.6 Utility Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2200e-003	0.0121	0.0163	3.0000e-005		5.8000e-004	5.8000e-004		5.4000e-004	5.4000e-004	0.0000	2.2685	2.2685	7.3000e-004	0.0000	2.2868
Total	1.2200e-003	0.0121	0.0163	3.0000e-005		5.8000e-004	5.8000e-004		5.4000e-004	5.4000e-004	0.0000	2.2685	2.2685	7.3000e-004	0.0000	2.2868

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1087	0.1087	0.0000	0.0000	0.1088
Total	6.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1087	0.1087	0.0000	0.0000	0.1088

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2200e-003	0.0121	0.0163	3.0000e-005		5.8000e-004	5.8000e-004		5.4000e-004	5.4000e-004	0.0000	2.2685	2.2685	7.3000e-004	0.0000	2.2868
Total	1.2200e-003	0.0121	0.0163	3.0000e-005		5.8000e-004	5.8000e-004		5.4000e-004	5.4000e-004	0.0000	2.2685	2.2685	7.3000e-004	0.0000	2.2868

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1087	0.1087	0.0000	0.0000	0.1088
Total	6.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1087	0.1087	0.0000	0.0000	0.1088

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8567	108.8567	0.0266	0.0000	109.5206
Total	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8567	108.8567	0.0266	0.0000	109.5206

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.3536	0.0939	8.4000e-004	0.0206	1.7200e-003	0.0223	5.9400e-003	1.6500e-003	7.5900e-003	0.0000	81.8498	81.8498	6.2700e-003	0.0000	82.0067
Worker	0.0291	0.0216	0.2113	6.3000e-004	0.0633	4.6000e-004	0.0638	0.0168	4.2000e-004	0.0173	0.0000	57.2362	57.2362	1.7200e-003	0.0000	57.2791
Total	0.0409	0.3751	0.3052	1.4700e-003	0.0839	2.1800e-003	0.0861	0.0228	2.0700e-003	0.0248	0.0000	139.0860	139.0860	7.9900e-003	0.0000	139.2858

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8566	108.8566	0.0266	0.0000	109.5205
Total	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8566	108.8566	0.0266	0.0000	109.5205

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.3536	0.0939	8.4000e-004	0.0193	1.7200e-003	0.0210	5.6200e-003	1.6500e-003	7.2700e-003	0.0000	81.8498	81.8498	6.2700e-003	0.0000	82.0067
Worker	0.0291	0.0216	0.2113	6.3000e-004	0.0584	4.6000e-004	0.0588	0.0156	4.2000e-004	0.0160	0.0000	57.2362	57.2362	1.7200e-003	0.0000	57.2791
Total	0.0409	0.3751	0.3052	1.4700e-003	0.0777	2.1800e-003	0.0798	0.0212	2.0700e-003	0.0233	0.0000	139.0860	139.0860	7.9900e-003	0.0000	139.2858

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0154	0.5121	0.1366	1.3400e-003	0.0331	1.0800e-003	0.0342	9.5500e-003	1.0400e-003	0.0106	0.0000	130.2756	130.2756	9.6700e-003	0.0000	130.5173
Worker	0.0441	0.0315	0.3169	9.8000e-004	0.1017	7.2000e-004	0.1024	0.0270	6.6000e-004	0.0277	0.0000	88.8543	88.8543	2.5500e-003	0.0000	88.9180
Total	0.0595	0.5435	0.4534	2.3200e-003	0.1348	1.8000e-003	0.1366	0.0366	1.7000e-003	0.0383	0.0000	219.1299	219.1299	0.0122	0.0000	219.4353

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0154	0.5121	0.1366	1.3400e-003	0.0310	1.0800e-003	0.0321	9.0300e-003	1.0400e-003	0.0101	0.0000	130.2756	130.2756	9.6700e-003	0.0000	130.5173
Worker	0.0441	0.0315	0.3169	9.8000e-004	0.0938	7.2000e-004	0.0945	0.0251	6.6000e-004	0.0258	0.0000	88.8543	88.8543	2.5500e-003	0.0000	88.9180
Total	0.0595	0.5435	0.4534	2.3200e-003	0.1248	1.8000e-003	0.1266	0.0341	1.7000e-003	0.0358	0.0000	219.1299	219.1299	0.0122	0.0000	219.4353

3.8 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0144	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.7000e-004	3.7500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0508	1.0508	3.0000e-005	0.0000	1.0515
Total	5.2000e-004	3.7000e-004	3.7500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0508	1.0508	3.0000e-005	0.0000	1.0515

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0144	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.7000e-004	3.7500e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0508	1.0508	3.0000e-005	0.0000	1.0515
Total	5.2000e-004	3.7000e-004	3.7500e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0508	1.0508	3.0000e-005	0.0000	1.0515

3.9 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	0.1850	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1800e-003	8.4000e-004	8.4900e-003	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.3818	2.3818	7.0000e-005	0.0000	2.3835
Total	1.1800e-003	8.4000e-004	8.4900e-003	3.0000e-005	2.7300e-003	2.0000e-005	2.7500e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.3818	2.3818	7.0000e-005	0.0000	2.3835

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1828					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	0.1850	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1800e-003	8.4000e-004	8.4900e-003	3.0000e-005	2.5100e-003	2.0000e-005	2.5300e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.3818	2.3818	7.0000e-005	0.0000	2.3835
Total	1.1800e-003	8.4000e-004	8.4900e-003	3.0000e-005	2.5100e-003	2.0000e-005	2.5300e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.3818	2.3818	7.0000e-005	0.0000	2.3835

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

**Del Mar Heights School
San Diego County, Mitigation Report**

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition Haul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utility Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	10	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	2.19000E-003	1.52700E-002	1.81800E-002	3.00000E-005	9.40000E-004	9.40000E-004	0.00000E+000	2.55325E+000	2.55325E+000	1.80000E-004	0.00000E+000	2.55763E+000
Concrete/Industrial Saws	4.18000E-003	3.29900E-002	3.68700E-002	6.00000E-005	1.98000E-003	1.98000E-003	0.00000E+000	5.37656E+000	5.37656E+000	3.40000E-004	0.00000E+000	5.38508E+000
Cranes	4.59200E-002	5.42090E-001	2.17990E-001	6.20000E-004	2.21500E-002	2.03800E-002	0.00000E+000	5.43330E+001	5.43330E+001	1.75700E-002	0.00000E+000	5.47723E+001
Excavators	1.10200E-002	1.08570E-001	1.47050E-001	2.30000E-004	5.26000E-003	4.84000E-003	0.00000E+000	2.04165E+001	2.04165E+001	6.60000E-003	0.00000E+000	2.05816E+001
Forklifts	4.96000E-002	4.50020E-001	4.30940E-001	5.60000E-004	3.25900E-002	2.99800E-002	0.00000E+000	4.93521E+001	4.93521E+001	1.59600E-002	0.00000E+000	4.97511E+001
Generator Sets	4.57400E-002	4.02540E-001	4.52360E-001	8.10000E-004	2.18900E-002	2.18900E-002	0.00000E+000	6.92379E+001	6.92379E+001	3.67000E-003	0.00000E+000	6.93298E+001
Graders	4.76000E-003	6.32600E-002	1.81400E-002	7.00000E-005	2.02000E-003	1.86000E-003	0.00000E+000	5.83065E+000	5.83065E+000	1.89000E-003	0.00000E+000	5.87779E+000
Pavers	4.92000E-003	5.19000E-002	5.81000E-002	9.00000E-005	2.51000E-003	2.31000E-003	0.00000E+000	8.25649E+000	8.25649E+000	2.67000E-003	0.00000E+000	8.32324E+000
Paving Equipment	3.84000E-003	3.88100E-002	5.08300E-002	8.00000E-005	1.92000E-003	1.76000E-003	0.00000E+000	7.15688E+000	7.15688E+000	2.31000E-003	0.00000E+000	7.21475E+000
Rollers	3.79000E-003	3.84800E-002	3.76100E-002	5.00000E-005	2.35000E-003	2.16000E-003	0.00000E+000	4.61011E+000	4.61011E+000	1.49000E-003	0.00000E+000	4.64739E+000
Rubber Tired Dozers	4.85800E-002	5.09950E-001	1.85920E-001	3.80000E-004	2.49700E-002	2.29800E-002	0.00000E+000	3.37749E+001	3.37749E+001	1.09200E-002	0.00000E+000	3.40480E+001
Tractors/Loaders/Backhoes	7.34400E-002	7.40700E-001	8.43190E-001	1.15000E-003	4.52300E-002	4.16100E-002	0.00000E+000	1.01405E+002	1.01405E+002	3.28000E-002	0.00000E+000	1.02225E+002
Welders	3.89300E-002	1.87770E-001	2.12820E-001	3.10000E-004	9.68000E-003	9.68000E-003	0.00000E+000	2.30570E+001	2.30570E+001	3.16000E-003	0.00000E+000	2.31360E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	2.19000E-003	1.52700E-002	1.81800E-002	3.00000E-005	9.40000E-004	9.40000E-004	0.00000E+000	2.55325E+000	2.55325E+000	1.80000E-004	0.00000E+000	2.55763E+000
Concrete/Industrial Saws	4.18000E-003	3.29900E-002	3.68700E-002	6.00000E-005	1.98000E-003	1.98000E-003	0.00000E+000	5.37656E+000	5.37656E+000	3.40000E-004	0.00000E+000	5.38507E+000
Cranes	4.59200E-002	5.42090E-001	2.17990E-001	6.20000E-004	2.21500E-002	2.03800E-002	0.00000E+000	5.43330E+001	5.43330E+001	1.75700E-002	0.00000E+000	5.47723E+001
Excavators	1.10200E-002	1.08570E-001	1.47050E-001	2.30000E-004	5.26000E-003	4.84000E-003	0.00000E+000	2.04165E+001	2.04165E+001	6.60000E-003	0.00000E+000	2.05815E+001
Forklifts	4.96000E-002	4.50020E-001	4.30930E-001	5.60000E-004	3.25900E-002	2.99800E-002	0.00000E+000	4.93520E+001	4.93520E+001	1.59600E-002	0.00000E+000	4.97510E+001
Generator Sets	4.57400E-002	4.02540E-001	4.52360E-001	8.10000E-004	2.18900E-002	2.18900E-002	0.00000E+000	6.92378E+001	6.92378E+001	3.67000E-003	0.00000E+000	6.93297E+001
Graders	4.76000E-003	6.32600E-002	1.81400E-002	7.00000E-005	2.02000E-003	1.86000E-003	0.00000E+000	5.83064E+000	5.83064E+000	1.89000E-003	0.00000E+000	5.87778E+000
Pavers	4.92000E-003	5.19000E-002	5.81000E-002	9.00000E-005	2.51000E-003	2.31000E-003	0.00000E+000	8.25648E+000	8.25648E+000	2.67000E-003	0.00000E+000	8.32323E+000
Paving Equipment	3.84000E-003	3.88100E-002	5.08300E-002	8.00000E-005	1.92000E-003	1.76000E-003	0.00000E+000	7.15688E+000	7.15688E+000	2.31000E-003	0.00000E+000	7.21474E+000
Rollers	3.79000E-003	3.84800E-002	3.76100E-002	5.00000E-005	2.35000E-003	2.16000E-003	0.00000E+000	4.61011E+000	4.61011E+000	1.49000E-003	0.00000E+000	4.64738E+000
Rubber Tired Dozers	4.85800E-002	5.09950E-001	1.85920E-001	3.80000E-004	2.49700E-002	2.29800E-002	0.00000E+000	3.37748E+001	3.37748E+001	1.09200E-002	0.00000E+000	3.40479E+001
Tractors/Loaders/Backhoes	7.34400E-002	7.40700E-001	8.43190E-001	1.15000E-003	4.52300E-002	4.16100E-002	0.00000E+000	1.01405E+002	1.01405E+002	3.28000E-002	0.00000E+000	1.02225E+002
Welders	3.89300E-002	1.87770E-001	2.12820E-001	3.10000E-004	9.68000E-003	9.68000E-003	0.00000E+000	2.30570E+001	2.30570E+001	3.16000E-003	0.00000E+000	2.31360E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.85698E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.10430E-006	1.10430E-006	0.00000E+000	0.00000E+000	1.09544E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.79600E-007	9.79600E-007	0.00000E+000	0.00000E+000	1.45761E-006
Forklifts	0.00000E+000	0.00000E+000	2.32051E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21575E-006	1.21575E-006	0.00000E+000	0.00000E+000	1.20600E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.15544E-006	1.15544E-006	0.00000E+000	0.00000E+000	1.15391E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.71507E-006	1.71507E-006	0.00000E+000	0.00000E+000	1.70132E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21117E-006	1.21117E-006	0.00000E+000	0.00000E+000	1.20146E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.38605E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.15175E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18431E-006	1.18431E-006	0.00000E+000	0.00000E+000	1.17481E-006
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18337E-006	1.18337E-006	0.00000E+000	0.00000E+000	1.17388E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.30112E-006	1.30112E-006	0.00000E+000	0.00000E+000	1.29668E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input		
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Replace Ground Cover of Area Disturbed	PM10 Reduction	55.00	PM2.5 Reduction	55.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	9.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.08	0.07
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.22	0.06	0.20	0.06	0.07	0.07
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.06	0.06
Demolition Haul	Fugitive Dust	0.04	0.01	0.01	0.00	0.80	0.80
Demolition Haul	Roads	0.00	0.00	0.00	0.00	0.07	0.05
Grading	Fugitive Dust	0.07	0.03	0.01	0.01	0.80	0.80
Grading	Roads	0.00	0.00	0.00	0.00	0.08	0.06
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.07	0.06
Site Preparation	Fugitive Dust	0.09	0.05	0.02	0.01	0.80	0.80
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.08	0.05
Utility Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Utility Trenching	Roads	0.00	0.00	0.00	0.00	0.08	0.00