Appendix A Air Quality and GHG Background and Modeling Data

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Air Quality and Greenhouse Gas Appendix

Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Climate/Meteorology

SOUTH COAST AIR BASIN

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

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site with temperature data is the Irvine climatological station. The lowest average temperature is reported at 45.4 °F in December, and the highest average temperature is 84.3°F in August (USA.COM 2021).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from October through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall historically averages 13.58 inches per year in the project area (USA.COM 2021).

Humidity

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

Wind

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

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

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

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

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 SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (South Coast AQMD). However, South Coast AQMD reports to California Air Resources board (CARB), and all criteria emissions are also governed by the California and national Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the 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 (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	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	

Table 1 Ambient Air Quality Standards for Criteria Pollutants

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

Source: CARB 2016.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter

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

1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

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

4 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

5 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

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

CRITERIA AIR POLLUTANTS

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

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005, USEPA 2021). The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance) under the National AAQS (CARB 2021b).

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 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 (O_3), South Coast AQMD has established a significance threshold for this pollutant (South Coast AQMD 2005).

Nitrogen Oxides (NO_x) are a byproduct of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). The principal form of NO_2 produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure (South Coast AQMD 2005, USEPA 2021). The SoCAB is designated as an attainment (maintenance) area under the National AAQS and attainment area under the California AAQS (CARB 2021b).

Sulfur Dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical

processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2 (South Coast AQMD 2005, USEPA 2021). When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. The SoCAB is designated as attainment under the California and National AAQS (CARB 2021b).

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include 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 PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (South Coast AQMD 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 PM_{10} to contribute to health effects and at concentrations that extend well below those allowed by the current PM_{10} 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 (South Coast AQMD 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 (South Coast AQMD 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 damage[3] (South Coast AQMD 2005; USEPA 2021). The SoCAB is in nonattainment and serious nonattainment for $PM_{2.5}$ under the California and National AAQS, respectively. For PM_{10}, the SoCAB is nonattainment under the California AAQS and in attainment (serious maintenance) under the National AAQS (CARB 2021b).[4]

[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.

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

Ozone (O_3) is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (South Coast AQMD 2005; USEPA 2021). The SoCAB is designated as extreme nonattainment under the National AAQS (8-hour) and as nonattainment under the California AAQS (1-hour and 8-hour). (CARB 2021b).

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; USEPA 2021). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted stricter lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[5] As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2021b). Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the project.

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

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

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

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.

Multiple Airborne Toxics Exposure Study (MATES)

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and estimated the potential health risks from air toxics in the SoCAB. In 2008, South Coast AQMD conducted its third update to the MATES study (MATES III). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the cancer risk (South Coast AQMD 2008b).

South Coast AQMD recently released the fourth update (MATES IV). The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources while 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, accounting for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basin-wide population-weighted risk decreased by approximately 57 percent compared to the analysis done for the MATES III time period (South Coast AQMD 2015a).

The Office of Environmental Health Hazard Assessment (OEHHA) updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, South Coast AQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher using the proposed updated methods identified in MATES IV (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (South Coast AQMD 2015a).

Air Quality Management Planning

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

2016 AQMP

On March 3, 2017, the South Coast AQMD adopted the 2016 AQMP as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031,
- 2012 National annual $PM_{2.5}$ standard by 2025[6],
- 2006 National 24-hour $PM_{2.5}$ standard by 2019,
- 1997 National 8-hour ozone standard by 2023, and the
- 1979 National 1-hour ozone standard by year 2022.

It is projected that total NO_X emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone standard by year 2022 (South Coast AQMD 2017), which requires reducing NO_X emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above existing regulations to meet the 2031 ozone standard.

Reducing NO_X emissions would also reduce $PM_{2.5}$ concentrations in the SoCAB. However, as the goal is to meet the 2012 federal annual $PM_{2.5}$ standard no later than year 2025, South Coast AQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under this federal standard. A "moderate" non-attainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (South Coast AQMD 2017).

LEAD STATE IMPLEMENTATION PLAN

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

[6] The 2016 AQMP requests a reclassification from moderate to serious non-attainment for the 2012 National $PM_{2.5}$ standard.

the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to EPA for approval.

AREA DESIGNATIONS

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

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

The attainment status for the SoCAB is shown in Table 2. The SoCAB is designated in attainment of the California AAQS for sulfates. The SoCAB is designated as nonattainment for lead (Los Angeles County only) under the National AAQS.

Table 2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

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

Source: CARB 2021b.

[1] The South Coast AQMD is seeking to reclassify the SoCAB from "moderate" to "serious" nonattainment under federal $PM_{2.5}$ standard.

[2] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new federal and existing state AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the South Coast AQMD. The project site is located within Source Receptor Area (SRA) 19 – Saddleback Valley. The air quality monitoring station closest to the project site is the Mission Viejo-Via Pera, which monitors O_3, PM_{10}, and $PM_{2.5}$. Data from PM_{10} are supplemented by the Anaheim-Pampas Lane Monitoring Station. The most current five years of data from these monitoring stations are included in Table 3, *Ambient Air Quality Monitoring Summary*. The data show regular violations of the state and federal O_3, rare violations of federal $PM_{2.5}$ standards, and rare violations of state PM_{10} 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				
	2016	2017	2018	2019	2020
Ozone (O_3)[1]					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	5	3	2	3	20
State & Federal 8-hour ≥ 0.070 ppm (days exceed threshold)	13	25	9	11	32
Max. 1-Hour Conc. (ppm)	0.122	0.103	0.121	0.106	0.171
Max. 8-Hour Conc. (ppm)	0.093	0.083	0.088	0.087	0.122
Nitrogen Dioxide (NO_2)					
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)	0.0643	0.0812	0.0660	0.0594	0.0709
Coarse Particulates (PM_{10})[1]					
State 24-Hour > 50 µg/m^3 (days exceed threshold)	1	1	1	0	2
Federal 24-Hour > 150 µg/m^3 (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m^3)	59.0	58.2	55.6	45.1	56.2
Fine Particulates ($PM_{2.5}$)[1]					
Federal 24-Hour > 35 µg/m^3 (days exceed threshold)	0	0	1	0	2
Max. 24-Hour Conc. (µg/m^3)	24.7	19.5	38.9	20.8	44.8

Source: CARB 2021a.
1 Data obtained from the Mission Viejo-Via Pera station for O_3, PM_{10}, and $PM_{2.5}$
2 Data obtained from the Anaheim-Pampas Lane station for NO_x.

ppm: parts per million; parts per billion, µg/m^3: micrograms per cubic meter
Notes: * Data not available.

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 and non-sensitive receptors to the proposed project site are the residences along Valley Oak Drive to the west, Verizon Wireless Corporate Office to the north, residences along Sonata Street to the south and the SCE Santiago Substation to the east.

Methodology

Projected construction-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use. The calculated emissions of the project are compared to thresholds of significance for individual projects using the South Coast AQMD's *CEQA Air Quality Analysis Guidance Handbook*.

Thresholds of Significance

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

REGIONAL SIGNIFICANCE THRESHOLDS

The South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 4, *South Coast AQMD Significance Thresholds*, lists South Coast AQMD's regional significance thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, South Coast AQMD has not developed thresholds for them.

Table 4 South Coast AQMD Significance Thresholds

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

Source: South Coast AQMD 2019.

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

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

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

Mass emissions in Table 4 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because

CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.[7] As identified in the South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection 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).

LOCALIZED SIGNIFICANCE THRESHOLDS

The South Coast AQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at the project site (offsite mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 5, *South Coast AQMD Localized Significance Thresholds*.

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

Table 5 South Coast AQMD Localized Significance Thresholds

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

Source: South Coast AQMD 2019.
ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

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

In accordance with South Coast AQMD's LST methodology, the screening-level construction LSTs are based on the acreage disturbed per day based on equipment use. The screening-level construction LSTs for the project site in SRA 19 are shown in Table 6, *South Coast AQMD Screening-Level Construction Localized Significance Thresholds,* for sensitive receptors within 150 feet (46 meters).

Table 6 South Coast AQMD Screening-Level Construction Localized Significance Thresholds

	Threshold (lbs/day)[1]			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
≤ 1 Acre Disturbed Per Day	93	810	9.80	3.83
4.0 Acre Disturbed Per Day	169	1,763	27.13	8.88
4.5 Acre Disturbed Per Day	180	1,907	29.92	9.68
5.0 Acre Disturbed Per Day	190	2,051	32.72	10.49

Source: South Coast AQMD 2008a and 2011.
[1] LSTs are based on receptors within 150 feet (46 meters) in SRA 19.

Because the project is not an industrial project that has the potential to emit substantial sources of stationary emissions, operational LSTs are not an air quality impact of concern associated with the project.

Health Risk

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

Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 7, *Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment. CEQA does not require CEQA-level environmental document to analyze the environmental effects of attracting development and people to an area (*California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478)*). However, the environmental document must analyze the impacts of environmental hazards on future users, when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 7 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

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

Source: South Coast AQMD 2019.

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,[8] carbon (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[9] The major GHG are briefly described below.

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

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

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

- **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

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

[9] 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 2017a). However, state and national GHG inventories do not yet include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

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 [CF_4] and perfluoroethane [C_2F_6]) 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 (SF_6)*** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 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 2020).

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, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2 (IPCC 2007).

Table 8 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report (SAR) Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2[1]	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	1	1	1
Methane[2] (CH_4)	21	25	28
Nitrous Oxide (N_2O)	310	298	265

Source: IPCC 1995, 2007, 2013.

Notes:

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

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

3 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 CO_2. However, South Coast AQMD uses the AR4 GWP values to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the AR4 GWP values.

California's Greenhouse Gas Sources and Relative Contribution

In 2020, the statewide GHG emissions inventory was updated for 2000 to 2018 emissions using the GWPs in IPCC's AR4.[10] Based on these GWPs, California produced 425.3 $MMTCO_2e$ GHG emissions in 2018. California's transportation sector was the single largest generator of GHG emissions, producing 39.9 percent of the state's total emissions. Industrial sector emissions made up 21.0 percent, and electric power generation made up 14.8 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.7 percent) high GWP (4.8 percent), and recycling and waste (2.1 percent) (CARB 2020a).

Since the peak level in 2004, California statewide GHG emissions dropped below the 2020 GHG limit of 431 $MMCO_2e$ in 2016 and have remained below the 2020 GHG limit since then. In 2018, emissions from routine GHG emitting activities statewide were 6 $MMTCO_2e$ lower than the 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 $MTCO_2e$ per person to 10.7 $MTCO_2e$ per person in 2018, a 24 percent decrease. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2018, solar power generation has continued its rapid growth since 2013. Emissions from high-GWP gases increased 2.3 percent in 2018 (2000-2018 average year-over-year increase is 6.8 percent), continuing the increasing trend as they replace Ozone Depleting Substances (ODS) being phased out under the 1987 Montreal Protocol. 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 43 percent decline since the 2001 peak, while the state's GDP has grown 59 percent during this period (CARB 2020a).

Regulatory Settings

REGULATION OF GHG EMISSIONS ON A NATIONAL LEVEL

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

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

[10] 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).

majority of GHG emissions and, per South Coast AQMD guidance, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

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

Update to Corporate Average Fuel Economy Standards (2017 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. However, in May 2020, California and 22 other states; the District of Columbia; the cities of Los Angeles, Denver, and New York; and the counties of San Francisco and Denver filed a lawsuit with the U.S. Court of Appeals for the District of Columbia Circuit, challenging the SAFE Rule. To date, a ruling has not been made on the lawsuit. In addition, 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 GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and gives industry the certainty needed to make investments and create jobs. This commitment means that the auto companies which are party to the voluntary agreement will only sell cars in the United States that meet these standards (CARB 2020b). Additionally, the Biden Administration issued an Executive Order on January 21, 2021 to review and suspend the SAFE rule and for the USEPA to present a proposal for more stringent fuel economy and emissions standards by July 2021. On August 5, 2021, the Biden Administration proposed new standards that would replace the SAFE Rule, effectively reversing the previous Trump Administration's roll-back of the CAFE standards.

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 CO_2 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, Executive Order B-55-18, 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)

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 prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in 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 outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established 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 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 2017 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, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. 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 $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target	**60**

Source: CARB 2017c.

Table 10, *2017 Climate Change Scoping Plan Emissions Change by Sector*, 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 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% 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

Table 10 2017 Climate Change Scoping Plan Emissions Change by Sector

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
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.

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. The Scoping Plan is currently being updated by CARB to address the GHG reduction goals of Executive Order B-55-18 (i.e., 2022 Scoping Plan Update).

Senate Bill 375

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

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

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, 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 compared 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, translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted sustainable communities strategies (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO_2e in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018). CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the draft 2020-2045 RTP/SCS (Connect SoCal) was adopted on May 7, 2020, for the limited purpose of transportation conformity (SCAG 2020). The Connect SoCal Plan was fully adopted in September 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through horizon year 2045 (SCAG 2020). Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. Additionally, Connect SoCal also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investments in transit and complete streets (SCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by

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

Executive Order S-01-07

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

Executive Order B-16-2012

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

Executive Order N-79-20

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

Renewables Portfolio: Carbon Neutrality Regulations

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

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity

were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

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

Senate Bill 100

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

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2019 (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.

The 2019 Building Energy Efficiency Standards, which were adopted on May 9, 2018, went into effect starting January 1, 2020. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 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 are 30 percent more energy efficient compared to the 2016 standards, and single-family homes are 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).

The CEC is currently amending the Building and Energy Efficiency Standards. The 2022 Building and Energy Efficiency Standards are anticipated to be adopted in December 2021 and will go into effect on January 1, 2023.

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.[11] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective January 1, 2020.

2006 Appliance Efficiency Regulations

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

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

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

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any

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

local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

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

Water Efficiency Regulations

SBX7-7

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

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black

carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

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.[12]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, South Coast AQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010):

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD requires an assessment of GHG emissions. South Coast AQMD is proposing a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific

[12] 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.

thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

  The South Coast AQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans) for the year 2020.[13] The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.

The bright-line screening-level criterion of 3,000 $MTCO_2e$/yr is used as the significance threshold for this project. Therefore, if the project operation-phase emissions exceed the 3,000 $MTCO_2e$/yr threshold, GHG emissions would be considered potentially significant in the absence of mitigation measures.

[13] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

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Assumptions Worksheet

CalEEMod Inputs - Oak Creek Community Park Expansion & Improvement Plan, Construction

Name:	Oak Creek Community Park Expansion & Improvement Plan
Project Number:	COI-56.0
Project Location:	15616 Valley Oak Drive
County/Air Basin:	Orange
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2023
Utility Company:	Southern California Edison
Air Basin:	South Coast Air Basin
Air District:	South Coast AQMD
SRA:	19 - Saddleback Valley

Proiect Site Acreage	19.26
Disturbed Site Acreage	11.42

Project Components	SQFT	Tons	Unit Amount
Demolition			
Aphalt demo		61	N/A
New Construction	***SQFT***	***ACRES***	**Unit Amount**
Recreational	372,427	8.55	N/A
Parking Lot	22,401	0.51	131
Pavement	38,586	0.89	N/A
Other Non-Asphalt Surfaces			
Total Hardscape	38,378	0.88	N/A
Total Landscaping	25,578	0.59	N/A
Other Non-asphalt Surfaces	63,956.00	1.47	N/A

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Recreational	City Park	372	1000 sqft	8.55	372,427
Parking	Parking Lot	131	1000 sqft	0.51	22,401
Parking	Other Asphalt Surfaces	N/A	1000 sqft	0.89	38,586
Parking	Other Non-asphalt Surfaces	N/A	1000 sqft	1.47	63,956
				11.42	

Demolition

Component	Amount to be Demolished (Tons)[2]	Haul Truck Capacity (Tons)[1]	Haul Distance (miles)[1]	Total Trip Ends	Duration (days)	Trip Ends/Day
Aphalt demo	61	20	20	7	3	2
Total	61			7		

Notes:

[1] CalEEMod default information used.

[2] Asphalt demolition tonnage provided by the City.

Soil Haul

Construction Activities	Volume (CY)[1]	Haul Truck Capacity (cy)[2]	Haul Distance (miles)[2]	Total Trip Ends	Total Days	Trip Ends/Day
Site Preparation (Import)	80	16	20	10	5	2

Notes:

[1] Volume of soil import provided by City.

[2] CalEEMod default information used.

Architectural Coating

	Percent Painted
Percentage Interior Painted:	100%
Percentage Exterior Painted:	100%
	VOC grams/Liter
Interior Paint VOC content:	100.00
Exterior Paint VOC content:	100.00

Structures	Land Use Square Feet	CalEEMod Factor[1]	Total Paintable Surface Area	Paintable Interior Area	Paintable Exterior Area
Parking					
Parking Lot (Striping)	22,401	6%	1,344	-	1,344
					1,344

Notes:

[1] Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

Construction Mitigation

SCAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
Replace Ground Cover	PM2.5:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
SCAQMD Rule 1186	Clean Paved Road	9	% PM Reduction

Southern California Edison Carbon Intensity Factors

CO_2:[1,2]	509.98	pounds per megawatt hour
CH_4:[3]	0.033	pound per megawatt hour
N_2O:[3]	0.004	pound per megawatt hour

Notes:

[1] Based on CO2e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. https://www.edison.com/home/sustainability/sustainability-report.html

[2] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[3] CalEEMod default values.

Global Warming Potentials (GWP)

	AR4	AR5
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

CalEEMod Inputs - Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions (2021 and 2023)

Name:	Oak Creek Community Park Expansion & Improvement Plan
Project Number:	COI-56.0
Project Location:	15616 Valley Oak Drive
County/Air Basin:	Orange
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2021 & 2023
Utility Company:	Southern California Edison
Air Basin:	South Coast Air Basin
Air District:	South Coast AQMD
SRA:	19 - Saddleback Valley

Proiect Site Acreage 10.35

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Recreational	City Park	6.34	Acres	6.34	276,083
Recreational (City Park Building)[1]	Raquet Club	2.60	1000 sqft	0.06	2,602
Total Recreational		**8.94**		**6.40**	**278,685.00**
Parking	Parking lot	1.32	Acres	1.32	57,595
Parking	Other asphalt surfaces	0.60	Acres	0.60	26,159
Parking	Other non-asphalt surfaces	2.03	Acres	2.03	88,407
				10.35	

Notes:

[1] Accounts for two remaining City Park buildings on-site

Trips - Provided by Urban Crossroads

Source: Urban Crossroads. 2021, June 8. Oak Creek Park Access and Circulation Considerations.

Land Use Type	Average Daily Trips	CalEEMod Trip Rate	Saturday Trips[1]	CalEEMod Trip Rate	Sunday Trips[1]	CalEEMod Trip Rate
Recreational[1]	397	**62.64**	794	**125.28**	794	**125.28**

Notes:

[1] Total trips assumed to be with City Park land use.

Trips	Annual Vehicle Miles Traveled[2]	Average Daily VMT[3]
Total Trips	**2,011,195**	**5,525**

Notes:

[1] Weekday trips and trip generation provided by Urban Crossroads. Assumes double the trip generation on Saturdays and Sundays compared to weekday (Urban Crossroad 2021).

[2] CalEEMod Default Annual VMT

[3] Daily VMT is calculated based on annual weekday VMT / 364 days per year.

	Trip Type Percentages		
	Primary	**Diverted**	**Passby**
Recreational	66%	28%	6%
Adjusted Trip Type Percentages	**100%**	**0%**	**0%**

Water Use[1,3]

Land Use	Outdoor[2]
Total Water Use (acre-feet/year)	29.03
Total Water Use (gal/year)	9,459,454.53

Notes:

[1] Potable and recycled water to the project site is provided by Irvine Ranch Water District, which provides tertiary treated wastewater in Irvine. Assume 100% aerobic treatment.

[2] Annual recycled outdoor water use was estimated over the past 12 months.

[3] Calculation excludes indoor water use since City Park Buildings will not be modified.

Solid Waste[1]

Land Use	(tons/year)
Recreational	0.93

Notes:

[1] California Air Pollution Control Officers Association (CAPCOA). 2017, October. California Emissions Estimator Model (CalEEMod) Appendix D, Default Data Tables.

Architectural Coating	Raquet Club
Percent Interior Painted (%):	100%
Percent Exterior Painted (%):	100%
Interior Paint VOC content (grams/liter):	100
Exterior Paint VOC content (grams/liter):	100

Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
Non-Residential Structures					
Raquet Club[3]	2,602	2.0	5,204	3,903	1,301
				3,903	**1,301**
Parking					
Parking Lot	57,595	6%	3,456	-	3,456
					3,456

Notes:

[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 2.0 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[3] Accounts for two remaining City Park Buildings onsite.

Electricity (Buildings)

Existing Energy

Modeling is conservative because the net increase in energy use due to the project is likely smaller than reflected due to improved building energy efficiency between the project and existing land uses.

Default CalEEMod Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (kWhr/size/year)*	Nontitle-24 Electricity Energy Intensity (kWhr/size/year)	Lighting Energy Intensity (KWhr/size/year)	Title-24 Natural Gas Energy Intensity (KBTU/size/year)*	Nontitle-24 Natural Gas Energy Intensity (KBTU/size/year)
Recreational	**0.00**	0.00	0.00	**0.00**	0.00
Other Asphalt Surfaces	**0.00**	0.00	0.00	**0.00**	0.00
Other Non-Asphalt Surfaces	**0.00**	0.00	0.00	**0.00**	0.00
Parking Lot	**0.00**	0.00	0.35	**0.00**	0.00
Raquet Club	**1.45**	3.83	2.99	**13.90**	6.86

Notes:

[1] Raquet Club reprepsents the existing City Park Buildings onsite.

Southern California Edison Carbon Intensity Factors

CO_2:[1,2]	509.98	pounds per megawatt hour
CH_4:[3]	0.033	pound per megawatt hour
N_2O:[3]	0.004	pound per megawatt hour

Notes:

[1] Based on CO2e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. https://www.edison.com/home/sustainability/sustainability-report.html

[2] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[3] CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	**AR5**
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Field Lighting

Electricity:				
	Total Average kW/Day [1]	**Days/Year[2]**	**Hours[2]**	**Kwh (Annual)**
Existing Soccer Field	25.74	365	3	28,185

Notes:

[1] Based on Musco Lighting Plan for the proposed sports complex as provided by the City.

[2] Assumes lights will be on 365 days per year for 3 hours per day on average

Calculation of GHGs from Field Lighting				
CO_2	**CH_4**	**N_2O**	**CO_2e**	**CO_2e**
lbs/Mwh	**lbs/Mwh**	**lbs/Mwh**	**lbs/Mwh**	**MT/Kwh**
509.98000	0.03300	0.00400	512.00	0.000232
				MT/Year
			CO_2e from Lighting	**6.55**

CalEEMod Inputs - Oak Creek Community Park Expansion & Improvement Plan, Project Operations

Name:	Oak Creek Community Park Expansion & Improvement Plan
Project Number:	COI-56.0
Project Location:	15616 Valley Oak Drive
County/Air Basin:	Orange
Climate Zone:	8
Land Use Setting:	Urban
Operational Year:	2023
Utility Company:	Southern California Edison
Air Basin:	South Coast Air Basin
Air District:	South Coast AQMD
SRA:	19 - Saddleback Valley

Proiect Site Acreage 19.26

Project Components (proposed)	SQFT	Tons
Recreational	372,427	8.55
Parking Lot	22,401	0.51
Pavement	38,586	0.89
Total Hardscape	38,378	0.88
Total Landscaping	25,578	0.59
Other Non-asphalt Surfaces	**63,956**	**1.47**

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Recreational	City Park	15.01	Acres	15.01	653,826
Recreational	Raquet Club	2.60	1000 sqft	0.06	2,602
Total Recreational		**17.61**		**15.07**	**656,428**
Parking	Parking Lot	80.00	1000 sqft	1.84	79,996
Parking (pavement)	Other Asphalt Surfaces	38.59	1000 sqft	0.89	38,586
Parking	Other Non-asphalt Surfaces	63.96	1000 sqft	1.47	63,956
				19.26	

Trips - Provided by Urban Crossroads

Source: Urban Crossroads. 2021, June 8. Oak Creek Park Access and Circulation Considerations.

Land Use Type	Average Daily Trips	CalEEMod Trip Rate	Saturday Trips	CalEEMod Trip Rate	Sunday Trips	CalEEMod Trip Rate
Recreational	714	**47.57**	1,428	**95.14**	1,428	**95.14**

Notes:

[1] Total trips assumed to be with City Park land use.

Trips	Annual Vehicle Miles Traveled[2]	VMT[3]
Total Trips	**3,615,989**	**9,934**

Notes:

[1] Weekday trips and trip generation provided by Urban Crossroads. Assumes double the trip generation on Saturdays and Sundays compared to weekday (Urban Crossroad 2021).

[2] CalEEMod Default Annual VMT.

[3] Daily VMT is calculated based on annual weekday VMT / 364 days per year.

	Trip Type Percentages		
	Primary	**Diverted**	**Passby**
Recreational	66%	28%	6%
Adjusted Trip Type Percentages	**100%**	**0%**	**0%**

Water Use[1,4]

Land Use	Outdoor[2]	Net Change
Total Water Use (acre-feet/year)	46.48	17.45
Total Water Use (gal/year)	15,145,554	5,686,100

Notes:

[1] Potable and recycled water to the project site is provided by Irvine Ranch Water District, which provides tertiary treated wastewater in Irvine. Assume 100% aerobic treatment.

[2] Outdoor water use is based on the California Department of Water Resources' Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes. This is a highly conservative number and is expected to be less than this amount.

[3] Proposed project would not require wastewater services since the only water demand would be for outdoor water uses only.

[4] Calculation excludes indoor water use since restrooms will not be modified.

Solid Waste[1]

Land Use	(tons/year)
Recreational	1.73

Notes:

[1] California Air Pollution Control Officers Association (CAPCOA). 2017, October. California Emissions Estimator Model (CalEEMod) Appendix D, Default Data Tables.

Architectural Coating	Raquet C lub
Percent Interior Painted (%):	100%
Percent Exterior Painted (%):	100%
Interior Paint VOC content (grams/liter):	100
Exterior Paint VOC content (grams/liter):	100

Structures	Land Use Square Feet	CalEEMod Factor[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
Non-Residential Structures					
Raquet Club[3]	2,602	2.0	5,204	3,903	1,301
				3,903	**1,301**
Parking					
Parking Lot	79,996	6%	4,800	-	4,800
					4,800

Notes:

[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 2.0 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[3] Accounts for two remaining City Park Buildings onsite.

Electricity (Buildings)

Existing Energy

Modeling is conservative because the net increase in energy use due to the project is likely smaller than reflected due to improved building energy efficiency between the project and existing land uses.

Default CalEEMod Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (kWhr/size/year)*	Nontitle-24 Electricity Energy Intensity (kWhr/size/year)	Lighting Energy Intensity (KWhr/size/year)	Title-24 Natural Gas Energy Intensity (KBTU/size/year)*	Nontitle-24 Natural Gas Energy Intensity (KBTU/size/year)
Recreational	**0.00**	0.00	0.00	**0.00**	0.00
Other Non-Asphalt Surfaces	**0.00**	0.00	0.00	**0.00**	0.00
Parking Lot	**0.00**	0.00	0.35	**0.00**	0.00
Raquet Club	**1.45**	3.83	2.99	**13.90**	6.86

Notes:

[1] Raquet Club reprepsents the existing City Park Buildings onsite.

Southern California Edison Carbon Intensity Factors

CO_2:[1,2]	509.98	pounds per megawatt hour
CH_4:[3]	0.033	pound per megawatt hour
N_2O:[3]	0.004	pound per megawatt hour

Notes:

[1] Based on CO2e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. https://www.edison.com/home/sustainability/sustainability-report.html

[2] Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

[3] CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	**AR5**
CO_2	1	1
CH_4	25	28
N_2O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC).

Field Lighting

Electricity:				
	Total Average kW/Day [1]	Days/Year[2]	Hours[2]	Kwh (Annual)
Dog Park (former Soccer Field)	25.74	365	3	28,185
Soccer Field 1	25.74	365	3	28,185
Soccer Field 2	28.60	365	3	31,317
Total	80.08			87,688

Notes:

[1] Based on Musco Lighting Plan for the proposed sports complex as provided by the City.

[2] Assumes lights will be on 365 days per year for 3 hours per day on average

Calculation of GHGs from Field Lighting				
CO_2	CH_4	N_2O	CO_2e	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh	MT/Kwh
509.98000	0.03300	0.00400	512.00	0.000232

	MT/Year	Net Change
CO_2e from Lighting	20.36	13.82

Construction Activities and Schedule Assumptions: Oak Creek Community Park

based on durations provided by the City.

Construction Schedule

Construction Activities	Phase Type	Start Date	End Date	CalEEMod Duration (Workday)
Asphalt Demolition	Demolition	6/1/2022	7/1/2022	23
Asphalt Demolition Debris Haul	Demolition	6/29/2022	7/1/2022	3
Site Preparation	Site Preparation	6/1/2022	8/1/2022	44
Site Preparation Soil Haul	Site Preparation	7/26/2022	8/1/2022	5
Rough Grading	Grading	7/2/2022	8/1/2022	21
Utility Trenching	Trenching	7/2/2022	8/1/2022	21
Fine Grading	Grading	8/2/2022	9/1/2022	23
Asphalt Paving	Paving	9/1/2022	10/1/2022	22
Finishing/Landscaping	Trenching	8/2/2022	1/1/2023	109
Architectural Coating[1]	Architectural Coating	11/1/2022	11/7/2022	5

Notes:

[1] Duration is based on a quarter of the duration for the default CalEEMod Paving phase.

Overlapping Construction Schedule

1	Asphalt Demolition, Site Preparation	6/1/2022	6/28/2022	20
2	Asphalt Demolition and Debris Haul, Site Preparation	6/29/2022	7/1/2022	3
4	Site Preparation, Rough Grading, Utilities Trenching	7/2/2022	7/25/2022	16
5	Site Preparation and Soil Haul, Rough Grading, Utilities Trenching	7/26/2022	8/1/2022	5
7	Fine Grading and Finishing/Landscaping	8/2/2022	8/31/2022	22
8	Fine Grading, Paving, and Finishing/Landscaping	9/1/2022	9/1/2022	1
9	Asphalt Paving and Finishing/Landscaping	9/2/2022	10/1/2022	21
	Finishing/Landscaping 2022	10/2/2022	10/31/2022	21
	Finishing/Landscaping and Architectural Coating	11/1/2022	11/7/2022	5
	Finishing/Landscaping 2023	11/8/2022	1/1/2023	39

CalEEMod Construction Off-Road Equipment Inputs

**Based on equipment mix provided by the applicant.*

General Construction Hours: 8 hours btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Construction Equipment Details						
Equipment	**model**	**# of Equipment**	**hr/day**	**hp**	**load factor***	**total trips/Day**
Asphalt 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 (TOTAL TRIPS)						
Water Trucks						4
Asphalt Demolition Debris Haul						
Worker Trips						
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						7
Water Trucks						
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 (TOTAL TRIPS)						
Water Trucks						4
Site Preparation Soil Haul						
Worker Trips						
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						10
Rough Grading						
Excavators		2	8	158	0.38	
Graders		1	8	187	0.41	
Rubber Tired Dozers		1	8	247	0.4	
Scrapers		2	8	367	0.48	
Tractors/Loaders/Backhoes		2	8	97	0.37	
Worker Trips						20
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						
Water Trucks						4
Utility Trenching						
Excavators		1	8	158	0.3819	
Worker Trips						3
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						
Fine Grading						
Excavators		2	8	158	0.38	
Graders		1	8	187	0.41	
Rubber Tired Dozers		1	8	247	0.4	
Scrapers		2	8	367	0.48	
Tractors/Loaders/Backhoes		2	8	97	0.37	
Worker Trips						20
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						
Water Trucks						4
Asphalt 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 (TOTAL TRIPS)						
Finishing/Landscaping						
Excavators		1	8	158	0.3819	
Worker Trips						209
Vendor Trips						81
Hauling Trips (TOTAL TRIPS)						

Architectural Coating

Air Compressors		1	6	78	0.48	
Worker Trips						42
Vendor Trips						
Hauling Trips (TOTAL TRIPS)						

** CalEEMod default equipment mix*

Construction Trips Worksheet

Phase Name	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends Per Day	Total Haul Truck Trip Ends	Start Date	End Date	Workdays
Asphalt Demolition	15	0	0	0	6/1/2022	7/1/2022	23
Asphalt Demolition Debris Haul	0	0	3	7	6/29/2022	7/1/2022	3
Site Preparation	18	0	0	0	6/1/2022	8/1/2022	44
Site Preparation Soil Haul	0	0	2	10	7/26/2022	8/1/2022	5
Rough Grading	20	0	0	0	7/2/2022	8/1/2022	21
Utility Trenching	3	0	0	0	7/2/2022	8/1/2022	21
Fine Grading	20	0	0	0	8/2/2022	9/1/2022	23
Asphalt Paving	15	0	0	0	9/1/2022	10/1/2022	22
Finishing/Landscaping	209	81	0	0	8/2/2022	1/1/2023	109
Architectural Coating	42	0	0	0	11/1/2022	11/7/2022	5

Construction Activity (Overlapping)	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends Per Day	Total Trip Ends Per Day	Start Date	End Date	Workdays
Asphalt Demolition, Site Preparation	33	0	0	0	6/1/2022	6/28/2022	20
Asphalt Demolition and Debris Haul, Site Preparation	33	0	3	7	6/29/2022	7/1/2022	3
Site Preparation, Rough Grading, Utilities Trenching	41	0	0	0	7/2/2022	7/25/2022	16
Site Preparation and Soil Haul, Rough Grading, Utilities Trenching	41	0	2	10	7/26/2022	8/1/2022	5
Fine Grading and Finishing/Landscaping	229	81	0	0	8/2/2022	8/31/2022	22
Fine Grading, Paving, and Finishing/Landscaping	244	81	0	0	9/1/2022	9/1/2022	1
Asphalt Paving and Finishing/Landscaping	224	81	0	0	9/2/2022	10/1/2022	21
Finishing/Landscaping 2022	209	81	0	0	10/2/2022	10/31/2022	21
Finishing/Landscaping and Architectural Coating	251	81	0	0	11/1/2022	11/7/2022	5
Finishing/Landscaping 2023	209	81	0	0	11/8/2022	1/1/2023	39
Maximum Daily Trips	**251**	**81**	**3**	**10**			

Changes to the CalEEMod Defaults - Fleet Mix 2023

Weekday Trips 714

Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942	100%
Trips	389	42	133	92	17	5	10	3	0	0	17	1	3	714
Percent	81%			13%	6%									100%
without buses/MH	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0	0	0.024332	0.000000	0.000000	99%
Percent	81%			13%	5%									99%
Adjusted without buses/MH	0.544795	0.058861	0.186903	0.129401	0.027163	0.007266	0.015867	0.005409	0.000000	0.000000	0.027109	0.000000	0.000000	
Percent adjusted	82%			13%	6%									100%
Assumed Mix	97.0%			2.00%	1.00%									100%
adjusted with Assumed	**0.646291**	**0.069827**	**0.221723**	**0.020000**	**0.004876**	**0.001304**	**0.002848**	**0.000971**	**0.000000**	**0.000000**	**0.032159**	**0.000000**	**0.000000**	**100%**
Percent Check:	97%			2%	1%									
Trips	461	50	158	14	3	1	2	1	0	0	23	0	0	714
	693			*14*	*7*									

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Assumes a mix of approximately 97% passenger vehicles, 2% medium duty trucks, and 1% heavy duty trucks and buses.

Emissions Worksheet

Regional Operation Emissions Worksheet[1]

[1] CalEEMod, Version 2020.4

Existing Buildout (2023)

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.14	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	2.74	1.75	27.70	0.05	6.56	1.76
Total	**2.88**	**1.76**	**27.71**	**0.05**	**6.56**	**1.76**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.14	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	2.73	1.91	27.34	0.05	6.56	1.76
Total	**2.87**	**1.93**	**27.35**	**0.05**	**6.56**	**1.76**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.14	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	2.74	1.91	27.70	0.05	6.56	1.76
Total	**2.88**	**1.93**	**27.71**	**0.05**	**6.56**	**1.76**

Proposed Project (2023)

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	4.92	3.14	49.79	0.10	11.79	3.16
Total	**5.09**	**3.16**	**49.83**	**0.10**	**11.79**	**3.17**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	4.92	3.44	49.15	0.09	11.79	3.16
Total	**5.08**	**3.46**	**49.18**	**0.09**	**11.79**	**3.17**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.16	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00	0.00	0.00
Mobile	4.92	3.44	49.79	0.10	11.79	3.16
Total	**5.09**	**3.46**	**49.83**	**0.10**	**11.79**	**3.17**

Net Proposed Operations

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.03	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	2.18	1.40	22.10	0.04	5.23	1.40
Total	**2.21**	**1.40**	**22.12**	**0.04**	**5.23**	**1.40**

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.03	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	2.18	1.53	21.81	0.04	5.23	1.40
Total	**2.21**	**1.53**	**21.83**	**0.04**	**5.23**	**1.40**

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.03	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	2.18	1.53	22.10	0.04	5.23	1.40
Total	**2.21**	**1.53**	**22.12**	**0.04**	**5.23**	**1.40**
Regional Thresholds (lb/day)	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

Regional Construction Emissions Worksheet:

Asphalt Demolition							
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Fugitive Dust						0.02	0.00
	Off-Road		2.64	25.72	20.59	0.04	1.24	1.16
	Total		**2.64**	**25.72**	**20.59**	**0.04**	**1.27**	**1.16**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.18	0.06	0.00	0.03	0.01
	Worker		0.05	0.03	0.49	0.00	0.16	0.04
	Total		**0.05**	**0.21**	**0.56**	**0.00**	**0.18**	**0.05**
TOTAL			***2.69***	***25.93***	***21.15***	***0.04***	***1.45***	***1.21***
Onsite		**2022** Winter						
	Fugitive Dust						0.02	0.00
	Off-Road		2.64	25.72	20.59	0.04	1.24	1.16
	Total		**2.64**	**25.72**	**20.59**	**0.04**	**1.27**	**1.16**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.05	0.03	0.46	0.00	0.16	0.04
	Total		**0.06**	**0.22**	**0.52**	**0.00**	**0.18**	**0.05**
TOTAL			***2.69***	***25.94***	***21.12***	***0.04***	***1.45***	***1.21***
Onsite		**2022**						
	Fugitive Dust		0.00	0.00	0.00	0.00	0.02	0.00
	Off-Road		2.64	25.72	20.59	0.04	1.24	1.16
	Total		**2.64**	**25.72**	**20.59**	**0.04**	**1.27**	**1.16**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.05	0.03	0.49	0.00	0.16	0.04
	Total		**0.06**	**0.22**	**0.56**	**0.00**	**0.18**	**0.05**
TOTAL			***2.69***	***25.94***	***21.15***	***0.04***	***1.45***	***1.21***

Asphalt Demolition Debris Haul							
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.36	0.10	0.00	0.04	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.36**	**0.10**	**0.00**	**0.04**	**0.01**
TOTAL			***0.01***	***0.36***	***0.10***	***0.00***	***0.04***	***0.01***
Onsite		**2022** Winter						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.38	0.10	0.00	0.04	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.38**	**0.10**	**0.00**	**0.04**	**0.01**
TOTAL			***0.01***	***0.38***	***0.10***	***0.00***	***0.04***	***0.01***
Onsite		**2022**						
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.38	0.10	0.00	0.04	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.38**	**0.10**	**0.00**	**0.04**	**0.01**
TOTAL			***0.01***	***0.38***	***0.10***	***0.00***	***0.04***	***0.01***

Site Preparation

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Fugitive Dust						8.40	4.32
	Off-Road		3.17	33.08	19.70	0.04	1.61	1.48
	Total		**3.17**	**33.08**	**19.70**	**0.04**	**10.02**	**5.80**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.18	0.06	0.00	0.03	0.01
	Worker		0.05	0.04	0.59	0.00	0.19	0.05
	Total		**0.06**	**0.22**	**0.66**	**0.00**	**0.21**	**0.06**
TOTAL			***3.23***	***33.30***	***20.35***	***0.04***	***10.23***	***5.86***
Onsite		**2022** Winter						
	Fugitive Dust						8.40	4.32
	Off-Road		3.17	33.08	19.70	0.04	1.61	1.48
	Total		**3.17**	**33.08**	**19.70**	**0.04**	**10.02**	**5.80**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.06	0.04	0.55	0.00	0.19	0.05
	Total		**0.07**	**0.23**	**0.62**	**0.00**	**0.21**	**0.06**
TOTAL			***3.24***	***33.31***	***20.31***	***0.04***	***10.23***	***5.86***
Onsite		**2022**						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.40	4.32
	Off-Road		3.17	33.08	19.70	0.04	1.61	1.48
	Total		**3.17**	**33.08**	**19.70**	**0.04**	**10.02**	**5.80**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.06	0.04	0.59	0.00	0.19	0.05
	Total		**0.07**	**0.23**	**0.66**	**0.00**	**0.21**	**0.06**
TOTAL			***3.24***	***33.31***	***20.35***	***0.04***	***10.23***	***5.86***

Site Preparation Soil Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Fugitive Dust						0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.31	0.09	0.00	0.03	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.31**	**0.09**	**0.00**	**0.03**	**0.01**
TOTAL			***0.01***	***0.31***	***0.09***	***0.00***	***0.04***	***0.01***
Onsite		**2022** Winter						
	Fugitive Dust						0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.32	0.09	0.00	0.03	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.32**	**0.09**	**0.00**	**0.03**	**0.01**
TOTAL			***0.01***	***0.32***	***0.09***	***0.00***	***0.04***	***0.01***
Onsite		**2022**						
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite								
	Hauling		0.01	0.32	0.09	0.00	0.03	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		**0.01**	**0.32**	**0.09**	**0.00**	**0.03**	**0.01**
TOTAL			***0.01***	***0.32***	***0.09***	***0.00***	***0.04***	***0.01***

Rough Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Fugitive Dust						3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.18	0.06	0.00	0.03	0.01
	Worker		0.06	0.04	0.66	0.00	0.21	0.06
	Total		**0.07**	**0.22**	**0.72**	**0.00**	**0.23**	**0.06**
TOTAL			***3.69***	***39.06***	***29.76***	***0.06***	***5.80***	***3.13***
Onsite		**2022** Winter						
	Fugitive Dust						3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.07	0.04	0.61	0.00	0.21	0.06
	Total		**0.07**	**0.23**	**0.68**	**0.00**	**0.23**	**0.06**
TOTAL			***3.70***	***39.07***	***29.72***	***0.06***	***5.80***	***3.13***
Onsite		**2022**						
	Fugitive Dust		0.00	0.00	0.00	0.00	3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.07	0.04	0.66	0.00	0.21	0.06
	Total		**0.07**	**0.23**	**0.72**	**0.00**	**0.23**	**0.06**
TOTAL			***3.70***	***39.07***	***29.76***	***0.06***	***5.80***	***3.13***

Utility Trenching

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Off-Road		0.20	1.78	3.26	0.01	0.09	0.08
	Total		**0.20**	**1.78**	**3.26**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.10	0.00	0.03	0.01
	Total		**0.01**	**0.01**	**0.10**	**0.00**	**0.03**	**0.01**
TOTAL			***0.21***	***1.78***	***3.35***	***0.01***	***0.12***	***0.09***
Onsite		**2022** Winter						
	Off-Road		0.20	1.78	3.26	0.01	0.09	0.08
	Total		**0.20**	**1.78**	**3.26**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.09	0.00	0.03	0.01
	Total		**0.01**	**0.01**	**0.09**	**0.00**	**0.03**	**0.01**
TOTAL			***0.21***	***1.78***	***3.35***	***0.01***	***0.12***	***0.09***
Onsite		**2022**						
	Off-Road		0.20	1.78	3.26	0.01	0.09	0.08
	Total		**0.20**	**1.78**	**3.26**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.01	0.01	0.10	0.00	0.03	0.01
	Total		**0.01**	**0.01**	**0.10**	**0.00**	**0.03**	**0.01**
TOTAL			***0.21***	***1.78***	***3.35***	***0.01***	***0.12***	***0.09***

Fine Grading

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Fugitive Dust						3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.18	0.06	0.00	0.03	0.01
	Worker		0.06	0.04	0.66	0.00	0.21	0.06
	Total		**0.07**	**0.22**	**0.72**	**0.00**	**0.23**	**0.06**
TOTAL			***3.69***	***39.06***	***29.76***	***0.06***	***5.80***	***3.13***
Onsite		**2022** Winter						
	Fugitive Dust						3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.07	0.04	0.61	0.00	0.21	0.06
	Total		**0.07**	**0.23**	**0.68**	**0.00**	**0.23**	**0.06**
TOTAL			***3.70***	***39.07***	***29.72***	***0.06***	***5.80***	***3.13***
Onsite		**2022**						
	Fugitive Dust		0.00	0.00	0.00	0.00	3.93	1.56
	Off-Road		3.62	38.84	29.04	0.06	1.63	1.50
	Total		**3.62**	**38.84**	**29.04**	**0.06**	**5.57**	**3.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.01	0.19	0.07	0.00	0.03	0.01
	Worker		0.07	0.04	0.66	0.00	0.21	0.06
	Total		**0.07**	**0.23**	**0.72**	**0.00**	**0.23**	**0.06**
TOTAL			***3.70***	***39.07***	***29.76***	***0.06***	***5.80***	***3.13***

Asphalt Paving

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Off-Road		1.10	11.12	14.58	0.02	0.57	0.52
	Paving		0.17				0.00	0.00
	Total		**1.27**	**11.12**	**14.58**	**0.02**	**0.57**	**0.52**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.05	0.03	0.49	0.00	0.16	0.04
	Total		**0.05**	**0.03**	**0.49**	**0.00**	**0.16**	**0.04**
TOTAL			***1.31***	***11.16***	***15.07***	***0.02***	***0.72***	***0.56***
Onsite		**2022** Winter						
	Off-Road		1.10	11.12	14.58	0.02	0.57	0.52
	Paving		0.17				0.00	0.00
	Total		**1.27**	**11.12**	**14.58**	**0.02**	**0.57**	**0.52**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.05	0.03	0.46	0.00	0.16	0.04
	Total		**0.05**	**0.03**	**0.46**	**0.00**	**0.16**	**0.04**
TOTAL			***1.32***	***11.16***	***15.04***	***0.02***	***0.72***	***0.56***
Onsite		**2022**						
	Off-Road		1.10	11.12	14.58	0.02	0.57	0.52
	Paving		0.17	0.00	0.00	0.00	0.00	0.00
	Total		**1.27**	**11.12**	**14.58**	**0.02**	**0.57**	**0.52**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.05	0.03	0.49	0.00	0.16	0.04
	Total		**0.05**	**0.03**	**0.49**	**0.00**	**0.16**	**0.04**
TOTAL			***1.32***	***11.16***	***15.07***	***0.02***	***0.72***	***0.56***

Finishing/Landscaping							
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Off-Road		0.20	1.79	3.27	0.01	0.09	0.08
	Total		**0.20**	**1.79**	**3.27**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.13	3.63	1.29	0.02	0.52	0.17
	Worker		0.63	0.42	6.87	0.02	2.17	0.59
	Total		**0.76**	**4.06**	**8.16**	**0.04**	**2.69**	**0.76**
TOTAL			***0.97***	***5.84***	***11.43***	***0.04***	***2.77***	***0.84***
Onsite		**2022** Winter						
	Off-Road		0.20	1.79	3.27	0.01	0.09	0.08
	Total		**0.20**	**1.79**	**3.27**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.13	3.78	1.34	0.02	0.52	0.17
	Worker		0.68	0.46	6.39	0.02	2.17	0.59
	Total		**0.82**	**4.24**	**7.73**	**0.03**	**2.69**	**0.76**
TOTAL			***1.02***	***6.03***	***11.00***	***0.04***	***2.77***	***0.84***
Onsite		**2022**						
	Off-Road		0.20	1.79	3.27	0.01	0.09	0.08
	Total		**0.20**	**1.79**	**3.27**	**0.01**	**0.09**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.13	3.78	1.34	0.02	0.52	0.17
	Worker		0.68	0.46	6.87	0.02	2.17	0.59
	Total		**0.82**	**4.24**	**8.16**	**0.04**	**2.69**	**0.76**
TOTAL			***1.02***	***6.03***	***11.43***	***0.04***	***2.77***	***0.84***

Finishing/Landscaping							
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2023** Summer						
	Off-Road		0.19	1.56	3.27	0.01	0.08	0.07
	Total		**0.19**	**1.56**	**3.27**	**0.01**	**0.08**	**0.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.08	2.84	1.18	0.01	0.50	0.15
	Worker		0.59	0.38	6.38	0.02	2.17	0.59
	Total		**0.67**	**3.22**	**7.56**	**0.03**	**2.66**	**0.74**
TOTAL			***0.86***	***4.77***	***10.83***	***0.04***	***2.74***	***0.81***
Onsite		**2023** Winter						
	Off-Road		0.19	1.56	3.27	0.01	0.08	0.07
	Total		**0.19**	**1.56**	**3.27**	**0.01**	**0.08**	**0.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.08	2.97	1.21	0.01	0.50	0.15
	Worker		0.64	0.41	5.95	0.02	2.17	0.59
	Total		**0.72**	**3.38**	**7.16**	**0.03**	**2.66**	**0.74**
TOTAL			***0.91***	***4.94***	***10.43***	***0.04***	***2.74***	***0.81***
Onsite		**2023**						
	Off-Road		0.19	1.56	3.27	0.01	0.08	0.07
	Total		**0.19**	**1.56**	**3.27**	**0.01**	**0.08**	**0.07**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.08	2.97	1.21	0.01	0.50	0.15
	Worker		0.64	0.41	6.38	0.02	2.17	0.59
	Total		**0.72**	**3.38**	**7.56**	**0.03**	**2.66**	**0.74**
TOTAL			***0.91***	***4.94***	***10.83***	***0.04***	***2.74***	***0.81***

Architectural Coating							
			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		**2022** Summer						
	Architectural Coating		7.01				0.00	0.00
	Off-Road		0.20	1.41	1.81	0.00	0.08	0.08
	Total		**7.21**	**1.41**	**1.81**	**0.00**	**0.08**	**0.08**
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.13	0.08	1.38	0.00	0.44	0.12
	Total		**0.13**	**0.08**	**1.38**	**0.00**	**0.44**	**0.12**
TOTAL			***7.34***	***1.49***	***3.19***	***0.01***	***0.52***	***0.20***

Onsite		**2022** Winter					
	Architectural Coating	7.01				0.00	0.00
	Off-Road	0.20	1.41	1.81	0.00	0.08	0.08
	Total	**7.21**	**1.41**	**1.81**	**0.00**	**0.08**	**0.08**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.14	0.09	1.28	0.00	0.44	0.12
	Total	**0.14**	**0.09**	**1.28**	**0.00**	**0.44**	**0.12**
TOTAL		***7.35***	***1.50***	***3.10***	***0.01***	***0.52***	***0.20***
Onsite		**2022**					
	Architectural Coating	7.01	0.00	0.00	0.00	0.00	0.00
	Off-Road	0.20	1.41	1.81	0.00	0.08	0.08
	Total	**7.21**	**1.41**	**1.81**	**0.00**	**0.08**	**0.08**
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.14	0.09	1.38	0.00	0.44	0.12
	Total	**0.14**	**0.09**	**1.38**	**0.00**	**0.44**	**0.12**
TOTAL		***7.35***	***1.50***	***3.19***	***0.01***	***0.52***	***0.20***

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Asphalt Demolition, Site Preparation	*6*	*59*	*42*	*0*	*12*	*7*
Asphalt Demolition and Debris Haul, Site Preparation	*6*	*60*	*42*	*0*	*12*	*7*
Site Preparation, Rough Grading, Utilities Trenching	*7*	*74*	*53*	*0*	*16*	*9*
Site Preparation and Soil Haul, Rough Grading, Utilities Trenching	*7*	*74*	*54*	*0*	*16*	*9*
Fine Grading and Finishing/Landscaping	*5*	*45*	*41*	*0*	*9*	*4*
Fine Grading, Paving, and Finishing/Landscaping 2022	*6*	*56*	*56*	*0*	*9*	*5*
Asphalt Paving and Finishing/Landscaping 2022	*2*	*17*	*27*	*0*	*3*	*1*
Finishing/Landscaping 2022	*1*	*6*	*11*	*0*	*3*	*1*
Finishing/Landscaping 2022 and Architectural Coating	*8*	*8*	*15*	*0*	*3*	*1*
Finishing/Landscaping 2023	*1*	*5*	*11*	*0*	*3*	*1*
MAX DAILY	**8**	**74**	**56**	**0**	**16**	**9**
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	**No**	No	No	No	No	No

Construction LST Worksheet:

Asphalt Demolition			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Fugitive Dust				0.02	0.00
	Off-Road		25.72	20.59	1.24	1.16
	Total		**25.72**	**20.59**	**1.27**	**1.16**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***25.72***	***20.59***	***1.27***	***1.16***
Onsite		**2022**				
	Fugitive Dust				0.02	0.00
	Off-Road		25.72	20.59	1.24	1.16
	Total		**25.72**	**20.59**	**1.27**	**1.16**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***25.72***	***20.59***	***1.27***	***1.16***
Onsite		**2022**				
	Fugitive Dust		0.00	0.00	0.02	0.00
	Off-Road		25.72	20.59	1.24	1.16
	Total		**25.72**	**20.59**	**1.27**	**1.16**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***25.72***	***20.59***	***1.27***	***1.16***

Asphalt Demolition Debris Haul			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***
Onsite		**2022**				
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***
Onsite		**2022**				
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						

	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***

Site Preparation						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Fugitive Dust				8.40	4.32
	Off-Road		33.08	19.70	1.61	1.48
	Total		**33.08**	**19.70**	**10.02**	**5.80**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***33.08***	***19.70***	***10.02***	***5.80***
Onsite		**2022**				
	Fugitive Dust				8.40	4.32
	Off-Road		33.08	19.70	1.61	1.48
	Total		**33.08**	**19.70**	**10.02**	**5.80**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***33.08***	***19.70***	***10.02***	***5.80***
Onsite		**2022**				
	Fugitive Dust		0.00	0.00	8.40	4.32
	Off-Road		33.08	19.70	1.61	1.48
	Total		**33.08**	**19.70**	**10.02**	**5.80**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***33.08***	***19.70***	***10.02***	***5.80***

Site Preparation Soil Haul

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Fugitive Dust				0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***
Onsite		**2022**				
	Fugitive Dust				0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***
Onsite		**2022**				
	Fugitive Dust		0.00	0.00	0.00	0.00
	Off-Road		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***0.00***	***0.00***	***0.00***	***0.00***

Rough Grading

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Fugitive Dust				3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***38.84***	***29.04***	***5.57***	***3.07***
Onsite		**2022**				
	Fugitive Dust				3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***38.84***	***29.04***	***5.57***	***3.07***
Onsite		**2022**				
	Fugitive Dust		0.00	0.00	3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						

	Hauling	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00
	Worker	0.00	0.00	0.00	0.00
	Total	**0.00**	**0.00**	**0.00**	**0.00**
TOTAL		***38.84***	***29.04***	***5.57***	***3.07***

Utility Trenching

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		1.78	3.26	0.09	0.08
	Total		**1.78**	**3.26**	**0.09**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.78***	***3.26***	***0.09***	***0.08***
Onsite		**2022**				
	Off-Road		1.78	3.26	0.09	0.08
	Total		**1.78**	**3.26**	**0.09**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.78***	***3.26***	***0.09***	***0.08***
Onsite		**2022**				
	Off-Road		1.78	3.26	0.09	0.08
	Total		**1.78**	**3.26**	**0.09**	**0.08**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***1.78***	***3.26***	***0.09***	***0.08***

Fine Grading

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				

	Fugitive Dust				3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***38.84***	***29.04***	***5.57***	***3.07***
Onsite		**2022**				
	Fugitive Dust				3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***38.84***	***29.04***	***5.57***	***3.07***
Onsite		**2022**				
	Fugitive Dust		0.00	0.00	3.93	1.56
	Off-Road		38.84	29.04	1.63	1.50
	Total		**38.84**	**29.04**	**5.57**	**3.07**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***38.84***	***29.04***	***5.57***	***3.07***

Asphalt Paving

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		11.12	14.58	0.57	0.52
	Paving				0.00	0.00
	Total		**11.12**	**14.58**	**0.57**	**0.52**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***11.12***	***14.58***	***0.57***	***0.52***
Onsite		**2022**				
	Off-Road		11.12	14.58	0.57	0.52
	Paving				0.00	0.00
	Total		**11.12**	**14.58**	**0.57**	**0.52**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***11.12***	***14.58***	***0.57***	***0.52***
Onsite		**2022**				
	Off-Road		11.12	14.58	0.57	0.52
	Paving		0.00	0.00	0.00	0.00
	Total		**11.12**	**14.58**	**0.57**	**0.52**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00

	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***11.12***	***14.58***	***0.57***	***0.52***

Finishing/Landscaping						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Off-Road		1.79	3.27	0.09	0.08
	Total		**1.79**	**3.27**	**0.09**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.79***	***3.27***	***0.09***	***0.08***
Onsite		**2022**				
	Off-Road		1.79	3.27	0.09	0.08
	Total		**1.79**	**3.27**	**0.09**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.79***	***3.27***	***0.09***	***0.08***
Onsite		**2022**				
	Off-Road		1.79	3.27	0.09	0.08
	Total		**1.79**	**3.27**	**0.09**	**0.08**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***1.79***	***3.27***	***0.09***	***0.08***

Finishing/Landscaping						
			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2023**				
	Off-Road		1.56	3.27	0.08	0.07
	Total		**1.56**	**3.27**	**0.08**	**0.07**
Offsite						

	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.56***	***3.27***	***0.08***	***0.07***
Onsite		**2023**				
	Off-Road		1.56	3.27	0.08	0.07
	Total		**1.56**	**3.27**	**0.08**	**0.07**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.56***	***3.27***	***0.08***	***0.07***
Onsite		**2023**				
	Off-Road		1.56	3.27	0.08	0.07
	Total		**1.56**	**3.27**	**0.08**	**0.07**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***1.56***	***3.27***	***0.08***	***0.07***

Architectural Coating

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		**2022**				
	Architectural Coating				0.00	0.00
	Off-Road		1.41	1.81	0.08	0.08
	Total		**1.41**	**1.81**	**0.08**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.41***	***1.81***	***0.08***	***0.08***
Onsite		**2022**				
	Architectural Coating				0.00	0.00
	Off-Road		1.41	1.81	0.08	0.08
	Total		**1.41**	**1.81**	**0.08**	**0.08**
Offsite						
	Hauling					
	Vendor					
	Worker					
	Total					
TOTAL			***1.41***	***1.81***	***0.08***	***0.08***
Onsite		**2022**				
	Architectural Coating		0.00	0.00	0.00	0.00
	Off-Road		1.41	1.81	0.08	0.08
	Total		**1.41**	**1.81**	**0.08**	**0.08**
Offsite						
	Hauling		0.00	0.00	0.00	0.00
	Vendor		0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00
	Total		**0.00**	**0.00**	**0.00**	**0.00**
TOTAL			***1.41***	***1.81***	***0.08***	***0.08***

	NOx	**CO**	**PM10 Total**	**PM2.5 Total**
Asphalt Demolition, Site Preparation	***59***	***40***	***11.28***	***6.96***

4.5 Acre LST	*180*	*1,907*	*30*	*10*
Exceeds LST?	*no*	*no*	*no*	*no*
Asphalt Demolition and Debris Haul, Site Preparation	*59*	*40*	*11.28*	*6.96*
4.5 Acre LST	*180*	*1,907*	*30*	*10*
Exceeds LST?	*no*	*no*	*no*	*no*
Site Preparation, Rough Grading, Utilities Trenching	*74*	*52*	*15.67*	*8.95*
5 Acre LST	*190*	*2,051*	*33*	*10*
Exceeds LST?	*no*	*no*	*no*	*no*
Site Preparation and Soil Haul, Rough Grading, Utilities Trenching	*74*	*52*	*15.67*	*8.95*
5 Acre LST	*190*	*2,051*	*33*	*10*
Exceeds LST?	*no*	*no*	*no*	*no*
Fine Grading and Finishing/Landscaping 2022	*41*	*32*	*5.66*	*3.15*
4.0 Acre LST	*169*	*1,763*	*27*	*9*
Exceeds LST?	*no*	*no*	*no*	*no*
Fine Grading, Paving, and Finishing/Landscaping 2022	*52*	*47*	*6.22*	*3.67*
4.0 Acre LST	*169*	*1,763*	*27*	*9*
Exceeds LST?	*no*	*no*	*no*	*no*
Asphalt Paving and Finishing/Landscaping 2022	*13*	*18*	*0.65*	*0.60*
≤ 1 Acre LST	*93*	*810*	*10*	*4*
Exceeds LST?	*no*	*no*	*no*	*no*
Finishing/Landscaping 2022	*2*	*3*	*0.09*	*0.08*
≤ 1 Acre LST	*93*	*810*	*10*	*4*
Exceeds LST?	*no*	*no*	*no*	*no*
Finishing/Landscaping 2022 and Architectural Coating	*3*	*5*	*0.17*	*0.16*
≤ 1 Acre LST	*93*	*810*	*10*	*4*
Exceeds LST?	*no*	*no*	*no*	*no*
Finishing/Landscaping 2023	*2*	*3*	*0.08*	*0.07*
≤ 1 Acre LST	*93*	*810*	*10*	*4*
Exceeds LST?	*no*	*no*	*no*	*no*

GHG Emissions Inventory

Proposed Project Buildout

Construction*

	$MTCO_2e$
2022	489
Total Construction	**489**
30-Year Amortization[1]	**16**

*CalEEMod, Version 2020.4

Operation*

	$MTCO_2e$/Year		$MTCO_2e$/Year		$MTCO_2e$/Year
	Existing Conditions (2021)	**%**	**Proposed Project (2023)**	**%**	**Net**
Area	0.0003	0	0.01	0	0.005
Energy	13	2%	14	1%	2
Mobile	609	93%	1,037	92%	428
Solid Waste	0	0%	1	0%	0
Water	24	4%	39	3%	15
Lighting Energy	7	1%	20	2%	14
Amortized Construction Emissions***		0%	16	1%	16
	653	100%	**1,128**	100%	**475**
			South Coast AQMD Bright-Line Screening Threshold		3,000
			Exceed Threshold?		**No**

*CalEEMod, Version 2020.4

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

*** Total construction emissions are amortized over 30 years per SCAQMD methodology; SCAQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2.

CalEEMod Construction Model

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Oak Creek Community Park Expansion & Improvement Plan

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	8.55	Acre	8.55	372,427.00	0
Parking Lot	0.51	Acre	0.51	22,401.00	0
Other Asphalt Surfaces	0.89	Acre	0.89	38,586.00	0
Other Non-Asphalt Surfaces	1.47	Acre	1.47	64,956.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on Applicant info. (see assumptions file)

Construction Phase - Based on applicant info. (see assumptions file)

Off-road Equipment - No additional equipment for Asphalt Demolition Debris Haul

Off-road Equipment -

Off-road Equipment - No additional equipment required for Site Prep Soil Haul Phase

Off-road Equipment -

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Grading -

Demolition -

Trips and VMT - Assume 4 vt/day/water trucks, See assumptions file

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	6/28/2022	7/1/2022
tblGrading	MaterialImported	0.00	80.00
tblLandUse	LandUseSquareFeet	372,438.00	372,427.00
tblLandUse	LandUseSquareFeet	22,215.60	22,401.00
tblLandUse	LandUseSquareFeet	38,768.40	38,586.00
tblLandUse	LandUseSquareFeet	64,033.20	64,956.00
tblOffRoadEquipment	LoadFactor	0.38	0.38

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	6.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	81.00
tblTripsAndVMT	WorkerTripNumber	3.00	209.00

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2022	0.2710	2.3682	2.1592	5.3200e-003	0.8044	0.1006	0.9050	0.3482	0.0928	0.4410	0.0000	482.1430	482.1430	0.0981	0.0154	489.1684
2023	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
Maximum	**0.2710**	**2.3682**	**2.1592**	**5.3200e-003**	**0.8044**	**0.1006**	**0.9050**	**0.3482**	**0.0928**	**0.4410**	**0.0000**	**482.1430**	**482.1430**	**0.0981**	**0.0154**	**489.1684**

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					
2022	0.2710	2.3682	2.1592	5.3200e-003	0.4278	0.1006	0.5283	0.1718	0.0928	0.2646	0.0000	482.1426	482.1426	0.0981	0.0154	489.1680
2023	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
Maximum	**0.2710**	**2.3682**	**2.1592**	**5.3200e-003**	**0.4278**	**0.1006**	**0.5283**	**0.1718**	**0.0928**	**0.2646**	**0.0000**	**482.1426**	**482.1426**	**0.0981**	**0.0154**	**489.1680**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.82**	**0.00**	**41.62**	**50.67**	**0.00**	**40.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2022	8-31-2022	2.1646	2.1646
2	9-1-2022	11-30-2022	0.4019	0.4019
3	12-1-2022	2-28-2023	0.0801	0.0801
		Highest	2.1646	2.1646

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.0134	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8137	1.8137	1.2000e-004	1.0000e-005	1.8208
Mobile	4.4700e-003	4.9500e-003	0.0444	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8400e-003	6.0000e-005	2.9100e-003	0.0000	9.2093	9.2093	5.9000e-004	4.0000e-004	9.3435
Waste						0.0000	0.0000		0.0000	0.0000	0.1502	0.0000	0.1502	8.8800e-003	0.0000	0.3722
Water						0.0000	0.0000		0.0000	0.0000	0.0000	26.1810	26.1810	1.6900e-003	2.1000e-004	26.2846
Total	**0.0179**	**4.9500e-003**	**0.0446**	**1.0000e-004**	**0.0107**	**7.0000e-005**	**0.0107**	**2.8400e-003**	**6.0000e-005**	**2.9100e-003**	**0.1502**	**37.2042**	**37.3544**	**0.0113**	**6.2000e-004**	**37.8213**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	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					
Area	0.0134	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8137	1.8137	1.2000e-004	1.0000e-005	1.8208
Mobile	4.4700e-003	4.9500e-003	0.0444	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8400e-003	6.0000e-005	2.9100e-003	0.0000	9.2093	9.2093	5.9000e-004	4.0000e-004	9.3435
Waste						0.0000	0.0000		0.0000	0.0000	0.1502	0.0000	0.1502	8.8800e-003	0.0000	0.3722
Water						0.0000	0.0000		0.0000	0.0000	0.0000	26.1810	26.1810	1.6900e-003	2.1000e-004	26.2846
Total	**0.0179**	**4.9500e-003**	**0.0446**	**1.0000e-004**	**0.0107**	**7.0000e-005**	**0.0107**	**2.8400e-003**	**6.0000e-005**	**2.9100e-003**	**0.1502**	**37.2042**	**37.3544**	**0.0113**	**6.2000e-004**	**37.8213**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	6/1/2022	7/1/2022	5	23	a
2	Asphalt Demolition Debris Haul	Demolition	6/29/2022	7/1/2022	5	3	b
3	Site Preparation	Site Preparation	6/1/2022	8/1/2022	5	44	c
4	Site Preparation Soil Haul	Site Preparation	7/26/2022	8/1/2022	5	5	d
5	Rough Grading	Grading	7/2/2022	8/1/2022	5	21	e
6	Utility Trenching	Trenching	7/2/2022	8/1/2022	5	21	f
7	Fine Grading	Grading	8/2/2022	9/1/2022	5	23	g
8	Asphalt Paving	Paving	9/1/2022	10/1/2022	5	22	h

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	Finishing/Landscaping	Trenching	8/2/2022	1/1/2023	5	109	i
10	Architectural Coating	Architectural Coating	11/1/2022	11/7/2022	5	5	j

Acres of Grading (Site Preparation Phase): 66

Acres of Grading (Grading Phase): 63

Acres of Paving: 2.87

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,557 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38
Rough Grading	Excavators	2	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Fine Grading	Graders	1	8.00	187	0.41
Asphalt Paving	Pavers	2	8.00	130	0.42
Asphalt Paving	Paving Equipment	2	8.00	132	0.36
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Paving	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation Soil Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Asphalt Demolition	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition Debris Haul	0	0.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation Soil Haul	0	0.00	0.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	42.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	209.00	81.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 2022

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					6.5000e-004	0.0000	6.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0304	0.2958	0.2368	4.5000e-004		0.0143	0.0143		0.0133	0.0133	0.0000	39.0888	39.0888	0.0110	0.0000	39.3633
Total	**0.0304**	**0.2958**	**0.2368**	**4.5000e-004**	**6.5000e-004**	**0.0143**	**0.0149**	**1.0000e-004**	**0.0133**	**0.0134**	**0.0000**	**39.0888**	**39.0888**	**0.0110**	**0.0000**	**39.3633**

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	2.1600e-003	7.4000e-004	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.8654	0.8654	5.0000e-005	1.2000e-004	0.9037
Worker	5.2000e-004	3.9000e-004	5.4000e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4870	1.4870	4.0000e-005	4.0000e-005	1.4991
Total	**6.0000e-004**	**2.5500e-003**	**6.1400e-003**	**3.0000e-005**	**2.1800e-003**	**3.0000e-005**	**2.2100e-003**	**5.8000e-004**	**3.0000e-005**	**6.1000e-004**	**0.0000**	**2.3525**	**2.3525**	**9.0000e-005**	**1.6000e-004**	**2.4028**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					2.8000e-004	0.0000	2.8000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0304	0.2958	0.2368	4.5000e-004		0.0143	0.0143		0.0133	0.0133	0.0000	39.0887	39.0887	0.0110	0.0000	39.3632
Total	**0.0304**	**0.2958**	**0.2368**	**4.5000e-004**	**2.8000e-004**	**0.0143**	**0.0146**	**4.0000e-005**	**0.0133**	**0.0133**	**0.0000**	**39.0887**	**39.0887**	**0.0110**	**0.0000**	**39.3632**

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	2.1600e-003	7.4000e-004	1.0000e-005	2.7000e-004	2.0000e-005	2.9000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.8654	0.8654	5.0000e-005	1.2000e-004	0.9037
Worker	5.2000e-004	3.9000e-004	5.4000e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4870	1.4870	4.0000e-005	4.0000e-005	1.4991
Total	**6.0000e-004**	**2.5500e-003**	**6.1400e-003**	**3.0000e-005**	**2.0200e-003**	**3.0000e-005**	**2.0500e-003**	**5.5000e-004**	**3.0000e-005**	**5.8000e-004**	**0.0000**	**2.3525**	**2.3525**	**9.0000e-005**	**1.6000e-004**	**2.4028**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Asphalt Demolition Debris Haul - 2022

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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	1.0000e-005	5.7000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2147	0.2147	2.0000e-005	3.0000e-005	0.2255
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	**1.0000e-005**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2147**	**0.2147**	**2.0000e-005**	**3.0000e-005**	**0.2255**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	1.0000e-005	5.7000e-004	1.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2147	0.2147	2.0000e-005	3.0000e-005	0.2255
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	**1.0000e-005**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2147**	**0.2147**	**2.0000e-005**	**3.0000e-005**	**0.2255**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2022

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					0.4325	0.0000	0.4325	0.2223	0.0000	0.2223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0697	0.7278	0.4334	8.4000e-004		0.0355	0.0355		0.0326	0.0326	0.0000	73.5667	73.5667	0.0238	0.0000	74.1615
Total	**0.0697**	**0.7278**	**0.4334**	**8.4000e-004**	**0.4325**	**0.0355**	**0.4679**	**0.2223**	**0.0326**	**0.2549**	**0.0000**	**73.5667**	**73.5667**	**0.0238**	**0.0000**	**74.1615**

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	1.5000e-004	4.1400e-003	1.4200e-003	2.0000e-005	5.5000e-004	4.0000e-005	5.9000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	1.6556	1.6556	9.0000e-005	2.4000e-004	1.7287
Worker	1.1900e-003	9.0000e-004	0.0124	4.0000e-005	4.3500e-003	2.0000e-005	4.3700e-003	1.1500e-003	2.0000e-005	1.1800e-003	0.0000	3.4137	3.4137	8.0000e-005	9.0000e-005	3.4414
Total	**1.3400e-003**	**5.0400e-003**	**0.0138**	**6.0000e-005**	**4.9000e-003**	**6.0000e-005**	**4.9600e-003**	**1.3100e-003**	**6.0000e-005**	**1.3800e-003**	**0.0000**	**5.0693**	**5.0693**	**1.7000e-004**	**3.3000e-004**	**5.1701**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					0.1849	0.0000	0.1849	0.0950	0.0000	0.0950	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0697	0.7278	0.4334	8.4000e-004		0.0355	0.0355		0.0326	0.0326	0.0000	73.5666	73.5666	0.0238	0.0000	74.1614
Total	**0.0697**	**0.7278**	**0.4334**	**8.4000e-004**	**0.1849**	**0.0355**	**0.2204**	**0.0950**	**0.0326**	**0.1277**	**0.0000**	**73.5666**	**73.5666**	**0.0238**	**0.0000**	**74.1614**

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	1.5000e-004	4.1400e-003	1.4200e-003	2.0000e-005	5.2000e-004	4.0000e-005	5.6000e-004	1.5000e-004	4.0000e-005	1.9000e-004	0.0000	1.6556	1.6556	9.0000e-005	2.4000e-004	1.7287
Worker	1.1900e-003	9.0000e-004	0.0124	4.0000e-005	4.0100e-003	2.0000e-005	4.0300e-003	1.0700e-003	2.0000e-005	1.0900e-003	0.0000	3.4137	3.4137	8.0000e-005	9.0000e-005	3.4414
Total	**1.3400e-003**	**5.0400e-003**	**0.0138**	**6.0000e-005**	**4.5300e-003**	**6.0000e-005**	**4.5900e-003**	**1.2200e-003**	**6.0000e-005**	**1.2800e-003**	**0.0000**	**5.0693**	**5.0693**	**1.7000e-004**	**3.3000e-004**	**5.1701**

3.5 Site Preparation Soil Haul - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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	2.0000e-005	8.2000e-004	2.2000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3067	0.3067	3.0000e-005	5.0000e-005	0.3221
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	**2.0000e-005**	**8.2000e-004**	**2.2000e-004**	**0.0000**	**9.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3067**	**0.3067**	**3.0000e-005**	**5.0000e-005**	**0.3221**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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	2.0000e-005	8.2000e-004	2.2000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3067	0.3067	3.0000e-005	5.0000e-005	0.3221
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	**2.0000e-005**	**8.2000e-004**	**2.2000e-004**	**0.0000**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3067**	**0.3067**	**3.0000e-005**	**5.0000e-005**	**0.3221**

3.6 Rough Grading - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					0.0966	0.0000	0.0966	0.0384	0.0000	0.0384	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.4079	0.3049	6.5000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	57.2613	57.2613	0.0185	0.0000	57.7243
Total	**0.0381**	**0.4079**	**0.3049**	**6.5000e-004**	**0.0966**	**0.0172**	**0.1138**	**0.0384**	**0.0158**	**0.0542**	**0.0000**	**57.2613**	**57.2613**	**0.0185**	**0.0000**	**57.7243**

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	7.0000e-005	1.9700e-003	6.8000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.8000e-004	8.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.7902	0.7902	5.0000e-005	1.1000e-004	0.8251
Worker	6.3000e-004	4.8000e-004	6.5700e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8103	1.8103	5.0000e-005	5.0000e-005	1.8250
Total	**7.0000e-004**	**2.4500e-003**	**7.2500e-003**	**3.0000e-005**	**2.5700e-003**	**3.0000e-005**	**2.6000e-003**	**6.9000e-004**	**3.0000e-005**	**7.1000e-004**	**0.0000**	**2.6005**	**2.6005**	**1.0000e-004**	**1.6000e-004**	**2.6501**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					0.0413	0.0000	0.0413	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.4079	0.3049	6.5000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	57.2613	57.2613	0.0185	0.0000	57.7243
Total	**0.0381**	**0.4079**	**0.3049**	**6.5000e-004**	**0.0413**	**0.0172**	**0.0585**	**0.0164**	**0.0158**	**0.0322**	**0.0000**	**57.2613**	**57.2613**	**0.0185**	**0.0000**	**57.7243**

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	7.0000e-005	1.9700e-003	6.8000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.7902	0.7902	5.0000e-005	1.1000e-004	0.8251
Worker	6.3000e-004	4.8000e-004	6.5700e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1400e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8103	1.8103	5.0000e-005	5.0000e-005	1.8250
Total	**7.0000e-004**	**2.4500e-003**	**7.2500e-003**	**3.0000e-005**	**2.3800e-003**	**3.0000e-005**	**2.4100e-003**	**6.4000e-004**	**3.0000e-005**	**6.7000e-004**	**0.0000**	**2.6005**	**2.6005**	**1.0000e-004**	**1.6000e-004**	**2.6501**

3.7 Utility Trenching - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	2.1300e-003	0.0187	0.0342	5.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	4.7629	4.7629	1.5400e-003	0.0000	4.8014
Total	**2.1300e-003**	**0.0187**	**0.0342**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**4.7629**	**4.7629**	**1.5400e-003**	**0.0000**	**4.8014**

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	9.0000e-005	7.0000e-005	9.9000e-004	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2715	0.2715	1.0000e-005	1.0000e-005	0.2738
Total	**9.0000e-005**	**7.0000e-005**	**9.9000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2715**	**0.2715**	**1.0000e-005**	**1.0000e-005**	**0.2738**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	2.1300e-003	0.0187	0.0342	5.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	4.7629	4.7629	1.5400e-003	0.0000	4.8014
Total	**2.1300e-003**	**0.0187**	**0.0342**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**8.3000e-004**	**8.3000e-004**	**0.0000**	**4.7629**	**4.7629**	**1.5400e-003**	**0.0000**	**4.8014**

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	9.0000e-005	7.0000e-005	9.9000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2715	0.2715	1.0000e-005	1.0000e-005	0.2738
Total	**9.0000e-005**	**7.0000e-005**	**9.9000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2715**	**0.2715**	**1.0000e-005**	**1.0000e-005**	**0.2738**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Fine Grading - 2022

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					0.1058	0.0000	0.1058	0.0420	0.0000	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.4467	0.3340	7.1000e-004		0.0188	0.0188		0.0173	0.0173	0.0000	62.7148	62.7148	0.0203	0.0000	63.2219
Total	**0.0417**	**0.4467**	**0.3340**	**7.1000e-004**	**0.1058**	**0.0188**	**0.1246**	**0.0420**	**0.0173**	**0.0593**	**0.0000**	**62.7148**	**62.7148**	**0.0203**	**0.0000**	**63.2219**

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	2.1600e-003	7.4000e-004	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.8654	0.8654	5.0000e-005	1.2000e-004	0.9037
Worker	6.9000e-004	5.2000e-004	7.1900e-003	2.0000e-005	2.5200e-003	1.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	1.9827	1.9827	5.0000e-005	5.0000e-005	1.9988
Total	**7.7000e-004**	**2.6800e-003**	**7.9300e-003**	**3.0000e-005**	**2.8100e-003**	**3.0000e-005**	**2.8500e-003**	**7.5000e-004**	**3.0000e-005**	**7.8000e-004**	**0.0000**	**2.8481**	**2.8481**	**1.0000e-004**	**1.7000e-004**	**2.9025**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					0.0453	0.0000	0.0453	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.4467	0.3340	7.1000e-004		0.0188	0.0188		0.0173	0.0173	0.0000	62.7147	62.7147	0.0203	0.0000	63.2218
Total	**0.0417**	**0.4467**	**0.3340**	**7.1000e-004**	**0.0453**	**0.0188**	**0.0641**	**0.0180**	**0.0173**	**0.0353**	**0.0000**	**62.7147**	**62.7147**	**0.0203**	**0.0000**	**63.2218**

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	2.1600e-003	7.4000e-004	1.0000e-005	2.7000e-004	2.0000e-005	2.9000e-004	8.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.8654	0.8654	5.0000e-005	1.2000e-004	0.9037
Worker	6.9000e-004	5.2000e-004	7.1900e-003	2.0000e-005	2.3300e-003	1.0000e-005	2.3400e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.9827	1.9827	5.0000e-005	5.0000e-005	1.9988
Total	**7.7000e-004**	**2.6800e-003**	**7.9300e-003**	**3.0000e-005**	**2.6000e-003**	**3.0000e-005**	**2.6300e-003**	**7.0000e-004**	**3.0000e-005**	**7.3000e-004**	**0.0000**	**2.8481**	**2.8481**	**1.0000e-004**	**1.7000e-004**	**2.9025**

3.9 Asphalt Paving - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	1.8300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.1224**	**0.1604**	**2.5000e-004**		**6.2500e-003**	**6.2500e-003**		**5.7500e-003**	**5.7500e-003**	**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

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	5.0000e-004	3.7000e-004	5.1600e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4224	1.4224	4.0000e-005	4.0000e-005	1.4339
Total	**5.0000e-004**	**3.7000e-004**	**5.1600e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4224**	**1.4224**	**4.0000e-005**	**4.0000e-005**	**1.4339**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	1.8300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.1224**	**0.1604**	**2.5000e-004**		**6.2500e-003**	**6.2500e-003**		**5.7500e-003**	**5.7500e-003**	**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

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	5.0000e-004	3.7000e-004	5.1600e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4224	1.4224	4.0000e-005	4.0000e-005	1.4339
Total	**5.0000e-004**	**3.7000e-004**	**5.1600e-003**	**2.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4224**	**1.4224**	**4.0000e-005**	**4.0000e-005**	**1.4339**

3.10 Finishing/Landscaping - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0111	0.0973	0.1783	2.8000e-004		4.7100e-003	4.7100e-003		4.3300e-003	4.3300e-003	0.0000	24.8452	24.8452	8.0400e-003	0.0000	25.0460
Total	**0.0111**	**0.0973**	**0.1783**	**2.8000e-004**		**4.7100e-003**	**4.7100e-003**		**4.3300e-003**	**4.3300e-003**	**0.0000**	**24.8452**	**24.8452**	**8.0400e-003**	**0.0000**	**25.0460**

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	7.2800e-003	0.2075	0.0715	8.4000e-004	0.0278	1.9300e-003	0.0297	8.0200e-003	1.8500e-003	9.8700e-003	0.0000	83.0530	83.0530	4.7500e-003	0.0119	86.7214
Worker	0.0343	0.0258	0.3563	1.0700e-003	0.1250	6.9000e-004	0.1257	0.0332	6.3000e-004	0.0338	0.0000	98.1910	98.1910	2.4400e-003	2.4700e-003	98.9878
Total	**0.0416**	**0.2333**	**0.4278**	**1.9100e-003**	**0.1529**	**2.6200e-003**	**0.1555**	**0.0412**	**2.4800e-003**	**0.0437**	**0.0000**	**181.2440**	**181.2440**	**7.1900e-003**	**0.0144**	**185.7092**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0111	0.0973	0.1783	2.8000e-004		4.7100e-003	4.7100e-003		4.3300e-003	4.3300e-003	0.0000	24.8451	24.8451	8.0400e-003	0.0000	25.0460
Total	**0.0111**	**0.0973**	**0.1783**	**2.8000e-004**		**4.7100e-003**	**4.7100e-003**		**4.3300e-003**	**4.3300e-003**	**0.0000**	**24.8451**	**24.8451**	**8.0400e-003**	**0.0000**	**25.0460**

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	7.2800e-003	0.2075	0.0715	8.4000e-004	0.0260	1.9300e-003	0.0280	7.5900e-003	1.8500e-003	9.4300e-003	0.0000	83.0530	83.0530	4.7500e-003	0.0119	86.7214
Worker	0.0343	0.0258	0.3563	1.0700e-003	0.1153	6.9000e-004	0.1160	0.0308	6.3000e-004	0.0314	0.0000	98.1910	98.1910	2.4400e-003	2.4700e-003	98.9878
Total	**0.0416**	**0.2333**	**0.4278**	**1.9100e-003**	**0.1413**	**2.6200e-003**	**0.1439**	**0.0384**	**2.4800e-003**	**0.0409**	**0.0000**	**181.2440**	**181.2440**	**7.1900e-003**	**0.0144**	**185.7092**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Finishing/Landscaping - 2023

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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	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	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	**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**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**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	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	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	**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**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Architectural Coating - 2022

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	0.0175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0180**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

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	3.2000e-004	2.4000e-004	3.2800e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9052	0.9052	2.0000e-005	2.0000e-005	0.9125
Total	**3.2000e-004**	**2.4000e-004**	**3.2800e-003**	**1.0000e-005**	**1.1500e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**0.9052**	**0.9052**	**2.0000e-005**	**2.0000e-005**	**0.9125**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.0175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0180**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

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	3.2000e-004	2.4000e-004	3.2800e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0700e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9052	0.9052	2.0000e-005	2.0000e-005	0.9125
Total	**3.2000e-004**	**2.4000e-004**	**3.2800e-003**	**1.0000e-005**	**1.0600e-003**	**1.0000e-005**	**1.0700e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9052**	**0.9052**	**2.0000e-005**	**2.0000e-005**	**0.9125**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Oak Creek Community Park Expansion & Improvement Plan

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	8.55	Acre	8.55	372,427.00	0
Parking Lot	0.51	Acre	0.51	22,401.00	0
Other Asphalt Surfaces	0.89	Acre	0.89	38,586.00	0
Other Non-Asphalt Surfaces	1.47	Acre	1.47	64,956.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on Applicant info. (see assumptions file)

Construction Phase - Based on applicant info. (see assumptions file)

Off-road Equipment - No additional equipment for Asphalt Demolition Debris Haul

Off-road Equipment -

Off-road Equipment - No additional equipment required for Site Prep Soil Haul Phase

Off-road Equipment -

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Grading -

Demolition -

Trips and VMT - Assume 4 vt/day/water trucks, See assumptions file

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	6/28/2022	7/1/2022
tblGrading	MaterialImported	0.00	80.00
tblLandUse	LandUseSquareFeet	372,438.00	372,427.00
tblLandUse	LandUseSquareFeet	22,215.60	22,401.00
tblLandUse	LandUseSquareFeet	38,768.40	38,586.00
tblLandUse	LandUseSquareFeet	64,033.20	64,956.00
tblOffRoadEquipment	LoadFactor	0.38	0.38

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	6.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	81.00
tblTripsAndVMT	WorkerTripNumber	3.00	209.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	8.3029	74.4572	56.2663	0.1299	29.4067	3.3417	32.7484	13.9023	3.0746	16.9769	0.0000	12,886.8217	12,886.8217	3.3300	0.3066	13,052.6393
2023	0.8599	4.7716	10.8335	0.0395	2.8541	0.1027	2.9567	0.7686	0.0950	0.8636	0.0000	4,094.4721	4,094.4721	0.3014	0.2725	4,183.2220
Maximum	**8.3029**	**74.4572**	**56.2663**	**0.1299**	**29.4067**	**3.3417**	**32.7484**	**13.9023**	**3.0746**	**16.9769**	**0.0000**	**12,886.8217**	**12,886.8217**	**3.3300**	**0.3066**	**13,052.6393**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	lb/day										lb/day					
2022	8.3029	74.4572	56.2663	0.1299	12.8415	3.3417	16.1832	6.0165	3.0746	9.0911	0.0000	12,886.8217	12,886.8217	3.3300	0.3066	13,052.6393
2023	0.8599	4.7716	10.8335	0.0395	2.6380	0.1027	2.7407	0.7156	0.0950	0.8106	0.0000	4,094.4721	4,094.4721	0.3014	0.2725	4,183.2220
Maximum	**8.3029**	**74.4572**	**56.2663**	**0.1299**	**12.8415**	**3.3417**	**16.1832**	**6.0165**	**3.0746**	**9.0911**	**0.0000**	**12,886.8217**	**12,886.8217**	**3.3300**	**0.3066**	**13,052.6393**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.02**	**0.00**	**47.00**	**54.11**	**0.00**	**44.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.0735	1.0000e-005	1.1700e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5000e-003	2.5000e-003	1.0000e-005		2.6600e-003
Energy	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
Mobile	0.0483	0.0476	0.4661	1.0700e-003	0.1135	7.3000e-004	0.1143	0.0303	6.8000e-004	0.0309		109.3873	109.3873	6.6100e-003	4.4100e-003	110.8670
Total	**0.1218**	**0.0476**	**0.4672**	**1.0700e-003**	**0.1135**	**7.3000e-004**	**0.1143**	**0.0303**	**6.8000e-004**	**0.0309**		**109.3898**	**109.3898**	**6.6200e-003**	**4.4100e-003**	**110.8697**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	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					
Area	0.0735	1.0000e-005	1.1700e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.5000e-003	2.5000e-003	1.0000e-005		2.6600e-003
Energy	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
Mobile	0.0483	0.0476	0.4661	1.0700e-003	0.1135	7.3000e-004	0.1143	0.0303	6.8000e-004	0.0309		109.3873	109.3873	6.6100e-003	4.4100e-003	110.8670
Total	**0.1218**	**0.0476**	**0.4672**	**1.0700e-003**	**0.1135**	**7.3000e-004**	**0.1143**	**0.0303**	**6.8000e-004**	**0.0309**		**109.3898**	**109.3898**	**6.6200e-003**	**4.4100e-003**	**110.8697**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	6/1/2022	7/1/2022	5	23	a
2	Asphalt Demolition Debris Haul	Demolition	6/29/2022	7/1/2022	5	3	b
3	Site Preparation	Site Preparation	6/1/2022	8/1/2022	5	44	c
4	Site Preparation Soil Haul	Site Preparation	7/26/2022	8/1/2022	5	5	d
5	Rough Grading	Grading	7/2/2022	8/1/2022	5	21	e
6	Utility Trenching	Trenching	7/2/2022	8/1/2022	5	21	f
7	Fine Grading	Grading	8/2/2022	9/1/2022	5	23	g
8	Asphalt Paving	Paving	9/1/2022	10/1/2022	5	22	h
9	Finishing/Landscaping	Trenching	8/2/2022	1/1/2023	5	109	i
10	Architectural Coating	Architectural Coating	11/1/2022	11/7/2022	5	5	j

Acres of Grading (Site Preparation Phase): 66

Acres of Grading (Grading Phase): 63

Acres of Paving: 2.87

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,557 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Rough Grading	Excavators	2	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Fine Grading	Graders	1	8.00	187	0.41
Asphalt Paving	Pavers	2	8.00	130	0.42
Asphalt Paving	Paving Equipment	2	8.00	132	0.36
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Paving	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation Soil Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Scrapers	2	8.00	367	0.48
Fine Grading	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
Asphalt Demolition	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition Debris Haul	0	0.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation Soil Haul	0	0.00	0.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	42.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	209.00	81.00	0.00	14.70	6.90	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

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Asphalt Demolition - 2022

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					0.0568	0.0000	0.0568	8.5900e-003	0.0000	8.5900e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0568**	**1.2427**	**1.2994**	**8.5900e-003**	**1.1553**	**1.1639**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6700e-003	9.0300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	**0.0518**	**0.2098**	**0.5567**	**2.2200e-003**	**0.1932**	**2.6500e-003**	**0.1959**	**0.0518**	**2.5000e-003**	**0.0543**		**230.6498**	**230.6498**	**8.2200e-003**	**0.0152**	**235.3868**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					0.0243	0.0000	0.0243	3.6700e-003	0.0000	3.6700e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0243**	**1.2427**	**1.2669**	**3.6700e-003**	**1.1553**	**1.1589**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6700e-003	8.6300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	**0.0518**	**0.2098**	**0.5567**	**2.2200e-003**	**0.1785**	**2.6500e-003**	**0.1811**	**0.0482**	**2.5000e-003**	**0.0507**		**230.6498**	**230.6498**	**8.2200e-003**	**0.0152**	**235.3868**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Asphalt Demolition Debris Haul - 2022

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	0.0000	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**		**0.0000**	**0.0000**		**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	lb/day										lb/day					
Hauling	9.4500e-003	0.3633	0.1020	1.3900e-003	0.0407	2.7500e-003	0.0434	0.0111	2.6300e-003	0.0138		157.7558	157.7558	0.0150	0.0253	165.6613
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
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
Total	**9.4500e-003**	**0.3633**	**0.1020**	**1.3900e-003**	**0.0407**	**2.7500e-003**	**0.0434**	**0.0111**	**2.6300e-003**	**0.0138**		**157.7558**	**157.7558**	**0.0150**	**0.0253**	**165.6613**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**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	lb/day										lb/day					
Hauling	9.4500e-003	0.3633	0.1020	1.3900e-003	0.0379	2.7500e-003	0.0407	0.0105	2.6300e-003	0.0131		157.7558	157.7558	0.0150	0.0253	165.6613
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
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
Total	**9.4500e-003**	**0.3633**	**0.1020**	**1.3900e-003**	**0.0379**	**2.7500e-003**	**0.0407**	**0.0105**	**2.6300e-003**	**0.0131**		**157.7558**	**157.7558**	**0.0150**	**0.0253**	**165.6613**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2022

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6700e-003	9.0300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0541	0.0364	0.5915	1.7500e-003	0.2012	1.0800e-003	0.2023	0.0534	1.0000e-003	0.0544		177.2481	177.2481	4.1700e-003	3.9800e-003	178.5393
Total	**0.0608**	**0.2159**	**0.6553**	**2.5100e-003**	**0.2268**	**2.8300e-003**	**0.2296**	**0.0607**	**2.6700e-003**	**0.0634**		**260.1911**	**260.1911**	**8.9200e-003**	**0.0159**	**265.1433**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.4034**	**1.6126**	**10.0159**	**4.3188**	**1.4836**	**5.8024**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6700e-003	8.6300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0541	0.0364	0.5915	1.7500e-003	0.1855	1.0800e-003	0.1865	0.0495	1.0000e-003	0.0505		177.2481	177.2481	4.1700e-003	3.9800e-003	178.5393
Total	**0.0608**	**0.2159**	**0.6553**	**2.5100e-003**	**0.2094**	**2.8300e-003**	**0.2122**	**0.0565**	**2.6700e-003**	**0.0591**		**260.1911**	**260.1911**	**8.9200e-003**	**0.0159**	**265.1433**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Site Preparation Soil Haul - 2022

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					1.8100e-003	0.0000	1.8100e-003	2.7000e-004	0.0000	2.7000e-004			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**	**1.8100e-003**	**0.0000**	**1.8100e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**		**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	8.1000e-003	0.3114	0.0875	1.1900e-003	0.0349	2.3600e-003	0.0372	9.5500e-003	2.2500e-003	0.0118		135.2193	135.2193	0.0129	0.0217	141.9954
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
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
Total	**8.1000e-003**	**0.3114**	**0.0875**	**1.1900e-003**	**0.0349**	**2.3600e-003**	**0.0372**	**9.5500e-003**	**2.2500e-003**	**0.0118**		**135.2193**	**135.2193**	**0.0129**	**0.0217**	**141.9954**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					7.7000e-004	0.0000	7.7000e-004	1.2000e-004	0.0000	1.2000e-004			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**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**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	8.1000e-003	0.3114	0.0875	1.1900e-003	0.0325	2.3600e-003	0.0349	8.9700e-003	2.2500e-003	0.0112		135.2193	135.2193	0.0129	0.0217	141.9954
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
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
Total	**8.1000e-003**	**0.3114**	**0.0875**	**1.1900e-003**	**0.0325**	**2.3600e-003**	**0.0349**	**8.9700e-003**	**2.2500e-003**	**0.0112**		**135.2193**	**135.2193**	**0.0129**	**0.0217**	**141.9954**

3.6 Rough Grading - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6700e-003	9.0300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0602	0.0404	0.6573	1.9500e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		196.9423	196.9423	4.6300e-003	4.4300e-003	198.3770
Total	**0.0668**	**0.2199**	**0.7210**	**2.7100e-003**	**0.2491**	**2.9500e-003**	**0.2521**	**0.0667**	**2.7800e-003**	**0.0694**		**279.8853**	**279.8853**	**9.3800e-003**	**0.0163**	**284.9810**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					3.9345	0.0000	3.9345	1.5620	0.0000	1.5620			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9345**	**1.6349**	**5.5694**	**1.5620**	**1.5041**	**3.0661**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6700e-003	8.6300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0602	0.0404	0.6573	1.9500e-003	0.2061	1.2000e-003	0.2073	0.0550	1.1100e-003	0.0561		196.9423	196.9423	4.6300e-003	4.4300e-003	198.3770
Total	**0.0668**	**0.2199**	**0.7210**	**2.7100e-003**	**0.2300**	**2.9500e-003**	**0.2330**	**0.0620**	**2.7800e-003**	**0.0647**		**279.8853**	**279.8853**	**9.3800e-003**	**0.0163**	**284.9810**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Utility Trenching - 2022

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	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790		500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**		**0.0859**	**0.0859**		**0.0790**	**0.0790**		**500.0153**	**500.0153**	**0.1617**		**504.0582**

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	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
Worker	9.0200e-003	6.0600e-003	0.0986	2.9000e-004	0.0335	1.8000e-004	0.0337	8.8900e-003	1.7000e-004	9.0600e-003		29.5414	29.5414	6.9000e-004	6.6000e-004	29.7566
Total	**9.0200e-003**	**6.0600e-003**	**0.0986**	**2.9000e-004**	**0.0335**	**1.8000e-004**	**0.0337**	**8.8900e-003**	**1.7000e-004**	**9.0600e-003**		**29.5414**	**29.5414**	**6.9000e-004**	**6.6000e-004**	**29.7566**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790	0.0000	500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**		**0.0859**	**0.0859**		**0.0790**	**0.0790**	**0.0000**	**500.0153**	**500.0153**	**0.1617**		**504.0582**

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	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
Worker	9.0200e-003	6.0600e-003	0.0986	2.9000e-004	0.0309	1.8000e-004	0.0311	8.2500e-003	1.7000e-004	8.4200e-003		29.5414	29.5414	6.9000e-004	6.6000e-004	29.7566
Total	**9.0200e-003**	**6.0600e-003**	**0.0986**	**2.9000e-004**	**0.0309**	**1.8000e-004**	**0.0311**	**8.2500e-003**	**1.7000e-004**	**8.4200e-003**		**29.5414**	**29.5414**	**6.9000e-004**	**6.6000e-004**	**29.7566**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Fine Grading - 2022

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6700e-003	9.0300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0602	0.0404	0.6573	1.9500e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		196.9423	196.9423	4.6300e-003	4.4300e-003	198.3770
Total	**0.0668**	**0.2199**	**0.7210**	**2.7100e-003**	**0.2491**	**2.9500e-003**	**0.2521**	**0.0667**	**2.7800e-003**	**0.0694**		**279.8853**	**279.8853**	**9.3800e-003**	**0.0163**	**284.9810**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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					3.9345	0.0000	3.9345	1.5620	0.0000	1.5620			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9345**	**1.6349**	**5.5694**	**1.5620**	**1.5041**	**3.0661**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.6500e-003	0.1795	0.0637	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6700e-003	8.6300e-003		82.9430	82.9430	4.7500e-003	0.0119	86.6040
Worker	0.0602	0.0404	0.6573	1.9500e-003	0.2061	1.2000e-003	0.2073	0.0550	1.1100e-003	0.0561		196.9423	196.9423	4.6300e-003	4.4300e-003	198.3770
Total	**0.0668**	**0.2199**	**0.7210**	**2.7100e-003**	**0.2300**	**2.9500e-003**	**0.2330**	**0.0620**	**2.7800e-003**	**0.0647**		**279.8853**	**279.8853**	**9.3800e-003**	**0.0163**	**284.9810**

3.9 Asphalt Paving - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2696**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	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
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	**0.0451**	**0.0303**	**0.4930**	**1.4600e-003**	**0.1677**	**9.0000e-004**	**0.1686**	**0.0445**	**8.3000e-004**	**0.0453**		**147.7067**	**147.7067**	**3.4700e-003**	**3.3200e-003**	**148.7828**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2696**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	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
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	**0.0451**	**0.0303**	**0.4930**	**1.4600e-003**	**0.1546**	**9.0000e-004**	**0.1555**	**0.0413**	**8.3000e-004**	**0.0421**		**147.7067**	**147.7067**	**3.4700e-003**	**3.3200e-003**	**148.7828**

3.10 Finishing/Landscaping - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2034	1.7859	3.2714	5.1900e-003		0.0864	0.0864		0.0794	0.0794		502.5154	502.5154	0.1625		506.5784
Total	**0.2034**	**1.7859**	**3.2714**	**5.1900e-003**		**0.0864**	**0.0864**		**0.0794**	**0.0794**		**502.5154**	**502.5154**	**0.1625**		**506.5784**

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	0.0000
Vendor	0.1347	3.6345	1.2905	0.0153	0.5179	0.0354	0.5533	0.1491	0.0338	0.1829		1,679.5964	1,679.5964	0.0962	0.2407	1,753.7313
Worker	0.6286	0.4224	6.8684	0.0204	2.3361	0.0126	2.3487	0.6196	0.0116	0.6311		2,058.0471	2,058.0471	0.0484	0.0463	2,073.0397
Total	**0.7633**	**4.0568**	**8.1589**	**0.0357**	**2.8541**	**0.0479**	**2.9020**	**0.7686**	**0.0454**	**0.8140**		**3,737.6435**	**3,737.6435**	**0.1447**	**0.2870**	**3,826.7709**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2034	1.7859	3.2714	5.1900e-003		0.0864	0.0864		0.0794	0.0794	0.0000	502.5154	502.5154	0.1625		506.5784
Total	**0.2034**	**1.7859**	**3.2714**	**5.1900e-003**		**0.0864**	**0.0864**		**0.0794**	**0.0794**	**0.0000**	**502.5154**	**502.5154**	**0.1625**		**506.5784**

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	0.0000
Vendor	0.1347	3.6345	1.2905	0.0153	0.4847	0.0354	0.5200	0.1409	0.0338	0.1747		1,679.5964	1,679.5964	0.0962	0.2407	1,753.7313
Worker	0.6286	0.4224	6.8684	0.0204	2.1533	0.0126	2.1659	0.5747	0.0116	0.5863		2,058.0471	2,058.0471	0.0484	0.0463	2,073.0397
Total	**0.7633**	**4.0568**	**8.1589**	**0.0357**	**2.6380**	**0.0479**	**2.6860**	**0.7156**	**0.0454**	**0.7610**		**3,737.6435**	**3,737.6435**	**0.1447**	**0.2870**	**3,826.7709**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Finishing/Landscaping - 2023

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	0.1896	1.5564	3.2741	5.1900e-003		0.0762	0.0762		0.0701	0.0701		502.6062	502.6062	0.1626		506.6700
Total	**0.1896**	**1.5564**	**3.2741**	**5.1900e-003**		**0.0762**	**0.0762**		**0.0701**	**0.0701**		**502.6062**	**502.6062**	**0.1626**		**506.6700**

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	0.0000
Vendor	0.0818	2.8387	1.1770	0.0146	0.5179	0.0146	0.5325	0.1491	0.0139	0.1630		1,599.3400	1,599.3400	0.0951	0.2295	1,670.1038
Worker	0.5885	0.3765	6.3824	0.0197	2.3361	0.0119	2.3480	0.6196	0.0110	0.6305		1,992.5259	1,992.5259	0.0438	0.0431	2,006.4482
Total	**0.6703**	**3.2152**	**7.5594**	**0.0343**	**2.8541**	**0.0265**	**2.8805**	**0.7686**	**0.0249**	**0.7935**		**3,591.8659**	**3,591.8659**	**0.1389**	**0.2725**	**3,676.5520**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1896	1.5564	3.2741	5.1900e-003		0.0762	0.0762		0.0701	0.0701	0.0000	502.6062	502.6062	0.1626		506.6700
Total	**0.1896**	**1.5564**	**3.2741**	**5.1900e-003**		**0.0762**	**0.0762**		**0.0701**	**0.0701**	**0.0000**	**502.6062**	**502.6062**	**0.1626**		**506.6700**

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	0.0000
Vendor	0.0818	2.8387	1.1770	0.0146	0.4847	0.0146	0.4992	0.1409	0.0139	0.1548		1,599.3400	1,599.3400	0.0951	0.2295	1,670.1038
Worker	0.5885	0.3765	6.3824	0.0197	2.1533	0.0119	2.1653	0.5747	0.0110	0.5857		1,992.5259	1,992.5259	0.0438	0.0431	2,006.4482
Total	**0.6703**	**3.2152**	**7.5594**	**0.0343**	**2.6380**	**0.0265**	**2.6645**	**0.7156**	**0.0249**	**0.7405**		**3,591.8659**	**3,591.8659**	**0.1389**	**0.2725**	**3,676.5520**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Architectural Coating - 2022

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	7.0053					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**7.2099**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	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
Worker	0.1263	0.0849	1.3803	4.0900e-003	0.4695	2.5300e-003	0.4720	0.1245	2.3300e-003	0.1268		413.5788	413.5788	9.7300e-003	9.2900e-003	416.5917
Total	**0.1263**	**0.0849**	**1.3803**	**4.0900e-003**	**0.4695**	**2.5300e-003**	**0.4720**	**0.1245**	**2.3300e-003**	**0.1268**		**413.5788**	**413.5788**	**9.7300e-003**	**9.2900e-003**	**416.5917**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	7.0053					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**7.2099**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	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
Worker	0.1263	0.0849	1.3803	4.0900e-003	0.4327	2.5300e-003	0.4353	0.1155	2.3300e-003	0.1178		413.5788	413.5788	9.7300e-003	9.2900e-003	416.5917
Total	**0.1263**	**0.0849**	**1.3803**	**4.0900e-003**	**0.4327**	**2.5300e-003**	**0.4353**	**0.1155**	**2.3300e-003**	**0.1178**		**413.5788**	**413.5788**	**9.7300e-003**	**9.2900e-003**	**416.5917**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Oak Creek Community Park Expansion & Improvement Plan

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	8.55	Acre	8.55	372,427.00	0
Parking Lot	0.51	Acre	0.51	22,401.00	0
Other Asphalt Surfaces	0.89	Acre	0.89	38,586.00	0
Other Non-Asphalt Surfaces	1.47	Acre	1.47	64,956.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on Applicant info. (see assumptions file)

Construction Phase - Based on applicant info. (see assumptions file)

Off-road Equipment - No additional equipment for Asphalt Demolition Debris Haul

Off-road Equipment -

Off-road Equipment - No additional equipment required for Site Prep Soil Haul Phase

Off-road Equipment -

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - 1 Excavator based on equipment mix of projects of a similar size

Off-road Equipment -

Grading -

Demolition -

Trips and VMT - Assume 4 vt/day/water trucks, See assumptions file

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and Rule 1186

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	6/28/2022	7/1/2022
tblGrading	MaterialImported	0.00	80.00
tblLandUse	LandUseSquareFeet	372,438.00	372,427.00
tblLandUse	LandUseSquareFeet	22,215.60	22,401.00
tblLandUse	LandUseSquareFeet	38,768.40	38,586.00
tblLandUse	LandUseSquareFeet	64,033.20	64,956.00
tblOffRoadEquipment	LoadFactor	0.38	0.38

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	6.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	81.00
tblTripsAndVMT	WorkerTripNumber	3.00	209.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	8.3684	74.4916	55.7580	0.1288	29.4067	3.3417	32.7484	13.9023	3.0746	16.9769	0.0000	12,772.1809	12,772.1809	3.3302	0.3103	12,939.1365
2023	0.9118	4.9351	10.4342	0.0385	2.8541	0.1028	2.9568	0.7686	0.0951	0.8637	0.0000	4,001.5626	4,001.5626	0.3023	0.2758	4,091.3080
Maximum	**8.3684**	**74.4916**	**55.7580**	**0.1288**	**29.4067**	**3.3417**	**32.7484**	**13.9023**	**3.0746**	**16.9769**	**0.0000**	**12,772.1809**	**12,772.1809**	**3.3302**	**0.3103**	**12,939.1365**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	lb/day										lb/day					
2022	8.3684	74.4916	55.7580	0.1288	12.8415	3.3417	16.1832	6.0165	3.0746	9.0911	0.0000	12,772.1809	12,772.1809	3.3302	0.3103	12,939.1365
2023	0.9118	4.9351	10.4342	0.0385	2.6380	0.1028	2.7408	0.7156	0.0951	0.8107	0.0000	4,001.5626	4,001.5626	0.3023	0.2758	4,091.3080
Maximum	**8.3684**	**74.4916**	**55.7580**	**0.1288**	**12.8415**	**3.3417**	**16.1832**	**6.0165**	**3.0746**	**9.0911**	**0.0000**	**12,772.1809**	**12,772.1809**	**3.3302**	**0.3103**	**12,939.1365**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.02**	**0.00**	**47.00**	**54.11**	**0.00**	**44.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	6/1/2022	7/1/2022	5	23	a
2	Asphalt Demolition Debris Haul	Demolition	6/29/2022	7/1/2022	5	3	b
3	Site Preparation	Site Preparation	6/1/2022	8/1/2022	5	44	c
4	Site Preparation Soil Haul	Site Preparation	7/26/2022	8/1/2022	5	5	d
5	Rough Grading	Grading	7/2/2022	8/1/2022	5	21	e
6	Utility Trenching	Trenching	7/2/2022	8/1/2022	5	21	f
7	Fine Grading	Grading	8/2/2022	9/1/2022	5	23	g
8	Asphalt Paving	Paving	9/1/2022	10/1/2022	5	22	h
9	Finishing/Landscaping	Trenching	8/2/2022	1/1/2023	5	109	i
10	Architectural Coating	Architectural Coating	11/1/2022	11/7/2022	5	5	j

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 66

Acres of Grading (Grading Phase): 63

Acres of Paving: 2.87

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 7,557 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38
Rough Grading	Excavators	2	8.00	158	0.38
Fine Grading	Excavators	2	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Fine Grading	Graders	1	8.00	187	0.41
Asphalt Paving	Pavers	2	8.00	130	0.42
Asphalt Paving	Paving Equipment	2	8.00	132	0.36
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Paving	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation Soil Haul	Rubber Tired Dozers	0	8.00	247	0.40
Rough Grading	Scrapers	2	8.00	367	0.48

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fine Grading	Scrapers	2	8.00	367	0.48
Rough Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Fine Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation Soil Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Trenching	Excavators	1	8.00	158	0.38
Finishing/Landscaping	Excavators	1	8.00	158	0.38

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
Asphalt Demolition	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition Debris Haul	0	0.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation Soil Haul	0	0.00	0.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	42.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	8	20.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping	1	209.00	81.00	0.00	14.70	6.90	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

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Asphalt Demolition - 2022

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					0.0568	0.0000	0.0568	8.5900e-003	0.0000	8.5900e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0568**	**1.2427**	**1.2994**	**8.5900e-003**	**1.1553**	**1.1639**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6800e-003	9.0400e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	**0.0557**	**0.2198**	**0.5247**	**2.1500e-003**	**0.1932**	**2.6500e-003**	**0.1959**	**0.0518**	**2.5100e-003**	**0.0543**		**223.5942**	**223.5942**	**8.2900e-003**	**0.0154**	**228.4001**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					0.0243	0.0000	0.0243	3.6700e-003	0.0000	3.6700e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0243**	**1.2427**	**1.2669**	**3.6700e-003**	**1.1553**	**1.1589**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6800e-003	8.6300e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	**0.0557**	**0.2198**	**0.5247**	**2.1500e-003**	**0.1785**	**2.6500e-003**	**0.1811**	**0.0482**	**2.5100e-003**	**0.0507**		**223.5942**	**223.5942**	**8.2900e-003**	**0.0154**	**228.4001**

3.3 Asphalt Demolition Debris Haul - 2022

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	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**		**0.0000**	**0.0000**		**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	lb/day										lb/day					
Hauling	9.2200e-003	0.3776	0.1035	1.3900e-003	0.0407	2.7500e-003	0.0435	0.0111	2.6400e-003	0.0138		157.7933	157.7933	0.0150	0.0253	165.7004
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
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
Total	**9.2200e-003**	**0.3776**	**0.1035**	**1.3900e-003**	**0.0407**	**2.7500e-003**	**0.0435**	**0.0111**	**2.6400e-003**	**0.0138**		**157.7933**	**157.7933**	**0.0150**	**0.0253**	**165.7004**

Mitigated Construction On-Site

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.0000	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**		**0.0000**	**0.0000**		**0.0000**	**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	lb/day										lb/day					
Hauling	9.2200e-003	0.3776	0.1035	1.3900e-003	0.0379	2.7500e-003	0.0407	0.0105	2.6400e-003	0.0131		157.7933	157.7933	0.0150	0.0253	165.7004
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
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
Total	**9.2200e-003**	**0.3776**	**0.1035**	**1.3900e-003**	**0.0379**	**2.7500e-003**	**0.0407**	**0.0105**	**2.6400e-003**	**0.0131**		**157.7933**	**157.7933**	**0.0150**	**0.0253**	**165.7004**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2022

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6800e-003	9.0400e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0590	0.0400	0.5505	1.6700e-003	0.2012	1.0800e-003	0.2023	0.0534	1.0000e-003	0.0544		168.7502	168.7502	4.2600e-003	4.2400e-003	170.1200
Total	**0.0655**	**0.2265**	**0.6165**	**2.4300e-003**	**0.2268**	**2.8300e-003**	**0.2296**	**0.0607**	**2.6800e-003**	**0.0634**		**251.7192**	**251.7192**	**9.0000e-003**	**0.0161**	**256.7535**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.4034**	**1.6126**	**10.0159**	**4.3188**	**1.4836**	**5.8024**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6800e-003	8.6300e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0590	0.0400	0.5505	1.6700e-003	0.1855	1.0800e-003	0.1865	0.0495	1.0000e-003	0.0505		168.7502	168.7502	4.2600e-003	4.2400e-003	170.1200
Total	**0.0655**	**0.2265**	**0.6165**	**2.4300e-003**	**0.2094**	**2.8300e-003**	**0.2122**	**0.0565**	**2.6800e-003**	**0.0591**		**251.7192**	**251.7192**	**9.0000e-003**	**0.0161**	**256.7535**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Site Preparation Soil Haul - 2022

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					1.8100e-003	0.0000	1.8100e-003	2.7000e-004	0.0000	2.7000e-004			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**	**1.8100e-003**	**0.0000**	**1.8100e-003**	**2.7000e-004**	**0.0000**	**2.7000e-004**		**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	7.9000e-003	0.3236	0.0887	1.1900e-003	0.0349	2.3600e-003	0.0372	9.5500e-003	2.2600e-003	0.0118		135.2514	135.2514	0.0129	0.0217	142.0289
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
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
Total	**7.9000e-003**	**0.3236**	**0.0887**	**1.1900e-003**	**0.0349**	**2.3600e-003**	**0.0372**	**9.5500e-003**	**2.2600e-003**	**0.0118**		**135.2514**	**135.2514**	**0.0129**	**0.0217**	**142.0289**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					7.7000e-004	0.0000	7.7000e-004	1.2000e-004	0.0000	1.2000e-004			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**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**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	7.9000e-003	0.3236	0.0887	1.1900e-003	0.0325	2.3600e-003	0.0349	8.9700e-003	2.2600e-003	0.0112		135.2514	135.2514	0.0129	0.0217	142.0289
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
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
Total	**7.9000e-003**	**0.3236**	**0.0887**	**1.1900e-003**	**0.0325**	**2.3600e-003**	**0.0349**	**8.9700e-003**	**2.2600e-003**	**0.0112**		**135.2514**	**135.2514**	**0.0129**	**0.0217**	**142.0289**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Rough Grading - 2022

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6800e-003	9.0400e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0655	0.0444	0.6116	1.8600e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		187.5002	187.5002	4.7400e-003	4.7100e-003	189.0222
Total	**0.0721**	**0.2309**	**0.6776**	**2.6200e-003**	**0.2491**	**2.9500e-003**	**0.2521**	**0.0667**	**2.7900e-003**	**0.0694**		**270.4693**	**270.4693**	**9.4800e-003**	**0.0166**	**275.6557**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					3.9345	0.0000	3.9345	1.5620	0.0000	1.5620			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9345**	**1.6349**	**5.5694**	**1.5620**	**1.5041**	**3.0661**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6800e-003	8.6300e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0655	0.0444	0.6116	1.8600e-003	0.2061	1.2000e-003	0.2073	0.0550	1.1100e-003	0.0561		187.5002	187.5002	4.7400e-003	4.7100e-003	189.0222
Total	**0.0721**	**0.2309**	**0.6776**	**2.6200e-003**	**0.2300**	**2.9500e-003**	**0.2330**	**0.0620**	**2.7900e-003**	**0.0647**		**270.4693**	**270.4693**	**9.4800e-003**	**0.0166**	**275.6557**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Utility Trenching - 2022

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	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790		500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**		**0.0859**	**0.0859**		**0.0790**	**0.0790**		**500.0153**	**500.0153**	**0.1617**		**504.0582**

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	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
Worker	9.8300e-003	6.6600e-003	0.0917	2.8000e-004	0.0335	1.8000e-004	0.0337	8.8900e-003	1.7000e-004	9.0600e-003		28.1250	28.1250	7.1000e-004	7.1000e-004	28.3533
Total	**9.8300e-003**	**6.6600e-003**	**0.0917**	**2.8000e-004**	**0.0335**	**1.8000e-004**	**0.0337**	**8.8900e-003**	**1.7000e-004**	**9.0600e-003**		**28.1250**	**28.1250**	**7.1000e-004**	**7.1000e-004**	**28.3533**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2024	1.7770	3.2551	5.1700e-003		0.0859	0.0859		0.0790	0.0790	0.0000	500.0153	500.0153	0.1617		504.0582
Total	**0.2024**	**1.7770**	**3.2551**	**5.1700e-003**		**0.0859**	**0.0859**		**0.0790**	**0.0790**	**0.0000**	**500.0153**	**500.0153**	**0.1617**		**504.0582**

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	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
Worker	9.8300e-003	6.6600e-003	0.0917	2.8000e-004	0.0309	1.8000e-004	0.0311	8.2500e-003	1.7000e-004	8.4200e-003		28.1250	28.1250	7.1000e-004	7.1000e-004	28.3533
Total	**9.8300e-003**	**6.6600e-003**	**0.0917**	**2.8000e-004**	**0.0309**	**1.8000e-004**	**0.0311**	**8.2500e-003**	**1.7000e-004**	**8.4200e-003**		**28.1250**	**28.1250**	**7.1000e-004**	**7.1000e-004**	**28.3533**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Fine Grading - 2022

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0256	1.7500e-003	0.0273	7.3600e-003	1.6800e-003	9.0400e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0655	0.0444	0.6116	1.8600e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		187.5002	187.5002	4.7400e-003	4.7100e-003	189.0222
Total	**0.0721**	**0.2309**	**0.6776**	**2.6200e-003**	**0.2491**	**2.9500e-003**	**0.2521**	**0.0667**	**2.7900e-003**	**0.0694**		**270.4693**	**270.4693**	**9.4800e-003**	**0.0166**	**275.6557**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					3.9345	0.0000	3.9345	1.5620	0.0000	1.5620			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9345**	**1.6349**	**5.5694**	**1.5620**	**1.5041**	**3.0661**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0000
Vendor	6.5600e-003	0.1865	0.0660	7.6000e-004	0.0239	1.7500e-003	0.0257	6.9600e-003	1.6800e-003	8.6300e-003		82.9691	82.9691	4.7400e-003	0.0119	86.6334
Worker	0.0655	0.0444	0.6116	1.8600e-003	0.2061	1.2000e-003	0.2073	0.0550	1.1100e-003	0.0561		187.5002	187.5002	4.7400e-003	4.7100e-003	189.0222
Total	**0.0721**	**0.2309**	**0.6776**	**2.6200e-003**	**0.2300**	**2.9500e-003**	**0.2330**	**0.0620**	**2.7900e-003**	**0.0647**		**270.4693**	**270.4693**	**9.4800e-003**	**0.0166**	**275.6557**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Asphalt Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2696**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	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
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	**0.0491**	**0.0333**	**0.4587**	**1.3900e-003**	**0.1677**	**9.0000e-004**	**0.1686**	**0.0445**	**8.3000e-004**	**0.0453**		**140.6252**	**140.6252**	**3.5500e-003**	**3.5300e-003**	**141.7667**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2696**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	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
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	**0.0491**	**0.0333**	**0.4587**	**1.3900e-003**	**0.1546**	**9.0000e-004**	**0.1555**	**0.0413**	**8.3000e-004**	**0.0421**		**140.6252**	**140.6252**	**3.5500e-003**	**3.5300e-003**	**141.7667**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Finishing/Landscaping - 2022

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	0.2034	1.7859	3.2714	5.1900e-003		0.0864	0.0864		0.0794	0.0794		502.5154	502.5154	0.1625		506.5784
Total	**0.2034**	**1.7859**	**3.2714**	**5.1900e-003**		**0.0864**	**0.0864**		**0.0794**	**0.0794**		**502.5154**	**502.5154**	**0.1625**		**506.5784**

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	0.0000
Vendor	0.1328	3.7769	1.3367	0.0153	0.5179	0.0355	0.5534	0.1491	0.0340	0.1830		1,680.1233	1,680.1233	0.0961	0.2410	1,754.3272
Worker	0.6847	0.4639	6.3915	0.0194	2.3361	0.0126	2.3487	0.6196	0.0116	0.6311		1,959.3770	1,959.3770	0.0495	0.0492	1,975.2823
Total	**0.8175**	**4.2408**	**7.7282**	**0.0347**	**2.8541**	**0.0481**	**2.9021**	**0.7686**	**0.0455**	**0.8142**		**3,639.5003**	**3,639.5003**	**0.1456**	**0.2902**	**3,729.6095**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2034	1.7859	3.2714	5.1900e-003		0.0864	0.0864		0.0794	0.0794	0.0000	502.5154	502.5154	0.1625		506.5784
Total	**0.2034**	**1.7859**	**3.2714**	**5.1900e-003**		**0.0864**	**0.0864**		**0.0794**	**0.0794**	**0.0000**	**502.5154**	**502.5154**	**0.1625**		**506.5784**

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	0.0000
Vendor	0.1328	3.7769	1.3367	0.0153	0.4847	0.0355	0.5202	0.1409	0.0340	0.1749		1,680.1233	1,680.1233	0.0961	0.2410	1,754.3272
Worker	0.6847	0.4639	6.3915	0.0194	2.1533	0.0126	2.1659	0.5747	0.0116	0.5863		1,959.3770	1,959.3770	0.0495	0.0492	1,975.2823
Total	**0.8175**	**4.2408**	**7.7282**	**0.0347**	**2.6380**	**0.0481**	**2.6861**	**0.7156**	**0.0455**	**0.7611**		**3,639.5003**	**3,639.5003**	**0.1456**	**0.2902**	**3,729.6095**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Finishing/Landscaping - 2023

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	0.1896	1.5564	3.2741	5.1900e-003		0.0762	0.0762		0.0701	0.0701		502.6062	502.6062	0.1626		506.6700
Total	**0.1896**	**1.5564**	**3.2741**	**5.1900e-003**		**0.0762**	**0.0762**		**0.0701**	**0.0701**		**502.6062**	**502.6062**	**0.1626**		**506.6700**

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	0.0000
Vendor	0.0789	2.9653	1.2146	0.0146	0.5179	0.0147	0.5326	0.1491	0.0140	0.1631		1,601.6923	1,601.6923	0.0949	0.2300	1,672.6051
Worker	0.6432	0.4134	5.9456	0.0188	2.3361	0.0119	2.3480	0.6196	0.0110	0.6305		1,897.2642	1,897.2642	0.0449	0.0458	1,912.0328
Total	**0.7221**	**3.3787**	**7.1602**	**0.0334**	**2.8541**	**0.0266**	**2.8806**	**0.7686**	**0.0250**	**0.7936**		**3,498.9565**	**3,498.9565**	**0.1397**	**0.2758**	**3,584.6380**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1896	1.5564	3.2741	5.1900e-003		0.0762	0.0762		0.0701	0.0701	0.0000	502.6062	502.6062	0.1626		506.6700
Total	**0.1896**	**1.5564**	**3.2741**	**5.1900e-003**		**0.0762**	**0.0762**		**0.0701**	**0.0701**	**0.0000**	**502.6062**	**502.6062**	**0.1626**		**506.6700**

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	0.0000
Vendor	0.0789	2.9653	1.2146	0.0146	0.4847	0.0147	0.4993	0.1409	0.0140	0.1549		1,601.6923	1,601.6923	0.0949	0.2300	1,672.6051
Worker	0.6432	0.4134	5.9456	0.0188	2.1533	0.0119	2.1653	0.5747	0.0110	0.5857		1,897.2642	1,897.2642	0.0449	0.0458	1,912.0328
Total	**0.7221**	**3.3787**	**7.1602**	**0.0334**	**2.6380**	**0.0266**	**2.6646**	**0.7156**	**0.0250**	**0.7406**		**3,498.9565**	**3,498.9565**	**0.1397**	**0.2758**	**3,584.6380**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Architectural Coating - 2022

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	7.0053					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**7.2099**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	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
Worker	0.1376	0.0932	1.2844	3.9000e-003	0.4695	2.5300e-003	0.4720	0.1245	2.3300e-003	0.1268		393.7504	393.7504	9.9500e-003	9.8900e-003	396.9467
Total	**0.1376**	**0.0932**	**1.2844**	**3.9000e-003**	**0.4695**	**2.5300e-003**	**0.4720**	**0.1245**	**2.3300e-003**	**0.1268**		**393.7504**	**393.7504**	**9.9500e-003**	**9.8900e-003**	**396.9467**

Oak Creek Community Park Expansion & Improvement Plan - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	7.0053					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**7.2099**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	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
Worker	0.1376	0.0932	1.2844	3.9000e-003	0.4327	2.5300e-003	0.4353	0.1155	2.3300e-003	0.1178		393.7504	393.7504	9.9500e-003	9.8900e-003	396.9467
Total	**0.1376**	**0.0932**	**1.2844**	**3.9000e-003**	**0.4327**	**2.5300e-003**	**0.4353**	**0.1155**	**2.3300e-003**	**0.1178**		**393.7504**	**393.7504**	**9.9500e-003**	**9.8900e-003**	**396.9467**

CalEEMod Existing Conditions Model

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.60	Acre	0.60	26,159.00	0
Other Non-Asphalt Surfaces	2.03	Acre	2.03	88,407.00	0
Parking Lot	1.32	Acre	1.32	57,595.00	0
City Park	6.34	Acre	6.34	276,083.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, total trips assumed to be from City Park land use only, see assumptions file

Vehicle Emission Factors -

Vehicle Emission Factors -

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Emission Factors -

Area Coating - Existing parking lot will be re-striped, see assumptions file

Water And Wastewater - Assume 100% aerobic treatment, exclude indoor water use since City Park Buildings will not be modified, see assumptions file

Solid Waste - See assumptions file

Fleet Mix - See fleetmix assumptions worksheet

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10330	3456
tblFleetMix	HHD	4.8120e-003	9.7100e-004
tblFleetMix	HHD	4.8120e-003	4.8550e-003
tblFleetMix	HHD	4.8120e-003	4.8550e-003
tblFleetMix	HHD	4.8120e-003	4.8550e-003
tblFleetMix	HHD	4.8120e-003	4.8550e-003
tblFleetMix	HHD	4.8120e-003	4.8550e-003
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LDT2	0.19	0.19

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.3240e-003	1.3040e-003
tblFleetMix	LHD2	6.3240e-003	6.5220e-003
tblFleetMix	LHD2	6.3240e-003	6.5220e-003
tblFleetMix	LHD2	6.3240e-003	6.5220e-003
tblFleetMix	LHD2	6.3240e-003	6.5220e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MH	4.0970e-003	0.00
tblFleetMix	MH	4.0970e-003	3.9420e-003
tblFleetMix	MH	4.0970e-003	3.9420e-003
tblFleetMix	MH	4.0970e-003	3.9420e-003
tblFleetMix	MH	4.0970e-003	3.9420e-003
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	MHD	0.01	0.01

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	6.7400e-004	0.00
tblFleetMix	OBUS	6.7400e-004	6.5600e-004
tblFleetMix	OBUS	6.7400e-004	6.5600e-004
tblFleetMix	OBUS	6.7400e-004	6.5600e-004
tblFleetMix	OBUS	6.7400e-004	6.5600e-004
tblFleetMix	SBUS	7.4800e-004	0.00
tblFleetMix	SBUS	7.4800e-004	7.2300e-004
tblFleetMix	SBUS	7.4800e-004	7.2300e-004
tblFleetMix	SBUS	7.4800e-004	7.2300e-004
tblFleetMix	SBUS	7.4800e-004	7.2300e-004
tblFleetMix	UBUS	3.9400e-004	0.00
tblFleetMix	UBUS	3.9400e-004	3.8500e-004
tblFleetMix	UBUS	3.9400e-004	3.8500e-004
tblFleetMix	UBUS	3.9400e-004	3.8500e-004
tblFleetMix	UBUS	3.9400e-004	3.8500e-004
tblLandUse	LandUseSquareFeet	26,136.00	26,159.00
tblLandUse	LandUseSquareFeet	88,426.80	88,407.00
tblLandUse	LandUseSquareFeet	57,499.20	57,595.00
tblLandUse	LandUseSquareFeet	276,170.40	276,083.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	0.55	0.93
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	125.28
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	125.28
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	62.64
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	7,553,991.76	9,475,747.08
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.0252	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	12.5234	12.5234	6.8000e-004	1.3000e-004	12.5786
Mobile	0.3382	0.2709	3.5256	6.5400e-003	0.7496	4.7400e-003	0.7543	0.1989	4.3900e-003	0.2033	0.0000	601.2812	601.2812	0.0412	0.0216	608.7414
Waste						0.0000	0.0000		0.0000	0.0000	0.1888	0.0000	0.1888	0.0112	0.0000	0.4677
Water						0.0000	0.0000		0.0000	0.0000	0.0000	24.3527	24.3527	1.5800e-003	1.9000e-004	24.4490
Total	**0.3637**	**0.2736**	**3.5280**	**6.5600e-003**	**0.7496**	**4.9400e-003**	**0.7545**	**0.1989**	**4.5900e-003**	**0.2035**	**0.1888**	**638.1575**	**638.3463**	**0.0546**	**0.0219**	**646.2370**

Mitigated Operational

	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					
Area	0.0252	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	12.5234	12.5234	6.8000e-004	1.3000e-004	12.5786
Mobile	0.3382	0.2709	3.5256	6.5400e-003	0.7496	4.7400e-003	0.7543	0.1989	4.3900e-003	0.2033	0.0000	601.2812	601.2812	0.0412	0.0216	608.7414
Waste						0.0000	0.0000		0.0000	0.0000	0.1888	0.0000	0.1888	0.0112	0.0000	0.4677
Water						0.0000	0.0000		0.0000	0.0000	0.0000	24.3527	24.3527	1.5800e-003	1.9000e-004	24.4490

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	**0.3637**	**0.2736**	**3.5280**	**6.5600e-003**	**0.7496**	**4.9400e-003**	**0.7545**	**0.1989**	**4.5900e-003**	**0.2035**	**0.1888**	**638.1575**	**638.3463**	**0.0546**	**0.0219**	**646.2370**

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.3382	0.2709	3.5256	6.5400e-003	0.7496	4.7400e-003	0.7543	0.1989	4.3900e-003	0.2033	0.0000	601.2812	601.2812	0.0412	0.0216	608.7414
Unmitigated	0.3382	0.2709	3.5256	6.5400e-003	0.7496	4.7400e-003	0.7543	0.1989	4.3900e-003	0.2033	0.0000	601.2812	601.2812	0.0412	0.0216	608.7414

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	397.14	794.28	794.28	2,011,195	2,011,195
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	397.14	794.28	794.28	2,011,195	2,011,195

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.6408	9.6408	6.2000e-004	8.0000e-005	9.6789
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.6408	9.6408	6.2000e-004	8.0000e-005	9.6789
NaturalGas Mitigated	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
NaturalGas Unmitigated	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	54017.5	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
Total		**2.9000e-004**	**2.6500e-003**	**2.2200e-003**	**2.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.8826**	**2.8826**	**6.0000e-005**	**5.0000e-005**	**2.8997**

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	54017.5	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
Total		**2.9000e-004**	**2.6500e-003**	**2.2200e-003**	**2.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.8826**	**2.8826**	**6.0000e-005**	**5.0000e-005**	**2.8997**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20158.3	4.6631	3.0000e-004	4.0000e-005	4.6815
Racquet Club	21518.5	4.9777	3.2000e-004	4.0000e-005	4.9974
Total		**9.6408**	**6.2000e-004**	**8.0000e-005**	**9.6789**

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20158.3	4.6631	3.0000e-004	4.0000e-005	4.6815
Racquet Club	21518.5	4.9777	3.2000e-004	4.0000e-005	4.9974
Total		**9.6408**	**6.2000e-004**	**8.0000e-005**	**9.6789**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.0252	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Unmitigated	0.0252	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0231					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Total	**0.0252**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.4000e-004**

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0231					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	**0.0252**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.4000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.3527	1.5800e-003	1.9000e-004	24.4490
Unmitigated	24.3527	1.5800e-003	1.9000e-004	24.4490

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.47575	24.3527	1.5800e-003	1.9000e-004	24.4490
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.3527**	**1.5800e-003**	**1.9000e-004**	**24.4490**

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.47575	24.3527	1.5800e-003	1.9000e-004	24.4490
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.3527**	**1.5800e-003**	**1.9000e-004**	**24.4490**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.1888	0.0112	0.0000	0.4677
Unmitigated	0.1888	0.0112	0.0000	0.4677

8.2 Waste by Land Use

Oak Creek Community Park Expansion & Improvement Plan, Existing Conditions 2021 - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.93	0.1888	0.0112	0.0000	0.4677
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0	0.0000	0.0000	0.0000	0.0000
Total		**0.1888**	**0.0112**	**0.0000**	**0.4677**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.93	0.1888	0.0112	0.0000	0.4677
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0	0.0000	0.0000	0.0000	0.0000
Total		**0.1888**	**0.0112**	**0.0000**	**0.4677**

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.60	Acre	0.60	26,159.00	0
Other Non-Asphalt Surfaces	2.03	Acre	2.03	88,407.00	0
Parking Lot	1.32	Acre	1.32	57,595.00	0
City Park	6.34	Acre	6.34	276,083.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, total trips assumed to be from City Park land use only, see assumptions file

Area Coating - Existing parking lot will be re-striped, see assumptions file

Water And Wastewater - Assume 100% aerobic treatment, exclude indoor water use since City Park Buildings will not be modified, see assumptions file

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Solid Waste - See assumptions file

Fleet Mix - See fleetmix assumptions worksheet

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10330	3456
tblFleetMix	HHD	4.8550e-003	9.7100e-004
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD2	6.5220e-003	1.3040e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MH	3.9420e-003	0.00
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	OBUS	6.5600e-004	0.00
tblFleetMix	SBUS	7.2300e-004	0.00
tblFleetMix	UBUS	3.8500e-004	0.00
tblLandUse	LandUseSquareFeet	26,136.00	26,159.00
tblLandUse	LandUseSquareFeet	88,426.80	88,407.00
tblLandUse	LandUseSquareFeet	57,499.20	57,595.00
tblLandUse	LandUseSquareFeet	276,170.40	276,083.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	0.55	0.93
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	125.28
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	125.28
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	62.64
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	7,553,991.76	9,475,747.08
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	2.7374	1.7486	27.6955	0.0543	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,563.2378	5,563.2378	0.3494	0.1717	5,623.1514
Total	**2.8768**	**1.7632**	**27.7090**	**0.0544**	**6.5233**	**0.0351**	**6.5584**	**1.7285**	**0.0325**	**1.7610**		**5,580.6516**	**5,580.6516**	**0.3497**	**0.1721**	**5,640.6688**

Mitigated Operational

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
Area	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	2.7374	1.7486	27.6955	0.0543	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,563.2378	5,563.2378	0.3494	0.1717	5,623.1514
Total	**2.8768**	**1.7632**	**27.7090**	**0.0544**	**6.5233**	**0.0351**	**6.5584**	**1.7285**	**0.0325**	**1.7610**		**5,580.6516**	**5,580.6516**	**0.3497**	**0.1721**	**5,640.6688**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	2.7374	1.7486	27.6955	0.0543	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,563.2378	5,563.2378	0.3494	0.1717	5,623.1514
Unmitigated	2.7374	1.7486	27.6955	0.0543	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,563.2378	5,563.2378	0.3494	0.1717	5,623.1514

4.2 Trip Summary Information

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	397.14	794.28	794.28	2,011,195	2,011,195
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	397.14	794.28	794.28	2,011,195	2,011,195

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
NaturalGas Mitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
NaturalGas Unmitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	147.993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

Mitigated

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	0.147993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Unmitigated	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003

6.2 Area by SubCategory

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Total	**0.1378**	**1.0000e-005**	**1.3200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.8200e-003**	**2.8200e-003**	**1.0000e-005**		**3.0100e-003**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Total	**0.1378**	**1.0000e-005**	**1.3200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.8200e-003**	**2.8200e-003**	**1.0000e-005**		**3.0100e-003**

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.60	Acre	0.60	26,159.00	0
Other Non-Asphalt Surfaces	2.03	Acre	2.03	88,407.00	0
Parking Lot	1.32	Acre	1.32	57,595.00	0
City Park	6.34	Acre	6.34	276,083.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, total trips assumed to be from City Park land use only, see assumptions file

Area Coating - Existing parking lot will be re-striped, see assumptions file

Water And Wastewater - Assume 100% aerobic treatment, exclude indoor water use since City Park Buildings will not be modified, see assumptions file

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Solid Waste - See assumptions file

Fleet Mix - See fleetmix assumptions worksheet

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10330	3456
tblFleetMix	HHD	4.8550e-003	9.7100e-004
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD2	6.5220e-003	1.3040e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MH	3.9420e-003	0.00
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	OBUS	6.5600e-004	0.00
tblFleetMix	SBUS	7.2300e-004	0.00
tblFleetMix	UBUS	3.8500e-004	0.00
tblLandUse	LandUseSquareFeet	26,136.00	26,159.00
tblLandUse	LandUseSquareFeet	88,426.80	88,407.00
tblLandUse	LandUseSquareFeet	57,499.20	57,595.00
tblLandUse	LandUseSquareFeet	276,170.40	276,083.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	0.55	0.93
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	125.28
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	125.28
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	62.64
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	7,553,991.76	9,475,747.08
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	2.7347	1.9143	27.3374	0.0519	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,308.7320	5,308.7320	0.3608	0.1820	5,371.9923
Total	**2.8741**	**1.9288**	**27.3510**	**0.0519**	**6.5233**	**0.0351**	**6.5584**	**1.7285**	**0.0325**	**1.7610**		**5,326.1458**	**5,326.1458**	**0.3612**	**0.1823**	**5,389.5097**

Mitigated Operational

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
Area	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	2.7347	1.9143	27.3374	0.0519	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,308.7320	5,308.7320	0.3608	0.1820	5,371.9923
Total	**2.8741**	**1.9288**	**27.3510**	**0.0519**	**6.5233**	**0.0351**	**6.5584**	**1.7285**	**0.0325**	**1.7610**		**5,326.1458**	**5,326.1458**	**0.3612**	**0.1823**	**5,389.5097**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	2.7347	1.9143	27.3374	0.0519	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,308.7320	5,308.7320	0.3608	0.1820	5,371.9923
Unmitigated	2.7347	1.9143	27.3374	0.0519	6.5233	0.0340	6.5573	1.7285	0.0314	1.7599		5,308.7320	5,308.7320	0.3608	0.1820	5,371.9923

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	397.14	794.28	794.28	2,011,195	2,011,195
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	397.14	794.28	794.28	2,011,195	2,011,195

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
NaturalGas Mitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
NaturalGas Unmitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day											lb/day				
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	147.993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

Mitigated

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	0.147993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Unmitigated	0.1378	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003

6.2 Area by SubCategory

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Total	**0.1378**	**1.0000e-005**	**1.3200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.8200e-003**	**2.8200e-003**	**1.0000e-005**		**3.0100e-003**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1267					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3200e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.8200e-003	2.8200e-003	1.0000e-005		3.0100e-003
Total	**0.1378**	**1.0000e-005**	**1.3200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.8200e-003**	**2.8200e-003**	**1.0000e-005**		**3.0100e-003**

7.0 Water Detail

Oak Creek Community Park Expansion & Improvement Plan, Baseline Conditions 2023 - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

CalEEMod Operations Model

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Project Operations

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	38.59	1000sqft	0.89	38,586.00	0
Other Non-Asphalt Surfaces	63.96	1000sqft	1.47	63,956.00	0
Parking Lot	80.00	1000sqft	1.84	79,996.00	0
City Park	15.01	Acre	15.01	653,826.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume double trip generation on weekends compared to weekday, trip analysis provided by Urban Crossroads, total trips assumed to be with only City Park land use, see assumptions file

Fleet Mix - See fleet mix adjustment in assumptions file

Area Coating - See assumptions file

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water And Wastewater - Exckyde indoor water use as City Park Buildings will not be modified, only outdoor water use is accounted for, assume 100% aerobic treatment, see assumptions file

Solid Waste - CalEEMod appendix D, see assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10952	4800
tblFleetMix	HHD	4.8550e-003	9.7100e-004
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD2	6.5220e-003	1.3040e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MH	3.9420e-003	0.00
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	OBUS	6.5600e-004	0.00
tblFleetMix	SBUS	7.2300e-004	0.00
tblFleetMix	UBUS	3.8500e-004	0.00
tblLandUse	LandUseSquareFeet	38,590.00	38,586.00
tblLandUse	LandUseSquareFeet	63,960.00	63,956.00
tblLandUse	LandUseSquareFeet	80,000.00	79,996.00
tblLandUse	LandUseSquareFeet	653,835.60	653,826.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	1.29	1.73
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	95.14
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	95.14
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	47.57
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	17,884,135.06	15,145,554.00
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.0299	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003
Energy	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	14.3370	14.3370	8.0000e-004	1.4000e-004	14.3995
Mobile	0.5637	0.4098	5.7915	0.0110	1.3477	7.1400e-003	1.3548	0.3576	6.5900e-003	0.3642	0.0000	1,024.9952	1,024.9952	0.0685	0.0351	1,037.1608
Waste						0.0000	0.0000		0.0000	0.0000	0.3512	0.0000	0.3512	0.0208	0.0000	0.8700
Water						0.0000	0.0000		0.0000	0.0000	0.0000	38.9241	38.9241	2.5200e-003	3.1000e-004	39.0780
Total	**0.5939**	**0.4124**	**5.7962**	**0.0111**	**1.3477**	**7.3500e-003**	**1.3550**	**0.3576**	**6.8000e-003**	**0.3644**	**0.3512**	**1,078.2613**	**1,078.6125**	**0.0925**	**0.0355**	**1,091.5136**

Mitigated Operational

	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					
Area	0.0299	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003
Energy	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	14.3370	14.3370	8.0000e-004	1.4000e-004	14.3995
Mobile	0.5637	0.4098	5.7915	0.0110	1.3477	7.1400e-003	1.3548	0.3576	6.5900e-003	0.3642	0.0000	1,024.9952	1,024.9952	0.0685	0.0351	1,037.1608
Waste						0.0000	0.0000		0.0000	0.0000	0.3512	0.0000	0.3512	0.0208	0.0000	0.8700
Water						0.0000	0.0000		0.0000	0.0000	0.0000	38.9241	38.9241	2.5200e-003	3.1000e-004	39.0780
Total	**0.5939**	**0.4124**	**5.7962**	**0.0111**	**1.3477**	**7.3500e-003**	**1.3550**	**0.3576**	**6.8000e-003**	**0.3644**	**0.3512**	**1,078.2613**	**1,078.6125**	**0.0925**	**0.0355**	**1,091.5136**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.5637	0.4098	5.7915	0.0110	1.3477	7.1400e-003	1.3548	0.3576	6.5900e-003	0.3642	0.0000	1,024.9952	1,024.9952	0.0685	0.0351	1,037.1608
Unmitigated	0.5637	0.4098	5.7915	0.0110	1.3477	7.1400e-003	1.3548	0.3576	6.5900e-003	0.3642	0.0000	1,024.9952	1,024.9952	0.0685	0.0351	1,037.1608

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	714.03	1,428.05	1428.05	3,615,989	3,615,989
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	714.03	1,428.05	1,428.05	3,615,989	3,615,989

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	11.4545	11.4545	7.4000e-004	9.0000e-005	11.4998
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	11.4545	11.4545	7.4000e-004	9.0000e-005	11.4998
NaturalGas Mitigated	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
NaturalGas Unmitigated	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	54017.5	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
Total		**2.9000e-004**	**2.6500e-003**	**2.2200e-003**	**2.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.8826**	**2.8826**	**6.0000e-005**	**5.0000e-005**	**2.8997**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	54017.5	2.9000e-004	2.6500e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8826	2.8826	6.0000e-005	5.0000e-005	2.8997
Total		**2.9000e-004**	**2.6500e-003**	**2.2200e-003**	**2.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.8826**	**2.8826**	**6.0000e-005**	**5.0000e-005**	**2.8997**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	27998.6	6.4767	4.2000e-004	5.0000e-005	6.5023
Racquet Club	21518.5	4.9777	3.2000e-004	4.0000e-005	4.9974
Total		**11.4545**	**7.4000e-004**	**9.0000e-005**	**11.4998**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	27998.6	6.4767	4.2000e-004	5.0000e-005	6.5023
Racquet Club	21518.5	4.9777	3.2000e-004	4.0000e-005	4.9974
Total		**11.4545**	**7.4000e-004**	**9.0000e-005**	**11.4998**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.0299	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003
Unmitigated	0.0299	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0274					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003
Total	**0.0299**	**2.0000e-005**	**2.5500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9700e-003**	**4.9700e-003**	**1.0000e-005**	**0.0000**	**5.2900e-003**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.3200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0274					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9700e-003	4.9700e-003	1.0000e-005	0.0000	5.2900e-003
Total	**0.0299**	**2.0000e-005**	**2.5500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9700e-003**	**4.9700e-003**	**1.0000e-005**	**0.0000**	**5.2900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.9241	2.5200e-003	3.1000e-004	39.0780
Unmitigated	38.9241	2.5200e-003	3.1000e-004	39.0780

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 15.1456	38.9241	2.5200e-003	3.1000e-004	39.0780
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**38.9241**	**2.5200e-003**	**3.1000e-004**	**39.0780**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 15.1456	38.9241	2.5200e-003	3.1000e-004	39.0780
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**38.9241**	**2.5200e-003**	**3.1000e-004**	**39.0780**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.3512	0.0208	0.0000	0.8700
Unmitigated	0.3512	0.0208	0.0000	0.8700

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.73	0.3512	0.0208	0.0000	0.8700
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0	0.0000	0.0000	0.0000	0.0000
Total		**0.3512**	**0.0208**	**0.0000**	**0.8700**

Mitigated

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.73	0.3512	0.0208	0.0000	0.8700
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	0	0.0000	0.0000	0.0000	0.0000
Total		**0.3512**	**0.0208**	**0.0000**	**0.8700**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Project Operations

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	38.59	1000sqft	0.89	38,586.00	0
Other Non-Asphalt Surfaces	63.96	1000sqft	1.47	63,956.00	0
Parking Lot	80.00	1000sqft	1.84	79,996.00	0
City Park	15.01	Acre	15.01	653,826.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume double trip generation on weekends compared to weekday, trip analysis provided by Urban Crossroads, total trips assumed to be with only City Park land use, see assumptions file

Fleet Mix - See fleet mix adjustment in assumptions file

Area Coating - See assumptions file

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water And Wastewater - Exckyde indoor water use as City Park Buildings will not be modified, only outdoor water use is accounted for, assume 100% aerobic treatment, see assumptions file

Solid Waste - CalEEMod appendix D, see assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10952	4800
tblFleetMix	HHD	4.8550e-003	9.7100e-004
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD2	6.5220e-003	1.3040e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MH	3.9420e-003	0.00
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	OBUS	6.5600e-004	0.00
tblFleetMix	SBUS	7.2300e-004	0.00
tblFleetMix	UBUS	3.8500e-004	0.00
tblLandUse	LandUseSquareFeet	38,590.00	38,586.00
tblLandUse	LandUseSquareFeet	63,960.00	63,956.00
tblLandUse	LandUseSquareFeet	80,000.00	79,996.00
tblLandUse	LandUseSquareFeet	653,835.60	653,826.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	1.29	1.73
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	95.14
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	95.14
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	47.57
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	17,884,135.06	15,145,554.00
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	4.9216	3.1439	49.7946	0.0977	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		10,002.3135	10,002.3135	0.6282	0.3088	10,110.0339
Total	**5.0876**	**3.1586**	**49.8272**	**0.0978**	**11.7285**	**0.0623**	**11.7908**	**3.1077**	**0.0576**	**3.1653**		**10,019.7683**	**10,019.7683**	**0.6286**	**0.3091**	**10,127.5950**

Mitigated Operational

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
Area	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	4.9216	3.1439	49.7946	0.0977	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		10,002.3135	10,002.3135	0.6282	0.3088	10,110.0339
Total	**5.0876**	**3.1586**	**49.8272**	**0.0978**	**11.7285**	**0.0623**	**11.7908**	**3.1077**	**0.0576**	**3.1653**		**10,019.7683**	**10,019.7683**	**0.6286**	**0.3091**	**10,127.5950**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	4.9216	3.1439	49.7946	0.0977	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		10,002.3135	10,002.3135	0.6282	0.3088	10,110.0339
Unmitigated	4.9216	3.1439	49.7946	0.0977	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		10,002.3135	10,002.3135	0.6282	0.3088	10,110.0339

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	714.03	1,428.05	1428.05	3,615,989	3,615,989
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	714.03	1,428.05	1,428.05	3,615,989	3,615,989

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
NaturalGas Mitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
NaturalGas Unmitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	147.993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	0.147993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Unmitigated	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0127					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8900e-003	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Total	**0.1645**	**1.9000e-004**	**0.0204**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0438**	**0.0438**	**1.1000e-004**		**0.0467**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0127					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8900e-003	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Total	**0.1645**	**1.9000e-004**	**0.0204**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0438**	**0.0438**	**1.1000e-004**		**0.0467**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Oak Creek Community Park Expansion & Improvement Plan, Project Operations

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	38.59	1000sqft	0.89	38,586.00	0
Other Non-Asphalt Surfaces	63.96	1000sqft	1.47	63,956.00	0
Parking Lot	80.00	1000sqft	1.84	79,996.00	0
City Park	15.01	Acre	15.01	653,826.00	0
Racquet Club	2.60	1000sqft	0.06	2,602.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report.

Land Use - Based on applicant info., see assumptions file

Construction Phase -

Vehicle Trips - Assume double trip generation on weekends compared to weekday, trip analysis provided by Urban Crossroads, total trips assumed to be with only City Park land use, see assumptions file

Fleet Mix - See fleet mix adjustment in assumptions file

Area Coating - See assumptions file

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water And Wastewater - Exckyde indoor water use as City Park Buildings will not be modified, only outdoor water use is accounted for, assume 100% aerobic treatment, see assumptions file

Solid Waste - CalEEMod appendix D, see assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	10952	4800
tblFleetMix	HHD	4.8550e-003	9.7100e-004
tblFleetMix	LDA	0.54	0.65
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	4.8760e-003
tblFleetMix	LHD2	6.5220e-003	1.3040e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.02
tblFleetMix	MH	3.9420e-003	0.00
tblFleetMix	MHD	0.01	2.8480e-003
tblFleetMix	OBUS	6.5600e-004	0.00
tblFleetMix	SBUS	7.2300e-004	0.00
tblFleetMix	UBUS	3.8500e-004	0.00
tblLandUse	LandUseSquareFeet	38,590.00	38,586.00
tblLandUse	LandUseSquareFeet	63,960.00	63,956.00
tblLandUse	LandUseSquareFeet	80,000.00	79,996.00
tblLandUse	LandUseSquareFeet	653,835.60	653,826.00
tblLandUse	LandUseSquareFeet	2,600.00	2,602.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	1.29	1.73
tblSolidWaste	SolidWasteGenerationRate	14.82	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	ST_TR	1.96	95.14
tblVehicleTrips	ST_TR	21.35	0.00
tblVehicleTrips	SU_TR	2.19	95.14
tblVehicleTrips	SU_TR	17.40	0.00
tblVehicleTrips	WD_TR	0.78	47.57
tblVehicleTrips	WD_TR	14.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	153,772.17	0.00
tblWater	OutdoorWaterUseRate	17,884,135.06	15,145,554.00
tblWater	OutdoorWaterUseRate	94,247.46	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	4.9168	3.4418	49.1508	0.0932	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		9,544.7298	9,544.7298	0.6488	0.3272	9,658.4674
Total	**5.0829**	**3.4565**	**49.1834**	**0.0933**	**11.7285**	**0.0623**	**11.7908**	**3.1077**	**0.0576**	**3.1653**		**9,562.1845**	**9,562.1845**	**0.6492**	**0.3276**	**9,676.0285**

Mitigated Operational

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
Area	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Energy	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Mobile	4.9168	3.4418	49.1508	0.0932	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		9,544.7298	9,544.7298	0.6488	0.3272	9,658.4674
Total	**5.0829**	**3.4565**	**49.1834**	**0.0933**	**11.7285**	**0.0623**	**11.7908**	**3.1077**	**0.0576**	**3.1653**		**9,562.1845**	**9,562.1845**	**0.6492**	**0.3276**	**9,676.0285**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	4.9168	3.4418	49.1508	0.0932	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		9,544.7298	9,544.7298	0.6488	0.3272	9,658.4674
Unmitigated	4.9168	3.4418	49.1508	0.0932	11.7285	0.0611	11.7896	3.1077	0.0564	3.1641		9,544.7298	9,544.7298	0.6488	0.3272	9,658.4674

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	714.03	1,428.05	1428.05	3,615,989	3,615,989
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Racquet Club	0.00	0.00	0.00		
Total	714.03	1,428.05	1,428.05	3,615,989	3,615,989

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.646291	0.069827	0.221723	0.020000	0.004876	0.001304	0.002848	0.000971	0.000000	0.000000	0.032159	0.000000	0.000000
Other Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Parking Lot	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942
Racquet Club	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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					
NaturalGas Mitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
NaturalGas Unmitigated	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	147.993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	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
Other Asphalt Surfaces	0	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
Other Non-Asphalt Surfaces	0	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
Parking Lot	0	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
Racquet Club	0.147993	1.6000e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.4110	17.4110	3.3000e-004	3.2000e-004	17.5144
Total		**1.6000e-003**	**0.0145**	**0.0122**	**9.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**		**17.4110**	**17.4110**	**3.3000e-004**	**3.2000e-004**	**17.5144**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Unmitigated	0.1645	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0127					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8900e-003	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Total	**0.1645**	**1.9000e-004**	**0.0204**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0438**	**0.0438**	**1.1000e-004**		**0.0467**

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0127					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8900e-003	1.9000e-004	0.0204	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0438	0.0438	1.1000e-004		0.0467
Total	**0.1645**	**1.9000e-004**	**0.0204**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0438**	**0.0438**	**1.1000e-004**		**0.0467**

7.0 Water Detail

Oak Creek Community Park Expansion & Improvement Plan, Project Operations - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

LST Worksheets

Construction Localized Significance Thresholds: Asphalt Demolition, Site Preparation

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	4.5	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	46	Tractors	0.5	0.0625	8	4	2
NOx	**180**	Graders	0.5	0.0625			0
CO	**1,907**	Dozers	0.5	0.0625	8	5	2.5
PM10	**29.92**	Scrapers	1	0.125			0
PM2.5	**9.68**					**Acres**	4.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	4	175	168	180	203	263
	5	197	189	201	222	278
		186	179	191	213	271
CO	4	1534	1810	2407	3913	9823
	5	1804	2102	2763	4387	10507
		1669	1956	2585	4150	10165
PM10	4	10	31	43	68	142
	5	12	37	49	74	148
		11	34	46	71	145
PM2.5	4	7	9	14	27	85
	5	8	11	16	30	90
		7	10	15	29	87

Saddleback Valley

4.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	186	179	191	213	271
CO	1669	1956	2585	4150	10165
PM10	11	34	46	71	145
PM2.5	7	10	15	29	87

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	4	19	5
Distance Increment Below			
25			
Distance Increment Above			
50			

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

Construction Localized Significance Thresholds: Asphalt Demolition and Debris Haul, Site Preparation

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	4.5	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	46	Tractors	0.5	0.0625	8	4	2
NOx	**180**	Graders	0.5	0.0625			0
CO	**1,907**	Dozers	0.5	0.0625	8	5	2.5
PM10	**29.92**	Scrapers	1	0.125			0
PM2.5	**9.68**					**Acres**	4.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	4	175	168	180	203	263
	5	197	189	201	222	278
		186	179	191	213	271
CO	4	1534	1810	2407	3913	9823
	5	1804	2102	2763	4387	10507
		1669	1956	2585	4150	10165
PM10	4	10	31	43	68	142
	5	12	37	49	74	148
		11	34	46	71	145
PM2.5	4	7	9	14	27	85
	5	8	11	16	30	90
		7	10	15	29	87

Saddleback Valley

4.50 Acres

	25	**50**	**100**	**200**	**500**
NOx	186	179	191	213	271
CO	1669	1956	2585	4150	10165
PM10	11	34	46	71	145
PM2.5	7	10	15	29	87

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	4	19	5
Distance Increment Below			
25			
Distance Increment Above			
50			

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

Construction Localized Significance Thresholds: Site Preparation, Rough Grading, Utilities Trenching

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	5.0	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	46	Tractors	0.5	0.0625	8	6	3
NOx	**190**	Graders	0.5	0.0625	8	1	0.5
CO	**2,051**	Dozers	0.5	0.0625	8	4	2
PM10	**32.72**	Scrapers	1	0.125	8	2	2
PM2.5	**10.49**					**Acres**	7.50

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	197	189	201	222	278
	5	197	189	201	222	278
		197	189	201	222	278
CO	5	1804	2102	2763	4387	10507
	5	1804	2102	2763	4387	10507
		1804	2102	2763	4387	10507
PM10	5	12	37	49	74	148
	5	12	37	49	74	148
		12	37	49	74	148
PM2.5	5	8	11	16	30	90
	5	8	11	16	30	90
		8	11	16	30	90

Saddleback Valley

5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	197	189	201	222	278
CO	1804	2102	2763	4387	10507
PM10	12	37	49	74	148
PM2.5	8	11	16	30	90

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	5	19	5
Distance Increment Below			
25			
Distance Increment Above			
50			

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

Construction Localized Significance Thresholds: Fine Grading and Finishing/Landscaping 2022

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	4	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**
Distance (meters)	46
NOx	**169**
CO	**1,763**
PM10	**27.13**
PM2.5	**8.88**

Equipment	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Tractors	0.5	0.0625	8	2	1
Graders	0.5	0.0625	8	1	0.5
Dozers	0.5	0.0625	8	1	0.5
Scrapers	1	0.125	8	2	2
				Acres	4.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	4	175	168	180	203	263
	4	175	168	180	203	263
		175	168	180	203	263
CO	4	1534	1810	2407	3913	9823
	4	1534	1810	2407	3913	9823
		1534	1810	2407	3913	9823
PM10	4	10	31	43	68	142
	4	10	31	43	68	142
		10	31	43	68	142
PM2.5	4	7	9	14	27	85
	4	7	9	14	27	85
		7	9	14	27	85

Saddleback Valley

4.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	175	168	180	203	263
CO	1534	1810	2407	3913	9823
PM10	10	31	43	68	142
PM2.5	7	9	14	27	85

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	4	19	4
Distance Increment Below			
25			
Distance Increment Above			
50			

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

Construction Localized Significance Thresholds: Fine Grading, Paving, and Finishing/Landscaping 2022

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	4.0	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	46	Tractors	0.5	0.0625	8	2	1
NOx	**169**	Graders	0.5	0.0625	8	1	0.5
CO	**1,763**	Dozers	0.5	0.0625	8	1	0.5
PM10	**27.13**	Scrapers	1	0.125	8	2	2
PM2.5	**8.88**					**Acres**	4.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	4	175	168	180	203	263
	4	175	168	180	203	263
		175	168	180	203	263
CO	4	1534	1810	2407	3913	9823
	4	1534	1810	2407	3913	9823
		1534	1810	2407	3913	9823
PM10	4	10	31	43	68	142
	4	10	31	43	68	142
		10	31	43	68	142
PM2.5	4	7	9	14	27	85
	4	7	9	14	27	85
		7	9	14	27	85

Saddleback Valley

4.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	175	168	180	203	263
CO	1534	1810	2407	3913	9823
PM10	10	31	43	68	142
PM2.5	7	9	14	27	85

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	4	19	4
Distance Increment Below			
25			
Distance Increment Above			
50			

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

Construction Localized Significance Thresholds: Asphalt Paving and Finishing/Landscaping 2022

		NOx & CO		*PM10 & PM2.5*		
SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Construction / Project Site Size (Acres)
19	0	46	150	46	150	11.42

Source Receptor	**Saddleback Valley**	**Equipment**	**Acres/8-hr Day**		**Daily hours**	**Equipment Used**	**Acres**
Distance (meters)	46	Tractors	0.5	0.0625			0
NOx	**93**	Graders	0.5	0.0625			0
CO	**810**	Dozers	0.5	0.0625			0
PM10	**9.80**	Scrapers	1	0.125			0
PM2.5	**3.83**					**Acres**	0.00

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	1	91	93	108	140	218
	1	91	93	108	140	218
		91	93	108	140	218
CO	1	696	833	1234	2376	7724
	1	696	833	1234	2376	7724
		696	833	1234	2376	7724
PM10	1	4	11	24	48	121
	1	4	11	24	48	121
		4	11	24	48	121
PM2.5	1	3	4	8	19	68
	1	3	4	8	19	68
		3	4	8	19	68

Saddleback Valley

0.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	91	93	108	140	218
CO	696	833	1234	2376	7724
PM10	4	11	24	48	121
PM2.5	3	4	8	19	68

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
19	1	19	1
Distance Increment Below			
25			
Distance Increment Above			
50			

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