

Air Quality and Greenhouse Gas Analysis

In Support of:

***East Lake Specific Plan Amendment No.11
Environmental Impact Report***

Prepared for:

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List of Acronyms

°F	Degrees Fahrenheit
AAQS	Ambient Air Quality Standards
AQMP	Air Quality Management Plan
AB	Assembly Bill
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association's
CARB	California Air Resources Board
CAT	California Climate Action Team
CCAA	California Clean Air Act of 1988
CEQA	California Environmental Quality Act
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalents
COHb	Carboxyhemoglobin
DPM	Diesel Particulate Matter
ELSPA 11	East Lake Specific Plan Amendment 11
EIR	Environmental Impact Report
GHG	Greenhouse Gas
GWP	Global Warming Potential
HDVs	Heavy-Duty Vehicles
HFCs	Hydrofluorocarbons
HRA	Health Risk Assessment
LDVR	Light Duty Vehicle Rule
LCFS	Low Carbon Fuel Standard
LED	Low Emitting Diode
LOS	Level Of Service
MATES-IV	Multiple Air Toxics Exposure Study IV
µg/m ³	Micrograms per meter cubed
mt	Metric tonnes per year
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NF ₃	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NO ₂	Nitrogen Dioxide
NOX	Nitrogen Oxides
NPA	No Project Alternative
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PERP	Statewide Portable Equipment Registration Project
PFCs	Perfluorocarbons
PM ₁₀	Particulate Matter less than 10 microns in diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
ppb	Parts per billion

ppm	Parts per million
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF ₆	Sulfur Hexafluoride
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
Study	Air Quality and GHG Study
TAC	Toxic Air Contaminants
UFP	Ultrafine Particles
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

1.0 Introduction

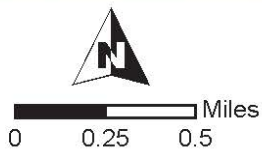
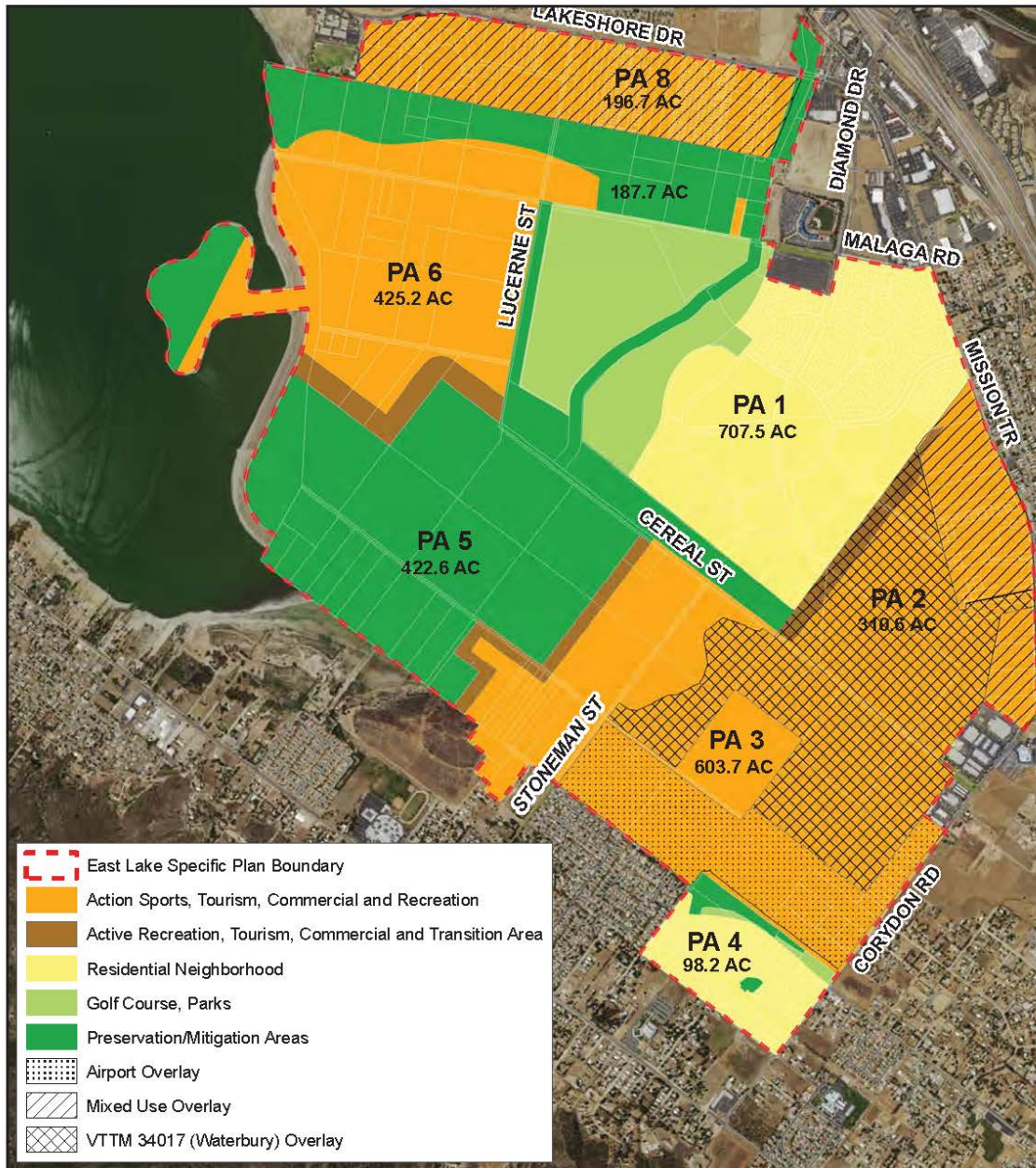
This Air Quality and Greenhouse Gas (GHG) Technical Study (Study) was prepared in support of environmental documentation, pursuant to the California Environmental Quality Act (CEQA), for the East Lake Specific Plan Amendment No. 11 (ELSPA 11 or proposed Project). Air quality associated with the original East Lake Specific Plan and subsequent amendments was analyzed in corresponding environmental documents, available from the City of Lake Elsinore. This Study describes potential impacts to air quality, human health and GHG that could result from implementing ELSPA 11. This Study does not make significance determinations under CEQA, rather it provides technical information upon which significance determinations can be made in the body of the Draft Environmental Impact Report (EIR).

The proposed Project is located in the City of Lake Elsinore within southwestern Riverside County, and is generally bound by Lakeshore Drive to the north, Mission Trail and Corydon Road to the east, and Union Street to the South (Figure 1). The proposed Project is adjacent to the southeasterly shore of Lake Elsinore and regionally accessible from Interstate 15 at Diamond Drive/Railroad Canyon Road.

The existing ELSP serves as the primary guide for development within the approximately 3,000-acre specific plan area. The ELSP prescribes the types and arrangements of land uses, design guidelines, infrastructure, and zoning and development standards for the specific plan area. Since the ELSP was originally prepared in 1993, the specific plan area has gradually evolved to include residential, open space, active sports-related facilities such as skydiving, hang-gliding, motocross and an 18-hole golf course. ELSPA 11 would allow for a change from the predominantly residential and open space uses of the existing ELSP to accommodate a wide variety of unique sporting and recreational venues and supporting uses including commercial, restaurant, hotel, and open-space uses within the specific plan area. The City of Lake Elsinore is the lead agency under CEQA for the proposed Project.

The provisions and elements of ELSPA 11 are detailed in the Land use and Planning Section of the Draft EIR and are summarized in Section 4.2 of this Study.

Figure 1. Land Use Map



LAND USE PLAN

Prepared by:
City of Lake Elsinore GIS
February 15, 2017
Data Sources:
County of Riverside GIS
City of Lake Elsinore GIS
Stateplane NAD 83

2.0 Environmental Setting

ELSPA 11 activities would be limited to the specific plan area, within the South Coast Air Basin (SCAB). The SCAB includes all of Orange County, and the urban portions of Los Angeles, San Bernardino, and Riverside counties. The SCAB covers an area of approximately 15,500 square kilometers (6,000 square miles) and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto mountains; and on the south by the San Diego county line.

2.1 Regional Climate and Meteorology

The climate of the region is classified as Mediterranean, which is characterized by warm summers with little precipitation and mild winters with moderate precipitation. The major influences on the regional climate are the Eastern Pacific High, a strong, persistent high-pressure system, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are key factors in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, this high effectively shelters southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the high produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally 1,000 to 2,500 feet above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere.

The mountain ranges that surround the SCAB constrain the horizontal movement of air and inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources from more than 15 million people plus businesses and industries, are responsible for the high pollutant conditions that can occur in the SCAB. In addition, high solar radiation during the summer months promotes the formation of ozone (O₃).

The proximity of the Eastern Pacific High and a thermal low-pressure system in the desert interior to the east produces a sea breeze regime that prevails within the Project region for most of the year, particularly during the spring and summer months. During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the desert interior can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often help clear the SCAB of air pollutants.

Meteorological data, including temperatures and precipitation, are measured at meteorological stations operated by the National Weather Service. The average high and low air temperatures at the Elsinore Station (042805), the closest station with a complete temperature and precipitation record, located approximately 0.5 miles northwest of the Project site, were 80 degrees Fahrenheit (°F) and 47°F, respectively (WRCC, 2016).

The Eastern Pacific High weakens in the winter and shifts to the south, allowing storm systems to pass through the region. The number of days with precipitation varies substantially from year to year, which produces a wide range of variability in annual precipitation totals. The average annual precipitation at the Elsinore Station was 12 inches between 1897 and 2016 (WRCC, 2016). Approximately 90 percent of the annual rainfall occurs November through April, with a monthly average maximum of 2.5 inches in February. This wet-dry seasonal pattern is characteristic of most of California. Infrequent precipitation

during the summer months usually occurs from tropical air masses that originate from continental Mexico or tropical storms off the west coast of Mexico.

2.2 Ambient Air Quality

Air pollutants are defined as two general types: (1) “criteria” pollutants, representing six pollutants for which national and state health- and welfare-based ambient air quality standards (AAQS) have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have AAQS. The three TACs that do have AAQS (i.e., lead, vinyl chloride, and hydrogen sulfide) would not be expected to result from anticipated activities and are not considered to be pollutants of concern for the project. In addition, sulfates and visibility-reducing particles would also not be expected to result from anticipated activities.

2.2.1 Criteria Pollutants

Air quality at a given location can be described by the concentrations of various air pollutants in the atmosphere near ground level. The significance of a pollutant concentration is determined by comparing the pollutant’s concentration to an appropriate national and/or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected and include a reasonable margin of safety to protect the more sensitive individuals in the population.

The United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether the monitored ambient air quality data show compliance, lack of data, or noncompliance with the AAQS, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) relevant to the proposed Project are provided in Table 1.

Table 2 summarizes the federal and state attainment status of criteria pollutants for the SCAB based on the NAAQS and CAAQS, respectively.

The criteria pollutants of concern assessed in this Study are O₃, particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂). Of these criteria pollutants, O₃ is unique because it is not directly emitted from Project-related sources. Rather, O₃ is a secondary pollutant, formed from precursor pollutants volatile organic compounds (VOC) and nitrogen oxides (NO_x). VOC and NO_x react to form O₃ in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, O₃ levels usually peak several hours after the precursors are emitted and many miles downwind of the source.

Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O₃ impacts are indirectly addressed by comparing project-generated emissions of VOC and NO_x to day emission thresholds set by the South Coast Air Quality Management District (SCAQMD).

Table 1. National and California Ambient Air Quality Standards

Pollutant	Averaging Period	California Standards	National Standards
O ₃	1-hour	0.09 ppm	—
	8-hour ²	0.070 ppm	0.070 ppm
PM ₁₀	24-hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	—
PM _{2.5}	24-hour ³	—	35 µg/m ³
	Annual	12 µg/m ³	12 µg/m ³
CO	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
NO ₂	1-hour	0.18 ppm	0.100 ppm ¹
	Annual	0.030 ppm	0.053 ppm
SO ₂	1-hour	0.25 ppm	0.075 ppm ¹
	3-hour	—	0.5 ppm
	24-hour	0.04 ppm	—
Lead	30-day	1.5 µg/m ³	—
	Quarter	—	1.5 µg/m ³
	3-month	—	0.15 µg/m ³
Sulfates	24-hour	25 µg/m ³	—
Visibility-Reducing Particles	8-hour	In sufficient amount to give an extinction coefficient of >0.23 inverse kilometers (visual range to less than 10 miles with relative humidity less than 70%)	—
Hydrogen Sulfide	1-hour	0.03 ppm	—
Vinyl Chloride	24-hour	0.01 ppm	—
Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; “—” = no standards Lead, sulfates, visibility-reducing particles, hydrogen sulfide and vinyl chloride would not be expected to result from anticipated proposed Project activities. ¹ The federal 1-hour NO₂ and SO₂ standards are based on the 3-year average of the 98th and 99th percentile of day maximum values, respectively. ² The federal 8-hour O₃ standard is based on the annual fourth-highest day maximum 8-hour concentration, averaged over 3 years. ³ The federal 24-hour PM_{2.5} standard is based on the 3-year average of the 98th percentile of the day values. Source: (CARB, 2013a)			

Table 2. SCAB Attainment Status

Pollutant	Attainment Status	
	Federal	State
Ozone	Extreme Nonattainment	Nonattainment
PM ₁₀	Attainment/Maintenance	Nonattainment
PM _{2.5}	Moderate Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment

Pollutant	Attainment Status	
	Federal	State
NO ₂	Attainment/Maintenance	Attainment
SO ₂	Attainment	Attainment
Source: (CARB, 2013b).		

Possible health effects associated with criteria pollutants may include the following:

Ozone

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in day hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

Particulate Matter

A consistent correlation between elevated ambient PM₁₀ and PM_{2.5} levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer. Day fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to

a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM₁₀ and PM_{2.5}.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO₂.

Sulfur Dioxide

A few minutes of exposure to low levels of SO₂ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.

Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

2.2.2 Local Air Quality Monitoring

Air quality within the SCAB has improved since the inception of air pollutant monitoring in 1976 by the SCAQMD. This improvement is due to the implementation of stationary source emission-reduction strategies by SCAQMD and lower polluting on-road motor vehicles. This trend toward cleaner air has occurred despite continued population growth. For example, while the national 8-hour ozone standard was exceeded on 134 days in 1989, at the Lake Elsinore monitoring station, the standard was exceeded on 19 days in 2015 (CARB, 2013-2015).

CARB and SCAQMD operate a network of pollutant monitoring and meteorological stations in the SCAB. The station closest to the proposed Project site is the Lake Elsinore W Flint Street station, located approximately 1 mile northwest of the proposed Project site. Table 3 presents the maximum pollutant concentrations measured at the Lake Elsinore monitoring stations from 2013-2015. Exceedances of the CAAQS and NAAQS are shown in bold text.

Table 3. Maximum Pollutant Concentrations Measured at the Lake Elsinore-W Flint Street Station

Pollutant	Averaging Period	Standard	Highest Monitored Concentration ^a / Number of Days Above Standard		
			2013	2014	2015
Ozone (ppm)	1-hour State ^b	0.09	0.11 / 6	0.11 / 4	0.11 / 18
	8-hour National ^c	0.07	0.086 / 12	0.082 / 6	0.084 / 19
	8-hour State ^b	0.07	0.094 / 25	0.090 / 13	0.093 / 35
CO (ppm)	1-hour National	35	--	--	--
	1-hour State	20	--	--	--
	8-hour National and State	9	--	--	--
NO ₂ (ppm)	1-hour National ^d	0.100	0.041 / 0	0.040 / 0	0.039 / 0
	1-hour State ^d	0.18	0.050 / 0	0.050 / 0	0.050 / 0
	Annual National	0.053	0.009 / --	0.008 / --	0.009 / --
	Annual State	0.030	0.01 / --	0.01 / --	0.008 / --
SO ₂ (ppm)	1-hour National	0.075	-- / --	-- / --	-- / --
	1-hour State	0.25	-- / --	-- / --	-- / --
	24-hour State	0.04	-- / --	-- / --	-- / --
PM ₁₀ (µg/m ³)	24-hour National ^e	150	46.7 / 0	86.1 / 0	78.4 / 0
	24-hour State	50	-- / --	-- / --	-- / --
	Annual State	20	-- / --	-- / --	-- / --
PM _{2.5} (µg/m ³)	24-hour National ^f	35	-- / --	-- / --	-- / --
	Annual National ^g	12	-- / --	-- / --	-- / --
	Annual State ^h	12	11 / --	12 / --	12 / --

Notes:

^a Exceedances of the standards are shown in **bold**. All reported values represent the highest recorded concentration unless otherwise noted.

^b The monitored concentrations reported for the state 1-hour and 8-hour O₃ standards represent the California designation values.

^c The monitored concentrations reported for the national 8-hour O₃ national standard design value.

^d The monitored concentrations reported for the national 1-hour and annual NO₂ standard represent the national standard design values. The monitored concentrations reported for the state 1-hour and annual NO₂ standard represent the CA designation values.

^e The monitored concentrations reported for the national 24-hour PM₁₀ standard represent the 2nd highest concentration recorded during each calendar year. The standard is attained when the number of days per calendar year exceeding 150 µg/m³ is equal to or less than one.

^f The monitored concentrations reported for the national 24-hour PM_{2.5} standard represent the 3-year average (including the reported year and the prior two years) of the 98th percentile of the annual distribution of day average concentrations.

^g The monitored concentrations reported for the national annual PM_{2.5} standard represent the annual standard design value.

^h The monitored concentrations reported for the state annual PM_{2.5} standard represent the annual standard designation value.

Source: iADAM Database (CARB, 2013-2015).

2.2.3 Toxic Air Contaminants

TACs are airborne compounds that are known or suspected to cause adverse human health effects after long-term (i.e., chronic) and/or short-term (i.e., acute) exposure. Cancer risk can result from chronic exposure, and non-cancer health effects can result from either chronic or acute exposure. Examples of TAC sources in the SCAB include diesel- and gasoline-powered internal combustion engines in mobile sources, such as construction equipment and vehicles; industrial processes and stationary sources, such

as dry cleaners, gasoline stations, and paint and solvent operations; and stationary fossil fuel-burning combustion sources, such as power plants.

Cancer risk due to TACs has declined in the SCAB as a result of federal, state and local regulations. SCAQMD initiated the first urban toxic air pollution study, Multiple Air Toxics Exposure Study (MATES) in 1998. The subsequent 2000 MATES II study estimated a 44% to 63% decrease in cancer risk since 1990. The 2008 MATES III study reported a SCAB-wide decrease of 8% from MATES II and the 2015 MATES IV study reported a SCAB-wide decrease of 57% from MATES III. The SCAQMD MATES studies show a steady decline in SCAB cancer risk despite continuing population growth.

MATES IV shows that the background cancer risk in the Project area is between 301 to 416 per million, and that more than 90 percent of the background airborne air toxics cancer risk in the SCAB is due to diesel particulate exhaust (SCAQMD, 2014a).

2.2.4 Secondary PM2.5 Formation

Within the SCAB, PM2.5 particles are both directly emitted into the atmosphere (e.g., primary particles) and formed through atmospheric chemical reactions from precursor gases (e.g., secondary particles). Primary PM2.5 includes diesel soot, combustion products, road dust, and other fine particles. Secondary PM2.5, which includes chemicals such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NO_x, SO_x, VOCs, and ammonia. Emissions of NO_x, SO_x, and VOCs generated by the proposed Project would contribute toward secondary PM2.5 formation some distance downwind of the emission sources. However, the air quality analysis in this Study focuses on the effects of direct PM2.5 emissions generated by the proposed Project and its alternatives. This approach is consistent with the recommendations of the SCAQMD (SCAQMD, 2006).

2.2.5 Ultrafine Particles

Although USEPA and the State of California currently monitor and regulate PM10 and PM2.5, research is being done on ultrafine particles (UFPs), particles classified as less than 0.1 micron in diameter. UFPs are formed usually during combustion, independent of fuel type. When diesel fuel is used, UFPs can be formed directly from fuel combustion. With gasoline and natural gas (liquefied or compressed), UFPs are formed mostly from the burning of lubricant oils. UFPs are emitted directly from the tailpipe as solid particles (soot, or elemental carbon and metal oxides) and semi-volatile particles (sulfates and hydrocarbons) that coagulate to form particles. The research regarding UFPs suggests UFPs might be more dangerous to human health than the larger PM10 and PM2.5 particles (termed fine particles) due to size and shape. Because of the smaller size, UFPs are able to travel more deeply into the lung (the alveoli) and are deposited in the deep lung regions more efficiently than fine particles.

UFPs are inert; therefore, normal bodily defense does not recognize the particle. UFPs might have the ability to travel across cell layers and enter into the bloodstream and/or into individual cells. With a large surface area-to-volume ratio, other entities might attach to the particle and travel into the cell as a kind of “hitchhiker.” Recent studies have found that UFPs may also pose a risk to cardiovascular health, particular in at-risk individuals, and may be a risk-factor for heart arrhythmias (UCLA, 2010).

Current UFP research focuses primarily on roadway exposure. Preliminary studies suggest that over 50 percent of an individual’s daily exposure is from driving on highways (Fruin et al., 2004). Levels appear to drop off rapidly as one moves away from major roadways (Zhu et al. 2002a, 2002b).

2.2.6 Atmospheric Deposition

The fallout of air pollutants to the surface of the earth is known as atmospheric deposition. Atmospheric deposition occurs in both a wet and dry form. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

Construction and operational emission sources from the proposed Project would produce diesel particulate matter (DPM), which contains trace amounts of toxic chemicals, and gaseous pollutants. Proposed Project elements and mitigation measures will serve to reduce air pollutants from future operations, which will in turn reduce atmospheric deposition.

2.3 Greenhouse Gas Pollutants

Gases that trap heat in the atmosphere are called GHGs. The term GHGs includes gases that contribute to the natural greenhouse effect, such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), as well as gases that are only human-made and that are emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). These last four families of gases, while not naturally present in the atmosphere, can trap infrared radiation when present. Together, these gases comprise the major GHGs recognized by the DOHA Amendments to the Kyoto Accords (Kyoto, 1997) (DOHA, 2012). There are other GHGs not recognized by the Kyoto Accords due either to the smaller role that they play in climate change or the uncertainties surrounding their effects. For example, atmospheric water vapor is not recognized by the Kyoto Accords because there is not an obvious correlation between water vapor concentrations and specific human activities. However, water vapor appears to act as a positive feedback mechanism; higher temperatures lead to higher water concentrations, which in turn cause more global warming (IPCC, 2001).

The effect each of these gases has on global warming is a combination of the volume of their emissions and their 100-year global warming potential (GWP). GWP, a unit-less quantity, indicates, on a pound-for-pound basis, how much a given GHG could contribute to global warming relative to how much warming would be caused by the same mass of CO₂. CH₄ and N₂O are substantially more potent than CO₂, with GWPs (100-year horizon) of 28 and 265, respectively. However, these natural GHGs are considerably less potent than HFCs, PFCs and SF₆. For example, SF₆ has a 100-year GWP of 23,500, and CFCs and HFCs have GWPs ranging from 1 to 13,900 (IPCC, 2013), making these gases more potent than CO₂.¹ In emissions inventories, GHG emissions are typically reported in terms of metric tonnes of carbon dioxide equivalents (mt CO₂e), which are calculated as the product of the mass emitted of a given GHG and its specific GWP.

The most important GHG in human-induced global warming is CO₂. While many gases have higher GWPs than the naturally occurring GHGs, CO₂ is emitted in higher quantities and accounts for 84 percent of the GWP of all GHGs emitted by the United States (USEPA, 2012). Fossil fuel combustion, especially from the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions and thus substantial increases in global atmospheric CO₂ concentrations over the last century. In 2005, the atmospheric CO₂ concentration was approximately 379 ppm, over 35 percent higher than the pre-industrial (defined as the year 1750) concentration of approximately 280 ppm (IPCC, 2007). The

¹ The analysis used CAPCOA's CalEEMod software, which reflects GWPs from IPCC's Fourth Assessment Report.

buildup of CO₂ in the atmosphere is a result of increased emissions and its relatively long lifespan in the atmosphere of 50 to 200 years.

Concentrations of the second most prominent GHG, CH₄, have also increased due to human activities such as rice production, degradation of waste in landfills, cattle farming, and natural gas mining. In 2005, the atmospheric level of CH₄ was more than double the pre-industrial level, up to 1,774 parts per billion (ppb) as compared to 715 ppb (IPCC, 2007). CH₄ has a relatively short atmospheric lifespan of only 12 years, but it has a higher GWP potential than CO₂.

N₂O concentrations have increased from approximately 270 ppb in pre-industrial times to approximately 319 ppb by 2005 (IPCC, 2007). IPCC attributes most of the increase to agricultural practices (such as soil and manure management), as well as fossil-fuel combustion and the production of some acids. N₂O has a 120-year atmospheric lifespan, meaning that, in addition to its relatively large GWP, its influence is long lasting, which increases its role in global warming.

SF₆, used in the electric industry and refrigerants such as HFCs and PFCs are present in the atmosphere in relatively small concentrations but have extremely long lifespans between 32,000 and 50,000 years, making them potent GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn may have numerous indirect effects on the environment and humans. For example, some observed changes could include shrinking glaciers; thawing permafrost; later freezing and earlier break-up of ice on rivers, lakes, and oceans; a lengthened growing season; shifts in plant and animal ranges; and earlier flowering of trees (IPCC, 2001). Other, longer term environmental impacts of global warming could include sea level rise; changing weather patterns with increases in the severity of storms and droughts; changes to local and regional ecosystems, including the potential loss of species; and a reduction in winter snow pack. Current predictions suggest that in the next 25 years California could experience longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, the California Climate Action Team (CAT) (CAT, 2010) assessment on climate change impacts and adaptation options for California predicted that California could witness the following events:

- Temperature rise between 2.7-10.5°F by the 2070–2100 time period;
- Sea level rise of 11–18 inches by 2050 and 23-55 inches by 2100;
- Drier (by 5 percent or more) than historical average precipitation, with a greater amount of drying in Southern California (with precipitation decreases in some scenarios exceeding 15 percent);
- A decrease in cotton, maize, sunflower, and wheat yields from 3 percent to 8 percent by 2050, and decreased yields for all crops except alfalfa by 2100; and
- An increase in fire risk and estimated burned area increases from 57 percent to 169 percent by 2085.

Risks to public health are also summarized in the CAT assessment (CAT, 2010). As stated above, climate change is predicted to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. This is likely to increase the risk of mortality and morbidity due to heat-related illness on the elderly; individuals with chronic conditions such as heart and lung disease, diabetes, and mental illnesses; infants; the socially or economically disadvantaged; and those who work

outdoors (Jacobson, 2008). The expected increase in temperatures and resulting increases in ultraviolet radiation due to climate change may also likely to exacerbate existing air quality problems.

2.4 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations include schools, hospitals, convalescent homes, child-care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed. In addition to receptors specified in SCAQMD guidance, this analysis also includes residents as potential sensitive receptors. The following receptors were identified as sensitive receptors in vicinity of the proposed Project:

- The proposed Project site is surrounded by adjacent residential receptors.
- The closest schools are:
 - Railroad Canyon Elementary School, located approximately 240 meters to the north of Planning Area 8, on Mill Street.
 - Jean Hayman Elementary School, located approximately 450 meters to the west of Planning Area 2, on Lemon Street.
 - William Collier Elementary School, located approximately 330 meters to the south of Planning Area 3, on Mayhall Drive.
 - Lakeland Village Middle School, located approximately 600 meters to the southwest of Planning Area 3 and 5, on Grand Avenue.
- The closest child-care center is Lilly Macedo Day Care, located in Planning Area 4, on Silverwood Drive.
- The next closest child-care center is Honore Family Childcare, located approximately 450 meters north of Planning Area 8, on N. Langstaff Street.
- The closest assisted living facility is Heritage Residential Care, located just to the west of Planning Area 1, on Mariposa Road.
- The closest hospital is the Loma Linda University Medical Center, located approximately 7.3 miles southwest of the proposed Project, on Baxter Road in Murrieta.

2.5 Baseline

The proposed Project would affect land use designations throughout the specific plan area. The original ELSP was prepared in 1993. Amendments 1 through 10 to the ELSP served to reduce the overall residential yield from 9,000 to 7,389 dwelling units, modified some land uses from residential to open space, and removed several parcels from the ELSP.

The CEQA baseline for this project is 2016, the time of the Notice of Preparation. The following land uses were analyzed in this Study as part of the CEQA baseline:

- 325 low-rise apartment dwelling units;
- 911 single-family housing dwelling units;
- 169 acres of golf club;

- 535 acres of open space;
- 243 acres of active recreation space;²
- 5.5 acres of city park; and
- Skylark airport.

² An existing motorsports park is reflected in the active recreation land use.

3.0 Regulatory Setting

Sources of air emissions in the SCAB are regulated by USEPA, CARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. The role of each regulatory agency is discussed below.

3.1 Federal Regulations

The Federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the NAAQS for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O₃ protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources. In the SCAB, SCAQMD has this responsibility.

State Implementation Plan

For areas that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the State will attain the NAAQS within mandated timeframes. In response to this requirement, SCAQMD develops an Air Quality Management Plan (AQMP) which is incorporated into the SIP. The AQMP is updated every several years in response to NAAQS revisions, USEPA SIP disapprovals, attainment demonstration changes, etc.; each AQMP builds on the prior AQMP. The AQMP is usually a collaborative effort between the SCAQMD, CARB and the Southern California Association of Governments (SCAG).

The most recent AQMP was released in revised draft form in October 2016. The 2016 Draft AQMP focuses on attainment of the ozone and PM_{2.5} NAAQS through the reduction of ozone and PM_{2.5} precursor NO_x, as well as through direct control of PM_{2.5}. The 2016 Draft AQMP identifies control measures and strategies to demonstrate the region's attainment of the revoked 1997 8-hour ozone NAAQS (80 ppb) by 2024; the 2008 8-hour ozone standard (75 ppb) by 2032; the 2012 annual PM_{2.5} standard (12 ug/m³) by 2025; the 2006 24-hour PM_{2.5} standard (35 ug/m³) by 2019; and the revoked 1979 1-hour ozone standard (120 ppb) by 2023.

The 2016 Draft AQMP reported that although population in the SCAG region has increased by more than 20% since 1990, air quality has improved due to air quality control projects at the local, state and federal levels. In particular, 8-hour ozone levels have been reduced by more than 40%, 1-hour ozone levels by close to 60%, and annual PM_{2.5} levels by close to 55% since 1990 (SCAQMD, 2016).

The USEPA often approves portions and disproves other portions of the each SIP. The 2016 Draft AQMP contains a detailed description of which portions of past AQMPs have been approved by the USEPA as part of the SIP process (SCAQMD, 2016).

Emission Standards for Non-road Diesel Engines (2004)

USEPA established a series of emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004. The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards require

approximately an additional 90 percent reduction in PM and NOx compared to Tier 3 standards and are phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NOx and PM standards in 2015. To meet these standards, engine manufacturers were required to produce new engines with advanced emissions control technologies similar to those already expected for on-road heavy-duty diesel vehicles. These standards apply to the proposed Project's use of construction equipment.

Highway Diesel Fuel Rule (2010)

With this rule, USEPA set sulfur limitations for on-road diesel fuel to 15 ppm starting June 1, 2006.

Emission Standards for On-Road Trucks (2010)

To reduce emissions from on-road, heavy-duty diesel trucks, USEPA established a series of emission standards for new engines starting in 1988. These emission standards regulations have been revised over time, and the latest effective regulation, the 2010 Heavy-Duty Highway Rule, provides for reductions in PM, NOx, and non-methane hydrocarbon emissions that were phased in during the model years 2007 through 2010.

California Optional Low NOx Standards (2014)

Under this project, manufacturers may choose to certify their engines to three optional NOx emission standards: 0.10, 0.05 or 0.02 g/bhp·hr.

Energy Independence and Security Act (2007)

The Energy Independence and Security Act of 2007 was signed into law on December 19, 2007 and includes provisions covering:

- Renewable Fuel Standard (Section 202);
- Appliance and Lighting Efficiency Standards (Section 301–325); and
- Building Energy Efficiency (Sections 411–441).

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy projects, and the creation of “green jobs.”

The Renewable Fuel Standard is of some relevance to the proposed Project as the regulations require annual increases in biofuels sold – both biodiesel and bioethanol – from the years 2010-2022. By year 2022, the Renewable Fuel Standard will require at least 74 billion gallons of biofuel to be sold in the US, as compared to the 2010 level of approximately 14.5 billion gallons. This act, although not directly relevant to proposed Project activities, serves to highlight the GHG regulatory framework.

Greenhouse Gas Endangerment Finding (2009)

The 2007 U.S. Supreme Court decision (*Massachusetts et al. v. Environmental Protection Agency et al.*, 2007), gave the USEPA the authority to regulate GHGs as air pollutants under the federal CAA.

USEPA and National Highway Traffic Safety Administration (NHTSA) Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (CAFE) (2010, 2012)

In May 2010 the USEPA in conjunction with the Department of Transportation's NHTSA finalized the Light Duty Vehicle Rule (LDVR) that establishes a national project consisting of GHG emissions standards and CAFE standards for light duty vehicles. LDVR standards first apply to new cars and trucks starting

with model year 2012. Although the rule is designed to address GHG emissions, primarily, the fuel economy standards portion of the rule also serves to also reduce criteria pollutant emissions. On August 28, 2012, USEPA and NHTSA expanded the National Project of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. The 2010 and 2012 rules affect proposed Project passenger vehicles and other light duty vehicles.

Emission Standards for Medium and Heavy-Duty Vehicles (2015)

USEPA and the NHTSA proposed rules for the second phase of fuel economy standards for medium and heavy-duty (HDVs) vehicles. The phase two standards call for an 8 to 24 percent increase in fuel efficiency, depending on the vehicle's size and purpose, between the years 2018 and 2027.

3.2 State Regulations and Agreements

California Clean Air Act (1998)

In California, CARB is designated as the responsible agency for all air quality regulations. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a project to attain the CAAQS for O₃, NO₂, SO₂, and CO by the earliest practical date. Because the CAAQS are often more stringent than the NAAQS, attainment of these more stringent CAAQS requires greater emission reductions than what is required to show attainment of the NAAQS. Similar to the federal system, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

Assembly Bill 1807 – Air Toxics Project (1983)

In 1983, Assembly Bill (AB) 1807 established California's Air Toxics Project, a two-phased project for the identification and control of air toxics. During the first phase (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) prepare draft reports on exposure assessment and health assessment. The draft reports are distributed for public review and comment. The reports are then submitted to the independent scientific review panel, which reviews the reports for scientific accuracy and submits its findings to CARB. At a public hearing, the CARB Board decides whether to list the substance as a TAC.

Once CARB identifies a substance as a TAC, it begins the second phase (control) of California's TAC project. In this phase, an assessment is conducted to determine the need for, and degree of, further controls. CARB works with districts and holds public workshops and individual meetings with stakeholders. If appropriate, each air toxic control measure is then adopted by CARB at a public hearing.

Heavy-Duty In-Use Vehicle Regulation (2008 and 2010 Statewide Truck and Bus Regulation)

In December 2008, CARB adopted its Truck and Bus Regulation, which places requirements on in-use HDVs operating throughout the state. Under the Truck and Bus Regulation, existing HDVs are required to be replaced with HDVs meeting the latest NO_x and PM Best Available Control Technology (BACT). By January 1, 2021, all model year 2007 trucks are required to meet NO_x and PM BACT (i.e., 2010+ USEPA Engine Standards). Model year 2008 and 2009 HDVs must be replaced with 2010+ engines by January 1, 2022, and January 1, 2023, respectively. Amended in 2010, the regulation provided more time for fleets to comply. The amended regulation requires installation of PM retrofits beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, nearly all vehicles would need to have 2010 model year engines or equivalent.

CARB In-Use Off-Road Diesel Vehicle Rule (2010)

In July 2007, CARB adopted a rule that requires owners of off-road mobile equipment powered by diesel engines 25 horsepower or larger to meet the fleet average or BACT requirements for NOx and PM emissions by March 1 of each year. The rule is structured by fleet size: large, medium, and small. Medium-sized fleets receive deferred compliance, and small fleets are exempt from NOx requirements and also get deferred compliance. The original Regulation for In-Use Off-Road Diesel Vehicles was adopted in April 2008. CARB subsequently amended the regulation in 2010 to delay the turnover of Tier 1 equipment for meeting the NOx performance requirements of the regulation, and then to delay overall implementation of the equipment turnover compliance schedule in response to the economic downturn in 2008 and 2009. For purposes of this analysis, the regulation applies to the proposed Project's use of off-road construction equipment.

California Diesel Fuel Regulations (2004 and 2006)

In 2004, CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles. Under this rule, diesel fuel used in motor vehicles has been limited to 500 ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm in September 1, 2006.

Statewide Portable Equipment Registration Project

CARB's Statewide Portable Equipment Registration Project (PERP) establishes a uniform project to regulate portable engines and portable engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months. For purposes of this analysis, much of the proposed Project's construction equipment would likely be subject to PERP registration.

Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases (July 2002)

AB 1493 required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB apply to 2009 and later model year vehicles. CARB estimated that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by 18 percent in 2020 and 27 percent in 2030.

Governor's Executive Order S-3-05 (June 2005)

EO S-3-05 established statewide GHG emission reduction targets as follows: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050. EO S-3-05 required state agencies to implement measures to achieve these targets and required the development of a Scoping Plan that reflects these targets. EO S-3-05 also created the CAT, which develops assessment reports on climate change and adaptation options for California.

Governor's Executive Order B-30-15 (April 2015)

EO B-30-15 established a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030. EO B-30-15 requires state agencies to implement measures to achieve these targets and requires the development of a Scoping Plan that reflects these targets.

Assembly Bill (AB) 32 - California Global Warming Solutions Act of 2006, Senate Bill (SB) 32 (2016), Scoping Plan (2008), and Scoping Plan Update (2014)

The California Global Warming Solutions Act of 2006, also known as AB 32, was adopted by California legislature in response to EO S-3-05. AB 32 set the 2020 emission reduction goals of EO S-3-05 into law

and required CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. AB 32 also required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

On December 11, 2008, CARB adopted the AB 32 Scoping Plan, which set forth the framework for facilitating the state's GHG goal as described in EO S-3-05. In 2014, CARB adopted an update to the 2008 Scoping Plan that builds upon the initial Scoping Plan with new strategies and recommendations. The 2008 Scoping Plan and 2014 Scoping Plan Update require that reductions in GHG emissions come from virtually all sectors of the economy and be accomplished from a combination of policies, planning, direct regulations, market approaches, incentives and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources.

SB 32 codified the EO B-30-15 target through 2030 and directed State regulatory agencies to develop rules and regulations to meet the 2030 State target. In 2016, in response to EO B-30-15, CARB released a 2030 draft Target Scoping Plan Update to address the state's mid-term 2030 GHG target. This update is expected to go to CARB's board in late 2016 or early 2017.

California Solar Initiative and Senate Bill 1 (August 2006)

SB 1 directed the Public Utilities Commission and California Energy Commission to expand the California Solar Initiative Project to more customers and required the state's municipal utilities to create their own solar rebate projects. This bill required, beginning January 1, 2011, that a seller of new homes offer the option of a solar energy system to all customers negotiating to purchase a new home constructed on land meeting certain criteria and to disclose certain information.

Governor's Executive Order S-01-07 (January 2007) and Low Carbon Fuel Standards (LCFS) (approved April 2009, effective April 2010)

S-01-07 established the following: 1) a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) a LCFS for transportation fuels. In 2009, CARB approved for adoption the LCFS regulation, which became fully effective in April 2010. The LCFS are intended to reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the "lifecycle" of a transportation fuel.

California Senate Bill 650 (2014)

SB 650 requires the state to develop a strategy to reduce emissions of short-lived climate pollutants (SLCPs). As a result of SB 605, the CARB released its proposed SLCP strategy in April 2016 that describes actions the State proposes to reduce emissions of SLCPs (CARB, 2016).

California Senate Bill 1383 (2016)

SB 1383 requires that by January 1, 2018, the CARB approve and implement a strategy to reduce statewide emissions of SLCP to achieve a reduction in emissions of methane by 40 percent, HFCs 40 percent and black carbon by 50 percent below 2013 levels by the year 2030.

Senate Bill 97 - CEQA Guidelines (August 2007)

SB 97 required that the California Natural Resources Agency coordinate the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of GHG emissions or the effects of GHG emissions.

Pursuant to SB 97, the agency adopted CEQA Guidelines amendments on December 30, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.

With respect to the significance assessment, CEQA Guidelines Section 15064.4, subdivision (b), indicates:

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must 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.

The amendments provide that lead agencies should consider all feasible means of mitigating GHG emissions that substantially reduce energy consumption or GHG emissions. If offsite or carbon offset mitigation measure are proposed, they must be part of reasonable plan of mitigation that the agency itself is committed to implementing. No threshold of significance or any specific mitigation measures are indicated in the Guidelines.

Among other things, the California Natural Resources Agency noted in its public notice for these changes that impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The public notice states:

While the Proposed Amendments do not foreclose the possibility that a single project may result in GHG emissions with a direct impact on the environment, the evidence before [California Natural Resources Agency] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of GHG should center on whether a project's incremental contribution of GHG emissions is cumulatively considerable.

Assembly Bill 1470 - Solar Hot Water and Efficiency Act (November 2007)

AB 1470 directed the California Energy Commission to establish a 10-year, statewide incentive project to encourage the installation of 500,000 solar water heating systems to offset natural gas usage for water and space heating. The incentives were to be funded by establishing a surcharge on certain natural gas customers.

Senate Bill 375 – Transportation planning: travel demand models: sustainable communities strategy: environmental review (September 2008)

SB 375 provided for a planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 required regional transportation plans, developed by Metropolitan Planning Organizations relevant to the proposed Project area (including the SCAG), to incorporate a sustainable communities strategy in their regional transportation plans that will achieve GHG emission reduction targets set by

CARB. SB 375 also included provisions for streamlined CEQA review for some infill projects such as transit-oriented development.

SB 375 is similar to the Regional Blueprint Planning Project, established by the California Department of Transportation, which provides discretionary grants to fund regional transportation and land use plans voluntarily developed by Metropolitan Planning Organizations working in cooperation with Council of Governments. The Scoping Plan adopted by CARB in December of 2008 relies on the requirements of SB 375 to implement the carbon emissions reductions anticipated from land use decisions.

Governor's Executive Order S-13-08 - California Climate Adaptation Strategy (November 2008)

S-13-08 directed state agencies to develop a strategy for identification and preparation for expected climate change impacts in California. The resulting 2009 California Climate Adaptation Strategy report presents best available science relevant to climate impacts in California and proposes a set of recommendations for California decision makers to assess vulnerability and promote resiliency in order to reduce California's vulnerability to climate change. S-13-08 also ordered the creation of a comprehensive Sea Level Rise Assessment Report, which was completed by the National Academy of Science in 2012. Guidance regarding adaptation strategies is general in nature and emphasizes incorporation of strategies into existing planning policies and processes.

Senate Bill X7-7 - Water Conservation Act (November 2009)

The legislation set an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state is required to make incremental progress toward this goal by reducing per capita water use by 20 percent by the end of 2020. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute the water; it also reduces emissions from wastewater treatment.

Senate Bill X1-2 – Renewable Energy Resources (April 2011)

SBX1-2 directed California Public Utilities Commission's Renewable Energy Resources Project to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, 25 percent by December 31, 2016 and 33 percent by December 31, 2020. The new goals apply to all electricity retailers in the state. The Renewable Portfolio Standard preempts the CARB's 33 percent Renewable Electricity Standard.

Title 24: Building Energy Efficiency Standards (Title 24, Part 6) and Green Building Code Standards (Title 24, Part 11)

Building Energy Efficiency Standards (Title 24, Part 6) for new residential and commercial buildings were originally adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2016. Title 24, Part 6 seeks to ensure that building construction, system design, and installation achieve energy efficiency. Title 24, Part 6 establishes a minimum level of building energy efficiency.

The Green Building Code Standards (Title 24, Part 11) were adopted by the California Building Standards Commission in 2008, and most recently revised in 2016. Title 24, Part 11 seeks to enhance the design and construction of buildings by encouraging sustainable construction practices in planning/design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Title 24, Part 11 establishes mandatory minimum green building standards to the planning, design, operation, construction, use and occupancy of newly constructed, residential and nonresidential buildings.

3.3 Regional and Local Plans, Projects and Policies

SCAQMD is primarily responsible for planning, implementing, and enforcing federal and State ambient standards within the SCAB. As part of its planning responsibilities, SCAQMD prepares the AQMP based on the attainment status of the air basins within its jurisdiction. The SCAQMD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by USEPA.

Through the attainment planning process, SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The applicable SCAQMD rules to the Project are listed below.

SCAQMD Rule 401 – Visible Emissions

This rule prohibits discharge of air contaminants or other material that are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an observer's view.

SCAQMD Rule 402 – Nuisance

This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 – Fugitive Dust

The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. Under Rule 403, no person shall conduct active operations without utilizing the applicable best available control measures to minimize fugitive dust emissions. Construction and operation fugitive dust emission sources are subject to this rule, which covers all fugitive dust emissions sources, such as unpaved and paved roads, storage piles, and earthmoving operations.

During construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site watering as necessary to maintain sufficient soil moisture content. Additional requirements apply to operations on a property with 50 or more acres of disturbed surface area, or for any earth-moving operation with a day earth-moving or throughput volume of 5,000 cubic yards or more, three times during the most recent 365-day period. These requirements include submittal of a dust control plan, maintaining dust control records, and designating an SCAQMD-certified dust control supervisor.

SCAQMD Rules 1108 and 1108.1 – Cutback Asphalt and Emulsified Asphalt

The purpose of these rules is to limit the emissions from asphaltting activities.

SCAQMD Regulation XI – Source Specific Standards

This regulation is composed of several dozen individual rules, many of which are not applicable to the proposed Project. Specific rules that may be applicable include:

Rule 1113 – Architectural Coatings

This rule limits the VOC contents of paints applied to various surfaces that would be applicable to application of architectural coatings.

Rule 1166 – Volatile Organic Compound Emissions from Decommissioning of Soils

This rule sets requirements to control emissions from excavating, grading, handling, and treating VOC-contaminated soils that may be encountered during construction.

SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities

The purpose of this rule is to limit emissions of asbestos, which is a TAC, from demolition/renovation activities. The rule requires SCAQMD to be notified of proposed demolition/renovation activities and to survey these structures for the presence of asbestos-containing materials. The rule also includes notification requirements for any intent to disturb asbestos-containing materials; emission control measures; and asbestos-containing materials removal, handling, and disposal techniques.

Southern California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) (2016)

SCAG is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Pursuant to SB 375, SCAG developed the RTP/SCS. The primary goal of the RTP/SCS is to increase mobility for the region's residents and visitors; an emphasis on sustainability is included pursuant SB 375. The RTP serves as a long-range transportation plan that is developed and updated by SCAG every four years. The SCS expands upon transportation strategies in the RTP to analyze growth patterns and establish future land use strategies that aid the region in meeting its GHG reduction targets.

The 2012–2035 RTP/SCS contained a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 timeframe and steps to facilitate this objective. The 2016–2040 RTP/SCS updated the 2012–2035 plan and includes the following major strategies: preserving the existing transportation system; expanding the regional transit system; expanding passenger rail; improving highway and arterial capacity; managing demands on the transportation system; optimizing the performance of the transportation system; promoting walking and biking; strengthening the regional transportation network for goods movement; leveraging technology (e.g. mobility innovations to zero-emission vehicles); improving airport access; focusing new growth around transit; improving air quality and reducing GHGs; and preserving natural lands.

Lake Elsinore Climate Action Plan (2011) (Lake Elsinore, 2011)

The Climate Action Plan (CAP) is the City's plan to reduce local GHG emissions in accordance with State law. The CAP set efficiency-based targets for the years governed by the General Plan to reduce community-wide emissions to 6.6 MT CO₂e per service population per year by 2020 (a 22.3% reduction from the 2008 rate of 8.5 MT CO₂e/SP) and to 4.4 MT CO₂e per service population per year by 2030 (a 48.2% reduction from the 2008 rate of 8.5 MT CO₂e/SP). The City deems these targets to be consistent with AB 32.

To meet the emissions reduction targets, the CAP identifies the following key measures: transportation and land use, energy, solid waste, education and outreach, and state-level regulations. State level regulations include the Pavley Regulations, LCFS, heavy/medium duty and passenger vehicle efficiency regulations, and the Renewable Portfolio Standard, discussed in Section 3.2 State Regulations and Agreements.

The CAP is also intended to serve as the programmatic tiering document for the purposes of CEQA, within the City of Lake Elsinore, for GHG emissions, by which applicable projects will be reviewed. If a proposed development project can demonstrate it is consistent with the applicable emissions reduction measures included in the CAP, the projects and standards that would be implemented as a result of the CAP, and the General Plan Update growth projections, the project's environmental review pertaining to

GHG impacts may be streamlined as allowed by CEQA Guidelines Sections 15152 and 15183 (Lake Elsinore, 2011). For reasons discussed in Section 4.2.4, Methodology for Determining GHG Impacts, the CAP was not used as a tiering document in this Study.

4.0 Environmental Consequences

This section presents a discussion of the potential impacts associated with implementation of the proposed Project. CEQA discourages speculation about impacts that are not reasonably foreseeable (CEQA Guidelines Section 15144, 15145) and in these instances CEQA does not require a worst-case analysis. This Study evaluates the reasonable, foreseeable, direct, indirect, and cumulative environmental impacts of the proposed Project on air quality and GHG resources.

4.1 Significance Thresholds

The State of California has developed guidelines, in Appendix G of the State CEQA guidelines (CCR, 2010), to address the significance of air quality and GHG impacts. The State CEQA guidelines do not identify significance thresholds, instead allowing the lead agencies discretion in how to address and evaluate significance based on the Appendix G guidance. To provide further guidance to local lead agencies regarding determining significance for air quality in CEQA documents, SCAQMD has adopted the criteria, odor and TAC thresholds in Table 4 (SCAQMD, 2015). In addition to SCAQMD CEQA thresholds, a GHG efficiency target was developed based on the state GHG reduction goals and statewide service population projections. The development of the GHG efficiency target is discussed in Section 4.2, Methodology. Although significance determinations are not made in this technical study, in general, a project would be considered significant under CEQA if its impacts exceed significance thresholds in Table 4. In addition, a project would be considered significant if it conflicts with or obstructs the implementation of an applicable AQMP or an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Table 4. CEQA Significance Thresholds

Day Emission Thresholds		
Air Pollutant	Construction Threshold (lb/day)	Operation Threshold (lb/day)
NO _x	100	55
VOC	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
CO	550	550
Ambient Pollutant Concentration Thresholds		
Air Pollutant	Ambient Concentration Threshold	
NO ₂ 1-hour average 1-hour average Annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (339 µg/m ³) (State) 0.100 ppm (188 µg/m ³) ^b (Federal) 0.03 ppm (57 µg/m ³) (State)	
PM ₁₀ 24-hour average 24-hour average Annual average	10.4 µg/m ³ (construction) 2.5 µg/m ³ (operation) 1.0 µg/m ³	
PM _{2.5} 24-hour average	10.4 µg/m ³ (construction) 2.5 µg/m ³ (operation)	
SO ₂ 1-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)	

24-hour average	0.04 ppm (state)
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:
1-hour average	20 ppm (23,000 µg/m ³) (State) and 35 ppm (federal)
8-hour average	9.0 ppm (10,000 µg/m ³) (State/Federal)
Toxic Air Contaminants (TAC) and Odor Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Cumulative Threshold^[2]	
Criteria Pollutants	Cumulative thresholds are the same as the project-level thresholds, above.
Health Impacts	Cumulative thresholds are the same as the project-level thresholds, above, excepting the Hazard Index threshold, which is 3.0
GHG Efficiency Target^[3]	
GHG Efficiency Target	2022: 4.3 Mton/yr CO ₂ e per SP 2040: 1.6 Mton/yr CO ₂ e per SP
Notes: [1] SCAQMD CEQA Thresholds (SCAQMD, 2015). [2] SCAQMD Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, Appendix D (SCAQMD, 2003a). [3] GHG efficiency targets were calculated based on statewide GHG reduction goals and statewide service population. (AEP, 2016). CO ₂ e – CO ₂ equivalent Lb/day – pounds per day Mton/yr – metric tons per year ppm – parts per million SP – service population = residential population + employment population TACs – toxic air contaminants µg/m ³ – micrograms per cubed meter	

4.2 Methodology

The proposed Project would result in a variety of construction and operational activities that may affect air quality in the region. This study evaluates air quality impacts from reasonably foreseeable construction and operational activities. The timing and specific details of many ELSPA 11 activities are uncertain, as they are either unknown or in various stages of planning. However, reasonable assumptions were made to enable a general evaluation of their air quality impacts. Notwithstanding, further quantitative analysis may be required, as discussed in Section 4.3, to evaluate impacts associated with future project-specific actions.

The following land uses, provided by City of Lake Elsinore, were considered in this technical study:

- Low-rise apartment: 495 dwelling units by 2022 and 1,050 dwelling units by 2040;
- Single-family housing: 2,420 dwelling units by 2022 and 2,950 dwelling units by 2040;
- Commercial/light industrial/retail space: 73,500 square feet by 2022 and 458,000 square feet by 2040;
- Restaurant space: 9,000 square feet by 2022 and 67,500 square feet by 2040;
- Golf club: continuation of existing 169 acres;
- Hotel space: 90 rooms by 2022 and 540 rooms by 2040;

- Open space: 800 acres by 2022 and no change thereafter;
- Sports arena: 100 acres by 2022 and no change thereafter;
- Active recreation space: 523 acres by 2022 and 630 acres by 2040;³
- City park: 5.5 acres by 2022 and no change thereafter;
- The paving/widening of Cereal Street, Lucerne Street, and Malaga/Sylvester Road;
- Improvements to the existing lake berm; and
- Skylark airport.

4.2.1 Methodology for Determining Construction Impacts

A variety of construction activities would occur in association with ELSPA 11, specifically the construction of land use elements identified in Section 4.2, above. These construction elements are described in greater detail in the Project Description section of the Draft EIR.

Evaluation of construction impacts is based on daily emissions and as such requires specific information pertaining to each proposed construction element as well as the potential overlap of construction elements. Due to the programmatic nature of ELSPA 11, data beyond the proposed land use type and associated acreage or dwelling units was not yet available at the time of this technical study. In order to avoid speculation, air quality impacts from proposed construction were analyzed qualitatively. Notwithstanding, further quantitative analysis may be required to evaluate impacts associated with individual, future project-specific actions.

4.2.2 Methodology for Determining Operational Impacts

Baseline Emissions

The CEQA baseline for this project is 2016, the time of the Notice of Preparation. Land uses that operated during this time and were considered in the analysis are discussed in Section 2.5, Baseline. The California Emissions Estimator Model (CalEEMod), version 2016.3.1, was used to quantify baseline emissions. CalEEMod is approved by the SCAQMD, the regulatory authority for projects with air quality considerations in the City. CalEEMod defaults were used for all aspects of the baseline land use.

Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the 2016 AQMP (Appendix B).

Proposed Project Emissions

Project operational emissions were estimated for the interim year 2022 and the anticipated build-out year 2040. The analysis was based on land uses identified in Section 4.2, Methodology, above and described in detail in the Project Description section of the Draft EIR.

Similar to the methodology used to determine baseline emissions, CalEEMod was also used to quantify emissions from anticipated operational activities. CalEEMod quantifies criteria pollutant emissions for the following source types, based on land use designations and size parameters:

- Mobile sources such as residential/visitor vehicles;
- Energy use such as natural gas use; and

³ A motorsports park is reflected in the active recreation land use.

- Area sources such as architectural coating, use of consumer products, hearth, and landscaping.

The analysis of air quality impacts is based on a comparison of the proposed Project during each milestone year to the baseline existing conditions. This is consistent with CEQA Guidelines Section 15125, which states that the environmental setting “will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” Per this methodology, baseline emissions were subtracted from proposed Project emissions and the incremental emissions were compared to SCAQMD’s peak day regional emission thresholds. The CalEEMod output is provided in Attachment A.

Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the 2016 AQMP (Appendix B).

4.2.3 Methodology for Localized Impacts – Ambient Air and Health Risk Assessment (HRA)

Localized ambient air, cancer risk, and health impact analyses are sensitive to the geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the ELSPA 11, air dispersion modeling to quantify localized impacts from proposed activities is not possible as it requires project-specific information regarding source and receptor geometries and locations. Therefore, for this program-level analysis, ambient air and health impacts were considered qualitatively by considering proposed land uses in relation to existing sensitive receptor locations surrounding the ELSPA 11 areas. Notwithstanding, further quantitative analysis may be required to evaluate impacts associated with individual, future project-specific actions.

4.2.4 Methodology for Determining GHG Impacts

GHG impacts in relation to global climate change are, by nature, cumulative impacts; therefore no separate cumulative impacts analysis is required.

Baseline Emissions

Section 2.5 identifies land uses analyzed for the CEQA baseline. CalEEMod was used to quantify baseline emissions. Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the Climate Action Registry (TCR, 2016) (Appendix B).

Proposed Project Emissions

CalEEMod was used to estimate GHG emissions from operational activities. Construction emissions were analyzed qualitatively (see Section 4.2.1, Methodology for Determining Construction Impacts discussion). Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the Climate Action Registry (TCR, 2016) (Appendix B).

In addition to the GHG emissions associated with direct sources identified in Section 4.2.2, CalEEMod was also used to quantify indirect GHG emissions (i.e., emissions generated off-site as a result of the proposed Project). Indirect emissions quantified in CalEEMod include the following:

- Electricity and natural gas;
- Water conveyance and wastewater treatment; and
- Waste disposal.

In addition to the assumptions identified in Section 4.2.2, the following assumption was made in quantifying GHG emissions:

- Southern California Edison was assumed to be the electricity purveyor. GHG intensity for Southern California Edison was obtained from CalEEMod and was used to quantify indirect GHG emissions associated with anticipated proposed Project electricity use.

Although the SCAQMD has established a bright line GHG threshold for industrial projects and has proposed a bright line threshold for residential/commercial projects, bright line thresholds have not been established for Specific Plan documents. CEQA allows projects to tier from an adopted CAP in evaluating GHG impacts. Although the City of Lake Elsinore adopted the CAP in 2011, the CAP horizon year is 2030, whereas the Project buildout is 2040. For this reason, although an evaluation of the Project's consistency with the CAP is included in Section 4.2.4, Methodology for Determining GHG Impacts, the CAP was not used as a tiering document.

Some air quality districts have either adopted (i.e., BAAQMD) or proposed (i.e., SCAQMD) GHG efficiency targets. The GHG efficiency metric divides annualized GHG emissions by the service population, which is the sum of residents and employees, per the following equation:

Rate of Emission: GHG Emissions (mt CO₂e) / Service Population

The efficiency evaluation consists of comparing the project's efficiency metric to efficiency targets. Efficiency targets represent the maximum quantity of emissions each resident and employee in the State of California could emit in various years based on emissions levels necessary to achieve the statewide GHG emissions reduction goals. A project which results in a lower rate of emission would be more efficient than a project with a higher rate of emission, based on the same service population. The metric considers GHG reduction measures integrated into a project's design and operation (or through mitigation). This Study quantifies the following CAP measures as part of the proposed Project's design:

- CAP Measure E-1.3, Energy Efficient Building Standards. This measure requires all development projects, after 2020, to achieve 15% energy efficiency above Title 24.
- CAP Measure E-4.2, Indoor Water Conservation Requirements. This measure requires all development projects, after 2020, to reduce indoor water consumption by 30%.

Efficiency targets can change over time as new population projections are developed. Therefore, although several air quality districts have developed efficiency targets in the past, this analysis did not use previously developed efficiency targets but instead used updated efficiency targets based on the most recent service population projections available at the time of this Study.

Table 5 shows the calculated GHG efficiency targets for several years. The 2022 milestone and 2040 build-out year efficiency targets were used in the analysis, and were interpolated from the 2020, 2030, and 2050 efficiency targets, which are associated with state GHG reduction goals. Since construction emissions were not quantified for this programmatic effort, the statewide land use emissions and employment population were also adjusted to exclude construction.⁴

Table 5. GHG Efficiency Targets

	2020	2022	2030	2040	2050
California Adjusted Land Use Sector Emissions Target (MT CO ₂ e)	266,549,666	245,225,693	159,929,800	106,619,866	53,309,933
California Projected Population	40,619,346	41,312,597	44,085,600	47,233,240	49,779,362
California Projected Adjusted Employment	14,987,000	15,302,000	16,580,000	18,141,000	19,803,000

⁴ GHG emissions associated with construction activities are typically much lower than GHG emissions associated with operational activities. Typically, GHG construction emissions would be less than 5 percent of total GHG emissions.

	2020	2022	2030	2040	2050
California Projected Service Population (Population + Employment)	55,606,346	56,614,597	60,665,600	65,374,240	69,582,362
Target Efficiency Metric (MT CO ₂ e/SP)	4.8	4.3	2.6	1.6	0.8
Notes: 2020 target efficiency reflects the California AB32 goal of achieving 1990 emissions by 2020. 2030 target efficiency reflects the California B-30-15 goal of achieving 40% below 1990 emissions by 2030. 2050 target efficiency reflects the California EO-S-03-05 goal of achieving 80% below 1990 emissions by 2050. 2022 and 2040 target efficiencies for the proposed Project were interpolated from the 2020, 2030, and 2050 target efficiencies. Adjusted land use emissions exclude construction and are adjusted for regulatory requirements (AEP, 2016). Adjusted employment excludes farm, construction, and manufacturing sectors.					
Sources: GHG Emissions from: ARB 1990 GHG Emissions Inventory. <i>Inventory Query Tool</i> . Available: https://www.arb.ca.gov/cc/inventory/inventory.htm AEP 2016. Association of Environmental Professionals. Draft White Paper. Beyond 2020 and Newhall. Table T-1, Adjusted Statewide 1990 Land Use Sector Emissions Inventory 1 (MMT CO ₂ e/yr) and Table T-2, Example 2020, 2030 and 2050 GHG Efficiency Metrics for the Land Use Sector. April 2016. Population from: California Department of Finance. 2014. Report P1: State and County Population Projections. December. Available: http://www.dof.ca.gov/Forecasting/Demographics/projections/ Employment from: California Economic Forecast. 2016. California County-Level Economic Forecast 2016-2040. Prepared for Caltrans Economic Analysis Branch. October. Available: http://www.dot.ca.gov/hq/tpp/offices/eab/index_files/2016/FullReport2016.pdf					

Project GHG efficiency was quantified for the 2022 milestone and 2040 buildout years by dividing the Project GHG emissions by the service population associated with the Project. Project GHG emissions were calculated using CalEEMod, as described in this section, above. The service population associated with the proposed Project was determined by combining the Project's residential population and the employment population. The Project's residential population was calculated in CalEEMod. The Project's employment population was calculated using employment land use numbers from the County of Riverside's General Plan (Riverside, 2015); calculation tables are presented in Appendix B.

4.3 Impact Determination – Proposed Project

Impact AQ-1: Proposed Project Construction Criteria Pollutant Emissions

As discussed in Section 4.2, Methodology, calculation of construction emissions requires specific information pertaining to each proposed construction element as well as the understanding of overlapping construction elements. Due to the programmatic nature of ELSPA 11, data beyond proposed land use type and associated area or dwelling units was not yet available at the time of this technical Study. In order to avoid speculation, air quality impacts from proposed construction are discussed qualitatively.

Construction activities would include the use of off-road construction equipment, on-road trucks, and worker vehicles. These sources would primarily use diesel fuel and would generate combusive emissions in the form of VOCs, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. In addition, off-road construction equipment traveling over unpaved surfaces and performing earthmoving activities such as site clearing or grading would generate fugitive dust emissions in the form of PM₁₀ and PM_{2.5}. Worker commuter vehicles also would generate exhaust and paved road dust emissions. Finally, paving and architectural coating activities would generate VOC emissions.

Combustive and fugitive dust emissions associated with construction activities would be driven by the level of equipment utilization, construction equipment engines, and overlap of construction elements. EPA regulates engine emissions for new engines and CARB regulates engine emissions for in-use engines. Compliance with EPA and CARB regulations is mandated and occurs at the level of the engine manufacturer and construction contractor. In addition, the SCAQMD requires that construction projects comply with SCAQMD Rule 403, described in Section 3.3, Regional and Local Plans, Projects and Policies. Rule 403 regulates fugitive dust emissions and requires that all construction projects adhere to stipulated construction best management practices and that large construction projects prepare dust control plans.

Construction activities can also impact sensitive receptors located near the construction site. Sensitive receptors are identified in Section 2.4, Sensitive Receptors. Quantitative evaluation of localized construction impacts requires well-defined emissions as well as a well-defined geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the ELSPA 11, this level of detail was not available at the time of this technical study. In order to avoid speculation, further quantitative analysis may be required in the future to evaluate construction impacts associated with individual, future project-specific actions.

Evaluation of specific mitigation measures would be speculative at the programmatic level. Mitigation measures and impacts following mitigation should be evaluated once project-specific construction information is available. However, potential future mitigation measures could include the use of cleaner construction equipment and dust control that goes above and beyond SCAQMD Rule 403.

Impact AQ-2: Proposed Project Operation Criteria Pollutant Emissions

Operational emissions, associated with the proposed ELSP 11 land uses, would occur from the use of mobile vehicles by residents, employees and visitors; area sources such as hearths, consumer products, architectural coatings, and landscape equipment; and the use of electricity and natural gas. CalEEMod was used to quantify operational emissions based on land use type and land use activity provided by the City. Appendix A presents CalEEMod output, which also includes input parameters used in calculations.

Table 6 summarizes the peak day emissions associated with operation of the proposed Project and shows that all criteria pollutant emissions, except SO_x, would exceed SCAQMD thresholds in the 2022 milestone and 2040 buildout years. The table shows that emissions would be driven by mobile vehicles associated with residential, visitor, and employee travel.

Table 6. Peak Day Operational Emissions

Source Category	PM10 (lb/day)	PM2.5 (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
Baseline 2016						
Area Emissions	95	95	27	2	732	441
Energy Emissions	3	3	38	0	28	4
Mobile Emissions	415	117	910	6	2,367	209
Skylark Airport Emissions	28	4	7	1	1,309	8
<i>CEQA Baseline</i>	541	219	982	8	4,436	663
Operating Year 2022						
Area Emissions	224	224	63	4	1,724	1,064
Energy Emissions	7	7	91	1	67	10
Mobile Emissions	933	256	1,412	11	3,031	273
Skylark Airport Emissions	28	4	7	1	1,309	8
<i>Total 2022</i>	1,192	490	1,574	16	6,131	1,354

Source Category	PM10 (lb/day)	PM2.5 (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
Project Minus CEQA Baseline	650	271	591	8	1,695	692
Significance Threshold	150	55	55	150	550	55
Operating Year 2040						
Area Emissions	280	280	79	5	2,151	1,330
Energy Emissions	9	9	120	1	90	13
Mobile Emissions	1,284	347	1,410	12	2,096	188
Skylark Airport Emissions	28	4	7	1	1,309	8
<i>Total 2040</i>	1,601	639	1,616	18	5,646	1,540
Project Minus CEQA Baseline	1,059	420	634	10	1,210	877
Significance Threshold	150	55	55	150	550	55
Notes: Emissions might not add precisely due to rounding. Emissions reflect City CAP measures E-1.3 and E-4.2. The following emissions were calculated using CalEEMod (Appendix A): Area emissions reflect emissions associated with the use of hearths, consumer products, architectural coatings, and landscape equipment. Energy emissions reflect emissions associated with energy use of electricity and natural gas. Mobile emissions reflect emissions associated with mobile vehicle exhaust and entrained road dust. Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from the 2016 AQMP (Appendix B).						

Operational activities can also impact sensitive receptors located near the ELSPA 11 Planning Areas. Sensitive receptors are identified in Section 2.4, Sensitive Receptors. Quantitative evaluation of localized operational impacts requires well-defined emissions as well as a well-defined geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the ELSPA 11, this level of detail was not available at the time of this Study. In order to avoid speculation, potential air quality impacts from proposed land use operation were analyzed qualitatively by considering proposed land uses in relation to existing sensitive receptor locations surrounding the ELSPA 11 areas.

Residential land uses, such as those existing/proposed in Planning Areas 1 and 4, would not typically impact nearby sensitive receptors because most emissions associated with residential land uses are mobile in nature and tend to disperse over road networks. Nevertheless, projects that increase on-road traffic may also have the potential to contribute to CO “hot spots”. A CO hot spot is an ambient CO concentration associated with traffic emissions that exceeds an ambient air quality standard in close proximity to a heavily-traveled or congested intersection or roadway. To evaluate whether the proposed Project would contribute to CO hot spots at Project-affected intersections and roadways, a qualitative evaluation was conducted.

As discussed in the Traffic Analysis (Linscott, Law & Greenspan Engineers 2017), several roadways would experience an increase in traffic. The intersection of Diamond Drive at Casino Drive/Auto Center Drive is one such example.

In its 2003 AQMP, the SCAQMD conducted a CO hot-spot evaluation for four worst-case intersections within the SCAB as part of the attainment demonstration for the NAAQS (SCAQMD, 2003b). Although none of the four intersections are within the sphere of influence of the proposed Project, the analysis can nevertheless be used to infer the likelihood for CO hot spots to occur near Project-affected intersections and roadways.

The four intersections chosen by SCAQMD for the 2003 AQMP analysis included:

- Long Beach Boulevard and Imperial Highway, near the Lynwood ambient monitoring station, where the highest 8-hour CO concentrations within the SCAB were recorded.
- Wilshire Boulevard and Veteran Avenue, which was identified as the most congested intersection in Los Angeles County, with traffic volumes of more than 100,000 vehicles per day.
- Highland Avenue and Sunset Boulevard, which was identified as one of the most congested intersections in Los Angeles County.
- Century Boulevard and La Cienega Boulevard, which was identified as one of the most congested intersections in Los Angeles County.

The SCAMQD's evaluation demonstrated that, for these worst intersections, no CO hot spot would result. The SCAQM analysis represents a worst-case scenario; intersections with less traffic volume would experience lower impacts. As discussed in the Traffic Analysis, intersections within the Project study area would experience less volume and congestion than the four SCAQMD study intersections. Therefore, the proposed Project would not contribute to a CO hot spot.

In general, ELSPA 11 seeks to promote new development and accommodate existing active sporting, recreational and supporting land uses. Non-residential land uses, such as active recreation land uses identified in ELSPA 11, would be developed in planning areas that are generally located away from existing and proposed residential developments. Figure 1 shows the proposed ELSPA land use map and shows that active recreation areas would be located in Planning Area 6 and the western portion of Planning Area 2, which are separated from existing and planned residential developments by preservation and golf course areas. Active recreation uses would also be permitted in Planning Area 3, which may require additional quantitative analyses to evaluate impacts associated with project-specific impacts to sensitive receptors to the south.

Mixed use land uses proposed in Planning Areas 2 and 8 may include sensitive receptors within proximity of light industrial or commercial sources. Future development in these areas may also require additional quantitative analyses to evaluate impacts associated with project-specific impacts to sensitive receptors. Planning Areas 1, 4, 5 and 7 would not be altered as they are either currently preserved as open space, being construction under existing entitlements, or developed.

In particular, the Lake Elsinore Motorsports Park (Lucas Oil Off-Road Racing), currently operating in Planning Area 2, would be permitted to relocate to Planning Area 6, which would be separated from residential/sensitive receptors by preservation area, parks and golf course. Skylark Airport would be permitted to continue operations in the current location or would be permitted to continue operations after relocating to the Airport Overlay zone identified on Figure 1.

Evaluation of specific mitigation measures would be speculative at the programmatic level. Mitigation measures and impacts following mitigation should be evaluated once project-specific information is available. However, potential future mitigation measures could include the acceleration of City's CAP transportation and energy measures, which although developed to reduce GHG emissions, serve to reduce fuel consumption and thereby result in co-benefits for criteria pollutants.

Impact AQ-3: Exposure to Odors

Proposed Project activities would generate air pollutants due to the combustion of diesel fuel and asphalt activities during construction. Some individuals may sense that diesel combustion and evaporative emissions are objectionable, although there is no approved method of quantifying the odor impacts of these emissions to the public. In addition, SCAQMD Rules 1108 and 1108.1 limit the amount of VOCs in cutback asphalt and emulsified asphalt products sold within the air district, further reducing

the potential for odor impacts. Emissions associated with construction activities would be dispersed over the construction site, would be short-term and transient.

Operation of the proposed Project would be primarily residential and recreational, would not involve agriculture, heavy industrial processes or other uses identified SCAQMD's 1993 CEQA Handbook as having the potential for substantial odors.

Impact AQ-4: Exposure to TACs

Impacts to sensitive receptors are typically evaluated in terms of exposure to TACs. Exposure to TACs such as diesel exhaust may occur during construction activities, which would be temporary. Operation of the proposed Project would be primarily residential and recreational, would not involve heavy industrial processes associated with TACs or land uses associated with heavy diesel transportation.

It should be noted, however, that exposure to TACs is relevant on a localized basis and although quantitative exposure to TACs requires a well-defined geographical distribution of emission sources and nearby sensitive receptors, in general, localized TAC impacts tend to decrease with distance from the source to the sensitive receptor. As described under Impact AQ-2, ELSPA 11 seeks to promote new development and accommodate existing active sporting, recreational and supporting land uses. Non-residential land uses, such as active recreation land uses identified in ELSPA 11, would be developed in planning areas that are generally located away from existing and proposed residential developments.

Impact AQ-5: AQMP Consistency

Construction and operation of the proposed Project would produce emissions of nonattainment pollutants primarily from diesel combustion equipment and fugitive dust during construction and from on-road automobiles during operation.

The AQMP proposes emission-reduction measures that are designed to bring the SCAB into attainment of the CAAQS and NAAQS. Because AQMP attainment strategies include mobile source control measures and clean fuel projects that are enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers, proposed Project activities would comply with these control measures. SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Compliance with these requirements would further ensure that the proposed Project's activities would not obstruct implementation of the AQMP.

Growth projections from general city plans are provided to the SCAG, which develops regional growth forecasts. SCAG's regional growth forecasts are then used to develop future air quality forecasts for the AQMP. Therefore, developments consistent with the growth projections in the City's General Plan are considered to be consistent with the AQMP. The proposed Project would be consistent with growth projections of the General Plan as detailed in the East Lake Specific Plan, Consistency with the General Plan and Zoning Ordinance, Appendix A and therefore, consistent with the AQMP.

Impact AQ-6: Cumulative Impacts of the Proposed Project

Cumulative impacts may result from individually minor but collectively significant projects. CEQA Guidelines §15355 define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines §15064(h)(4) also state that "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project's incremental effects are cumulatively considerable."

SCAQMD has developed a policy to address the cumulative impacts of CEQA projects (SCAQMD, 2003a). The policy holds the cumulative threshold to be the same as the project-level threshold and indicates

that project impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds.

A list of cumulatively relevant projects is included in the ELSPA 11 DEIR Traffic Impact Analysis and is included here by reference (Linscott, Law & Greenspan Engineers, 2017). The list includes known and foreseeable projects that are anticipated to contribute emissions to the SCAB in the vicinity and concurrently with ELSPA 11 construction and operation.

SCAQMD reasons that impacts to most air quality impacts are local in nature, no more than 1 mile, whereas impacts from exposures to TACs decline by approximately 90 percent at 300 to 500 feet from the emissions source. In accordance with SCAQMD's policy, this analysis considers cumulatively relevant projects to be within a geographic scope of 1 mile from the proposed Project for criteria air pollutants and 500 feet for TACs (CARB, 2005) (SCAQMD, 2014b). Of the projects identified in the Traffic Analysis, the following three projects would be located within 1 mile and two would be located within 500 feet of the proposed Project.

Table 7. List of Cumulatively Relevant Projects

Related Project	Location	Description
Diamond Stadium Indoor Sports Park	Northwest corner of Pete Lehr Drive and Diamond Drive. North of Planning Area 1 and west of Planning Area 7 (less than 500 feet distance from Planning Area 1)	Development of a 600,000 square-foot, split level, indoor sporting arena on 19-23 acres. Construction is expected to begin in early 2017 and to be completed by spring of 2018. Operation is expected in Spring 2018.
Artisan Alley	Northeast corner of Diamond Drive and Malaga Road (less than 500 feet distance from Planning Area 1)	Development of a 95,000 square-foot commercial, shopping and entertainment. Would include craft breweries and restaurants and a 130-room hotel. Construction is expected to begin in 2017 and complete in 2018. Operation is expected in 2018.
South Shore Phase I and II, Spyglass Ranch	North of Camino Del Norte and Main Street (1 mile north of Planning Area 8)	Development of 1,600 single-family dwelling units. Construction and operational information was not available.
Source: List of related projects is from the Traffic Analysis (Linscott, Law & Greenspan Engineers, 2017).		

The ambient air quality of the SCAB provides an indication of the cumulative air quality impacts in the region. The proposed Project is located in the SCAB, which is currently in nonattainment with Federal and/or State standards for ozone, PM₁₀, and PM_{2.5}. As described in Section 2.2, air quality in the SCAB has improved in the last several decades. The improvement in air quality can be attributed to emission reduction from industrial sources, introduction of low emission fuels used in on-road motor vehicles (e.g., low sulfur fuels, reformulated gasoline, LCFS, etc.), and implementation of the AQMPs, which develop emission reduction strategies that are subsequently promulgated as enforceable regulations.

As described in Section 2.2.3, health impacts have also declined in the SCAB as a result of federal, state and local regulations. SCAQMD's 2015 MATES IV study reported a SCAB-wide decrease of 57% from the previous MATES III study, despite continuing population growth. According to MATES IV, the background cancer risk in the Project area is between 270 and 350 per million.

- Contributions of Cumulatively Relevant Projects

Cumulatively relevant projects, identified in Table 7, could contribute to an existing or projected air quality exceedance because the SCAB is currently in nonattainment for ozone, PM10, and PM2.5.

It should be noted that regional impacts associated with cumulatively relevant projects are not necessarily additive as they are unlikely to occur on the same day. Similarly, localized impacts associated with related projects are also not necessarily additive, as they are unlikely to occur on the same day or impact the same sensitive receptor.

- Contributions of the Proposed Project

The proposed Project would contribute to impacts from cumulatively related projects and to the existing pollution burden in SCAB. Per SCAQMD's policy, impacts from the proposed Project would be cumulatively considerable if they exceed the project-specific air quality significance thresholds in Table 4.

As discussed in Section 4.2.1, Methodology for Determining Construction Impacts, construction impacts were not quantified for the proposed Project because evaluation of construction impacts requires specific information pertaining to each proposed construction element as well as the potential overlap of construction elements. Due to the programmatic nature of ELSPA 11, data beyond the proposed land use type and associated acreage or dwelling units was not yet available at the time of this technical study. In order to avoid speculation, air quality impacts from proposed construction were evaluated qualitatively. Notwithstanding, further analysis may be necessary to evaluate construction impacts associated with future project-specific actions.

Operational emissions associated with the proposed Project are presented in Table 6. The table shows that criteria pollutant emissions would exceed significance thresholds. Operational emissions would therefore result in a cumulatively considerable contribution to impacts from related projects and to the existing pollution burden in the SCAB. It should, however, be noted that regional impacts associated with the proposed Project are not necessarily additive with impacts associated with related projects as these impacts are unlikely to occur on the same day.

As discussed in Section 4.2.3, Methodology for Localized Impacts – Ambient Air and Health Risk Assessment, localized impacts associated with operation of the proposed Project were not quantified in this Study because evaluation of localized impacts requires well-defined geographic distribution of emission sources and nearby sensitive receptors. Given the programmatic nature of the ELSPA 11, this level of detail was not available at the time of this Study. Therefore, further quantitative analysis may be required to evaluate cumulative impacts associated with future project-specific actions. It should be noted that regional impacts associated with the proposed Project are not necessarily additive with impacts associated with related projects as these impacts are unlikely to occur on the same day or at the same sensitive receptor.

Impact GHG-1: Proposed Project GHG Emissions

GHG emissions, associated with the proposed ELSP 11 land uses, would occur from direct sources such as the use of mobile vehicles by residents, employees and visitors; and area sources such as hearths, consumer products, architectural coatings, and landscape equipment. GHG emissions would also occur from indirect sources, such as the use of electricity and natural gas, water conveyance and wastewater treatment, and waste disposal. Construction emissions were not quantified as discussed in Section 4.2.1, Methodology for Determining Construction Impacts.

CalEEMod was used to quantify operational emissions and residential population based on land use type and land use activity, provided by the City. The following City CAP measures were quantified as part of the proposed Project's design:

- CAP Measure E-1.3, Energy Efficient Building Standards. This measure requires all development projects, after 2020, to achieve 15% energy efficiency above Title 24.
- CAP Measure E-4.2, Indoor Water Conservation Requirements. This measure all requires development projects, after 2020, to reduce indoor water consumption by 30%.

Employment population for nonresidential land uses was obtained from the County of Riverside General Plan (Riverside, 2015). Appendix A presents CalEEMod output, which also includes input parameters used in calculations.

Table 8 summarizes unmitigated GHG emissions associated with operation of the proposed Project and shows that GHG emissions would be driven by the use of mobile vehicles. The table also compares the proposed Project efficiency to the target efficiency, and shows that ELSPA 11 GHG emissions would be greater than the target emissions per service population both in 2022 and 2040.

Table 8. Annual GHG Emissions Without Mitigation - Proposed Project

Source Category	CO2 (mton/yr)	CH4 (mton/yr)	N2O (mton/yr)	CO2e (mton/yr)
Baseline 2016				
Area Emissions	404	0	0	417
Energy Emissions	21,394	1	0	21,489
Mobile Emissions	70,620	5	-	70,740
Waste Disposal Emissions	3,957	234	-	9,803
Water Purveying Emissions	3,241	9	0	3,532
Skylark Airport Emissions	1,836			1,836
CEQA Baseline	101,453	249	1	107,818
Operating Year 2022				
Area Emissions	954	1	0	984
Energy Emissions	53,247	2	1	53,481
Mobile Emissions	141,510	7	-	141,689
Waste Emissions	8,615	509	-	21,345
Water Purveying Emissions	5,642	15	0	6,136
Skylark Airport Emissions	1,836			1,836
Total	211,805	534	1	225,471
Project Minus CEQA Baseline	110,352	285	1	117,653
Project Population				8,337
Project Employment Population				307
Project Service Population				8,644
<i>Project Efficiency Metric (Mton CO2e/SP)</i>				13.6

Source Category	CO2 (mton/yr)	CH4 (mton/yr)	N2O (mton/yr)	CO2e (mton/yr)
<i>Target Efficiency Metric (Mton CO2e/SP)</i>				<i>4.3</i>
Operating Year 2040				
Area Emissions	1,191	1	0	1,229
Energy Emissions	70,792	2	1	71,102
Mobile Emissions	154,046	6	-	154,196
Waste Emissions	10,613	627	-	26,292
Water Purveying Emissions	7,015	20	1	7,666
Skylark Airport Emissions	1,836			1,836
Total	245,494	657	1	262,323
Project Minus CEQA Baseline	144,041	408	1	154,505
Project Population				10,410
Project Employment Population				1,350
Project Service Population				11,760
<i>Project Efficiency Metric (Mton CO2e/SP)</i>				<i>13.1</i>
<i>Target Efficiency Metric (Mton CO2e/SP)</i>				<i>1.6</i>
Notes: Emissions might not add precisely due to rounding. Emissions reflect City CAP measures E-1.3 and E-4.2. The following operating emissions were calculated using CalEEMod (Appendix A): Area emissions reflect emissions associated with the use of hearths, consumer products, architectural coatings, and landscape equipment. Energy emissions reflect emissions associated with energy use of electricity and natural gas. Mobile emissions reflect emissions associated with mobile vehicle exhaust and entrained road dust. Waste emissions reflect emissions associated with solid waste disposal. Water purveying emissions reflect emissions associated with purveying and treatment of water and wastewater. Skylark airport emissions were calculated outside of CalEEMod, using activity provided by Skylark and emission factors from The Climate Registry 2015 Default Emission Factors. GHG target efficiency was calculated based on state GHG reduction goals and service population (Appendix B). Project efficiency metric was calculated based on project GHG emissions and project service population (Appendix B).				

Evaluation of specific mitigation measures would be speculative at the programmatic level. Mitigation measures and impacts following mitigation should be evaluated once project-specific information is available. However, potential future mitigation measures could include the increase and/or acceleration of City's CAP transportation and land use measures, energy measures, and solid waste measures developed to reduce GHG emissions. For example, a mitigation measure could require that project-specific mitigation achieve 30% energy efficiency above Title 24.

Impact GHG-2: Plan Consistency

In 2006, California adopted AB 32, which requires the state to reduce statewide GHG emissions to 1990 levels by 2020, a reduction target that was introduced in EO S-3-05. In 2016, California adopted SB 32, which requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was introduced in EO B-30-15. Section 3.2, State Regulations and Agreements presents a discussion of EO S-3-05, EO B-30-15, AB 32, and SB 32.

AB 32 and SB 32 codified state targets and directed State regulatory agencies to develop rules and regulations to meet the targets; AB 32 and SB 32 do not stipulate project-specific requirements. Specific requirements are codified in rules and regulations developed by regulatory agencies such as CARB and SCAQMD, and local City actions such as the City CAP.

The City's CAP, adopted in 2011, certified that the City's target is consistent with AB 32's 2020 goals. The City CAP ensures that the City will be providing local GHG reductions that will complement state efforts to reduce GHG emissions to the AB 32 target. The proposed Project would not conflict with the applicable CAP reduction measures, as shown in Table 9. In addition to CAP requirements, Table 9 also discusses other plans and policies which may be considered related, although not directly applicable, to the proposed Project.

The City's CAP was developed prior to SB 32. Therefore, although the City's CAP was developed with a horizon year of 2030, the CAP does not provide assurance that the City will provide local GHG reductions that will complement state SB 32 efforts through 2030. In addition, the CAP does not address targets past 2030. Notwithstanding, it should be noted that the reliance on CAP measures would not end in 2030 and continuation of these measures would continue to provide GHG reductions, in particular to new developments that occur after 2030.

Table 9. Evaluation of Plans, Policies or Regulations Adopted for the Purpose of GHG Reduction

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
AB 32 2008 Scoping Plan, and 2014 Scoping Plan Update		
The AB32 2008 Scoping Plan set a Statewide roadmap for achieving the following AB 32 State targets: (1) Year 2000 levels by 2010; and (2) Year 1990 levels by 2020. The 2014 AB32 Scoping Plan Update build upon the 2008 Scoping Plan with new strategies to achieve the following AB32 State target: Year 1990 levels by 2020. ARB released a draft 2030 Target Scoping Plan in April 2016, and is expecting a final version go to its board in 2017.	The Scoping Plan and Plan Update include general recommendations to reduce GHG emissions. Not directly applicable to the proposed Project.	The AB 32 2008 Scoping Plan outlines the State's strategy to achieve the 2020 GHG emission reduction target via a set of recommended measures. The implementation of these measures relies on actions on the part of state agencies and local governments, not individual projects. Actions include, but are not limited to, development and implementation of rules, market projects, zero-emission projects, renewable fuel standards, LCFS, vehicle efficiency measures, energy efficiency projects, green building strategies, market-based mechanisms, incentive measures, as well as land use planning and permitting. The Scoping Plan's reduction actions do not identify specific project-level measures. No elements of the proposed Project would conflict with the Scoping Plans. The AB 32 2014 Scoping Plan Update builds upon the 2008 Scoping Plan with additional strategies and recommendations. In the 2014 AB 32 Scoping Plan Update, ARB identified that the State had adopted sufficient laws and regulations to achieve the AB 32 2020 target. Therefore, projects that comply with regulations are also consistent with AB 32. The proposed Project analysis has quantified GHG impacts for 2022 and 2040. The proposed Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities, developed as part of the Scoping Plan. The proposed Project would therefore, not preclude the State's implementation of the AB 32 Scoping Plan or Plan Update.

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
CCR Title 24, Part 6 – Building Energy Efficiency Standards		
	Applicable	The Building Energy Efficiency Standards for new residential and commercial buildings seek to ensure that building construction, system design, and installation achieve energy efficiency. The proposed Project would not conflict with the Building Energy Efficiency Standards, pursuant to the City's Municipal Code and as part of the conditions set forth in the building permit. The Building Energy Efficiency Standards are also subsumed in the City's CAP, Measure E-1-3.
CCR Title 24, Part 11 – Green Building Code Standards		
	Applicable	The Green Building Code Standards were developed in response to AB 32. The Standards establish mandatory green building construction standards. The proposed Project would not conflict with the Green Building Code Standards, pursuant to the City's Municipal Code and as part of the conditions set forth in the building permit. The Green Building Code Standards are subsumed in the City's CAP, Measure E-1.3.
<i>City of Lake Elsinore 2011 CAP</i>		
Transportation and Land Use Measures		
Measure T-1.1: Safe Routes to School	Not Applicable	This measure directs the City to continue to pursue and utilize grant funding when needed to construct safe pedestrian and bicycle routes within a two mile radius of schools. This measure is implemented by the Department of Public Works through policy development. No elements of the proposed Project would conflict with this measure.
Measure T-1.2: Pedestrian Infrastructure	Applicable	This measure requires the installation of sidewalks along new and reconstructed streets and sidewalks or paths to internally link all uses and provide connections to neighborhood activity centers, major destinations, and transit facilities contiguous with the project site. This measure is implemented by the Department of Public Works and Building Department through policy development, development review, and conditions of approval. The proposed Project elements would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.3: Street and Sidewalk Maintenance and Improvements	Not Applicable	This measure directs the City to preserve the pedestrian and bicycle circulation system by annually identifying and scheduling street and sidewalk

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		improvement and maintenance projects. This measure is implemented by the Department of Public Works through capital improvement programs. No elements of the proposed Project would conflict with this measure.
Measure T-1.4: Bicycle Infrastructure	Applicable	This measure requires new development to implement and connect to the network of Class I, II and III bikeways, trails and safety features identified in the General Plan, Bike Lane Master Plan, Trails Master Plan and Western Riverside County Non-Motorized Transportation plan. This measure is implemented by the Department of Public Works and Building Department through policy development, development review, and conditions of approval. The proposed Project elements would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.5: Bicycle Parking Standards	Applicable	This measure requires the City to enforce short-term and long-term bicycle parking standards for new non-residential developments. This measure is implemented by the Department of Public Works and Building Department through development review and conditions of approval. The proposed Project elements would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.6: Public Transit Incentives	Not applicable	This measure requires the City to coordinate with the Riverside Transit Agency to implement regional transit strategies, expand transit routes, and provide public transit incentives to residents and employees, such as free or reduced-cost monthly transit passes. This measure is implemented by the Department of Planning and Public Works through regional coordination, outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure T-2.1: Designated Parking for Fuel-Efficient Vehicles	Applicable	This measure requires new non-residential developments to designate 10% of total parking spaces for low-emitting, fuel-efficient vehicles. This measure is implemented by the Department of Planning, Public Works and Building through development review and conditions of approval. The proposed Project elements would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-3.1: Mixed-Use, High	Not applicable	This measure requires the City to revise the Land Use

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Density, Infill and Transit Oriented Development		Map and Municipal Code to allow for and/or increase the amount of mixed use, high density, infill and transit oriented development. This measure is implemented by the Planning Department through the General Plan and Municipal Code Update process. No elements of the proposed Project would conflict with this measure.
Measure T-3.2: Mixed-Use, Infill, and Transit Oriented Development Incentives	Not applicable	This measure requires the City to identify and provide incentives to promote mixed-use, infill and transit oriented development, such as: a streamlined permitting process, less restrictive parking requirements, less restrictive height limits, lower permit fees and/or reduced impact fees. This measure would be implemented by the Department of Public Works through education and outreach. No elements of the proposed Project would conflict with this measure.
Measure T-3.3: Density Bonus Incentive	Not applicable	This measure allows for a Density Bonus Incentive for a residential project that is located within 1,500 feet of a regular bus stop or rapid transit system stop; is located within a quarter mile from a public park or community center; or is located within a half mile from school grounds/facilities open to the general public, a full-service grocery store, hospital, medical clinic, or pharmacy. This measure is implemented by the Department of Planning through updates to the General Plan and the Municipal Code. No elements of the proposed Project would conflict with this measure.
Measure T-3.4: Neighborhood Commercial Centers	Not Applicable	This measure requires the City to identify potential neighborhood commercial center sites and rezone identified areas to Neighborhood Commercial. This measure is implemented by the Department of Planning through updates to the General Plan and the Municipal Code. No elements of the proposed Project would conflict with this measure.
Measure T-4.1: Commute Trip Reduction Program	Applicable	This measure requires the City to institute a commute trip reduction program for employers with fewer than 100 employees. This measure is implemented by the Department of Planning through amendment to the Municipal Code. ELSPA 11 would be comprised of various project-specific actions, some of which may be subject to this measure. The proposed Project elements would be required to comply with the City's Municipal Code. As such, the proposed Project would not conflict with this measure.
Measure T-5.1: Hybrid and Fuel-Efficient Vehicle Incentives	Not applicable	This measure encourages the replacement of inefficient vehicles with hybrids, plug-in electric, and

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		other low- and zero-emissions vehicles by connecting residents and businesses with technical and financial assistance through the City's website. This measure is implemented by the Department of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure T-5.2: Municipal Fleet Vehicle Purchasing Policy	Not applicable	This measure requires the City to develop and adopt a low and zero-emissions replacement/purchasing policy for new and replaced official City vehicles and equipment. This measure is implemented by the Department of Public Works through the municipal purchasing policy. No elements of the proposed Project would conflict with this measure.
Energy Measures		
Measure E-1.1: Tree Planting Requirements	Applicable	This measure requires new developments to plant at minimum one 15-gallon nondeciduous, umbrella-form tree per 30 linear feet of boundary length near buildings. This measure is implemented by the Departments of Planning, Public Works, and Parks and Recreation through City ordinance, development review process, and conditions of approval. The proposed Project elements would be required to comply with the City ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-1.2: Cool Roof Requirements	Applicable	This measure requires new non-residential development to use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index consistent with CalGreen Tier 1 values. This measure is implemented by the Departments of Planning and Building through City ordinance, development review process, and conditions of approval. The proposed Project elements would be required to comply with the City ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-1.3: Energy Efficient Building Standards	Applicable	This measure requires that new construction exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15% by 2020, through either the performance based or prescriptive approach described in the California Green Building Code. This measure is implemented by the Departments of Planning, Public Works, and Building through City ordinance, development review process, and conditions of approval. The proposed Project elements would be required to comply with the City

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure. The proposed Project was analyzed with this measure.
Measure E-2.1: Energy Efficiency Upgrades and Retrofits	Not applicable	This measure facilitates voluntary energy efficiency upgrades and retrofits in existing residential, commercial and industrial buildings by connecting residents and businesses with technical and financial assistance through the City website. This measure is implemented by the Departments of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure E-2.2: Green Business Certification Program	Not applicable	This measure establishes and administers a voluntary Green Business Certification Program to recognize businesses that voluntarily develop and implement energy conservation programs, including energy efficiency improvements, energy-efficient heating and cooling systems, and co-generation systems (e.g., solar energy arrays). This measure is implemented by the Departments of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure E-2.3: Compact Fluorescent Light Bulb Distribution Program	Not applicable	This measure requires the City to partner with Southern California Edison or a local business to sponsor a CFL distribution program and distribute at least 4,000 CFLs. This measure is implemented by the Department of Planning through program implementation. No elements of the proposed Project would conflict with this measure.
Measure E-3.1: City HVACs	Not applicable	This measure requires the City to upgrade HVAC systems at City facilities to reduce overall energy use. This measure is implemented by the Department of Public Works through renovation. Since the Project does not propose development of City facilities, no elements of the proposed Project would conflict with this measure.
Measure E-3.2: Energy Efficient Street and Traffic Signal Lights	Applicable	This measure requires the City to work with Southern California Edison to replace existing high pressure sodium street lights and traffic lights with high efficiency alternatives, such as Low Emitting Diode (LED) lights. Replace existing City owned traffic lights with LED lights. Require any new street and traffic lights to be LED. This measure is implemented by the Department of Public Works through renovation, Municipal Code amendment, development and review process, and conditions of approval. This measure would apply to any traffic lights replaced

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		or installed as part of ELSPA 11. The proposed Project elements would be required to comply with the municipal code and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-3.3: Street Light Automatic Daylighting Control Devices	Not applicable	This measure required the City to work with Southern California Edison to install astronomical time-switch controls on street lights that automatically turns off the outdoor lighting when daylight is available. This measure was implemented prior to 2011. No elements of the proposed Project would conflict with this measure.
Measure: E-3.4: Energy Efficient Lights, Ballasts, and Occupancy Sensors at City Facilities	Not applicable	This measure requires the City to install energy efficient lights, ballasts and occupancy sensors at all City facilities. This measure was implemented between prior to 2011. No elements of the proposed Project would conflict with this measure.
Measure E-3.5: Municipal Energy Efficiency Upgrades and Purchasing Standards	Not applicable	This measure requires the City to develop and adopt an energy efficient replacement/purchasing policy for City equipment and appliances (i.e., lights, computers, low-flow toilets and faucets, etc.). This measure is implemented by the Departments of Planning and Public Works through the municipal purchasing policy. Since the Project does not propose City facilities, no elements of the proposed Project would conflict with this measure.
Measure E-4.1: Landscaping Ordinance	Applicable	This measure requires the City to enforce the City's AB 1881 Landscaping Ordinance, which requires that landscaping be water efficient, thereby consuming less energy and reducing emissions. This measure is implemented by the Departments of Building and Planning through City ordinance, development and review process, and conditions of approval. The proposed Project elements would be required to comply with these landscape requirements. As such, the proposed Project would not conflict with this measure.
Measure E-4.2: Indoor Water Conservation Requirements	Applicable	This measure requires that development projects reduce indoor water consumption by 30% by 2020. This measure is implemented by the Departments of Building and Planning through amendments to the Municipal Code and conditions of approval. The proposed Project elements would be required to comply with the City's Municipal Code and conditions of approval. As such, the proposed Project would not conflict with this measure. The proposed Project was analyzed with this measure.

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Measure E-5.1: Renewable Energy Incentives	Applicable	This measure facilitates the voluntary installation of small-scale renewable energy systems, such as solar photovoltaic and solar hot water systems, by connecting residents and businesses with technical and financial assistance through the City website. This measure is implemented by the Departments of Building and Planning through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Solid Waste Measures		
Measure S-1.1: Commercial Recycling	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to require curbside recycling for all commercial land uses to divert 65% of commercial solid waste by 2020 and 75% of commercial solid waste by 2030. This measure is implemented by the Department of Public Works through City contracts. No elements of the proposed Project would conflict with this measure.
Measure S-1.2: Tiered Solid Waste Rate Structure	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to implement a tiered rate structure for residential waste; divert 65% of residential solid waste by 2020 and 75% of residential solid waste by 2030. This measure is implemented by the Department of Public Works through City contracts. No elements of the proposed Project would conflict with this measure.
Measure S-1.3: Recycling Receptacles at City Buildings and Facilities	Not applicable	This measure provides recycling containers at all City buildings and facilities and to all employees in order to divert 65% of municipal solid waste by 2020 and 75% of municipal solid waste by 2030. This measure is implemented by the Department of Public Works through City programs. Since the Project does not propose the development of City facilities, no elements of the proposed Project would conflict with this measure.
Measure S-1.4: Construction and Demolition Waste Diversion	Applicable	This measure requires development projects to divert, recycle or salvage at least 65% of nonhazardous construction and demolition debris generated at the site by 2020 and requires all construction and demolition projects to be accompanied by a waste management plan for the project. This measure is implemented by the Departments of Planning and Building through City contracts, Municipal Code amendments, development and review process, and conditions of approval. The proposed Project project-specific elements would be required to comply with the City's Municipal Code and conditions of approval. As such, the proposed Project would not conflict with this measure.

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Measure S-1.5: Green Waste Program	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to provide green waste bins that split off the green waste from the trash stream. This measure is implemented by the Department of Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure S-2.1: Municipal Purchasing Policy	Not applicable	This measure requires the City to develop and adopt an Environmentally Preferable Purchasing policy for municipal operations. This measure is implemented by the Departments of Planning and Public Works through the municipal purchasing policy. No elements of the proposed Project would conflict with this measure.
Community Outreach and Education Measures		
Measure EO-1.1: Green Page on City's Website	Not applicable	This measure requires the City to create and regularly maintain a "green" page on the City's website to provide educational materials, and information of incentive programs and rebates. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.2: Quarterly Brochure with Specific Emissions Reduction Information	Not applicable	This measure requires the City to create a quarterly brochure to distribute to residents and business providing educational information, information about what the City is doing to reduce emissions, ways for the public and businesses to reduce emissions, and incentive and rebate programs. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.3: Themed Outreach	Not applicable	This measure requires the City to promote different methods for reducing GHG emissions throughout the year. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.4: Multi-Modal Transportation Access Guide	Not applicable	This measure requires the City to produce a Multi-Modal Transportation Access Guide, which concisely describes and provides maps on how to reach a major destination in Lake Elsinore by foot, bicycle, transit, rideshare, etc. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.

4.4 Impact Determination – No Project Alternatives

Two, No Project Alternatives (NPA) were considered in this Study. Under NPA 1, the area would continue to operate as described in Section 2.5, Baseline. Under NPA 2, the existing Specific Plan would be buildout to include the construction of the Waterbury Residential development in Planning Area 2 and relocation of the Skylark Airport to the airport overlay area within Planning Area 2 (Figure 1).

Impacts AQ-1, AQ-2, and GHG-1: Air Quality and GHG Impacts

Under NPA 1, construction activities, such as those discussed under Impact AQ-1, would not occur; existing hardscape and buildings would not be demolished, excavation/grading would not occur, and new buildings would not be constructed. Operations would continue as described under Baseline conditions. There would be no construction or new operational activities associated with NPA 1 and therefore, no air quality or GHG impacts. As compared to the proposed Project, NPA would have a reduced impact on air quality and GHG.

Under NPA 2, construction and operational activities associated with the Waterbury development and relocation of Skylark Airport would occur. The Waterbury development would include the construction of 611 single-family and 1,018 high-density dwelling units, a 2.3-acre recreational center and 5.1-acres of City Park. In comparison, the proposed Project would include a total of 2,915 dwelling units in milestone year 2022 and a total of 3,640 dwelling units in buildout year 2040, as well as other land uses identified in Section 4.2. Relocation of the Skylark Airport would include minor demolition activities and construction in the new location (Airport overlay). Following relocation, the Skylark airport would be permitted to operate in the same capacity as is described under AQ-2. Overall construction and operation activities under NPA 2 would be less than the proposed Project. As compared to the proposed Project, NPA 2 would have a reduced impact on air quality and GHG.

Evaluation of localized impacts requires a well-defined geographical distribution of emission sources and nearby sensitive receptors. In general, however, localized impacts tend to decrease with distance from the source to the sensitive receptor. Relocation of the Skylark airport from its current location near Cereal Street to the Airport Overlay would bring the airport operations closer to existing residential receptors, located southwest of Planning Area 2 (Figure 1), southwest of Palomar Street. Therefore, as compared to the proposed Project, NPA 2 could have greater localized impacts on air quality.

Impact AQ-3: Exposure to Odors

There would be no construction activities associated with the NPA 1 and therefore, no odors from construction. The area would continue to operate as described under baseline conditions and odors associated with operational activities would remain unchanged. As compared to the proposed Project, NPA 1 would have a reduced impact for exposure to odors.

Overall construction and operational activities associated with NPA 2 would likely be reduced compared to the proposed Project. Therefore, overall odor impacts would also be reduced. As compared to the proposed Project, NPA 2 would have a reduced impact for exposure to odors.

Impact AQ-4: Exposure to TACs

There would likely be no construction activities associated with NPA 1 and therefore, no TACs from construction. NPA 1 would result in fewer vehicle trips, area source emissions, and energy source emissions than the proposed Project. As compared to the proposed Project, NPA 1 would have a reduced impact on exposure to TACs.

There would be reduced construction activities associated with NPA 2 and therefore, reduced TAC emissions. NPA 2 operational activities would result in fewer vehicle trips, area source emissions, and

energy source emissions than the proposed Project and would therefore result in reduced TAC emissions. As compared to the proposed Project, NPA 2 would result in reduced overall TAC emissions. However, exposure to TACs is relevant on a localized basis and although quantitative exposure to TACs requires a well-defined geographical distribution of emission sources and nearby sensitive receptors, in general, localized TAC impacts tend to decrease with distance from the source to the sensitive receptor. Relocation of the Skylark airport from its current location, near Cereal Street, to the Airport Overlay would bring the airport operations closer to existing residential receptors, located southwest of Planning Area 2 (Figure 1), southwest of Palomar Street. Therefore, as compared to the proposed Project, NPA 2 could result in greater TAC impacts.

Impacts AQ-5 and GHG-2: AQMP, Plans or Policies Consistency

There would be no construction activities associated with NPA 1 and therefore, no potential for conflict with the AQMP or other plans or policies adopted for the purpose of reducing air quality and GHG impacts. Similar to the proposed Project, NPA 1 is unlikely to conflict with or obstruct implementation of the AQMP, policy or regulations adopted for the purpose of reducing air quality impacts and GHG impacts.

There would be reduced construction and operational activities associated with NPA 2. Similar to the proposed Project, NPA 2 is unlikely to conflict with or obstruct implementation of the AQMP, policy or regulations adopted for the purpose of reducing air quality impacts and GHG impacts.

Impacts AQ-6 and GHG-1: Cumulative Impacts

Similar to the proposed Project, NPA 1 and NPA 2 are unlikely to result in cumulatively considerable impacts to air quality or GHG.

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Appendix A

CalEEMod Output

East Lake Specific Plan - Baseline - South Coast AQMD Air District, Winter

East Lake Specific Plan - Baseline**South Coast AQMD Air District, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	176.00	Acre	176.00	7,666,560.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Racquet Club	3,176.00	1000sqft	72.91	3,176,000.00	0
Apartments Low Rise	325.00	Dwelling Unit	20.31	325,000.00	930
Single Family Housing	911.00	Dwelling Unit	295.78	1,639,800.00	2605

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Baseline considers operation at the time of the NOP.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land use.

Construction Phase - Operation only.

Road Dust -

Energy Use -

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	880.00	2.00
tblConstructionPhase	PhaseEndDate	4/15/2019	12/2/2015
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2016

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					
2015	20,912.1216	13.0305	112.2198	0.2072	18.3537	0.3886	18.7423	4.8675	0.3759	5.2434	0.0000	20,559.8401	20,559.8401	0.9826	0.0000	20,584.4043
Maximum	20,912.1216	13.0305	112.2198	0.2072	18.3537	0.3886	18.7423	4.8675	0.3759	5.2434	0.0000	20,559.8401	20,559.8401	0.9826	0.0000	20,584.4043

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					
2015	20,912.1216	13.0305	112.2198	0.2072	18.3537	0.3886	18.7423	4.8675	0.3759	5.2434	0.0000	20,559.8401	20,559.8401	0.9826	0.0000	20,584.4043
Maximum	20,912.1216	13.0305	112.2198	0.2072	18.3537	0.3886	18.7423	4.8675	0.3759	5.2434	0.0000	20,559.8401	20,559.8401	0.9826	0.0000	20,584.4043

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523
Energy	4.2448	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447
Mobile	209.0754	910.2027	2,366.8640	5.5563	406.3425	9.1410	415.4835	108.7751	8.6481	117.4232		562,541.9364	562,541.9364	39.1023		563,519.4947
Total	654.6302	975.0015	3,126.8525	7.3968	406.3425	107.0489	513.3913	108.7751	106.5560	215.3311	11,577.5111	631,281.6808	642,859.1920	74.7056	1.6348	645,213.9917

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	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523
Energy	4.2448	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447
Mobile	209.0754	910.2027	2,366.8640	5.5563	406.3425	9.1410	415.4835	108.7751	8.6481	117.4232		562,541.9364	562,541.9364	39.1023		563,519.4947

Total	654.6302	975.0015	3,126.8525	7.3968	406.3425	107.0489	513.3913	108.7751	106.5560	215.3311	11,577.5111	631,281.6808	642,859.1920	74.7056	1.6348	645,213.9917
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,978,720; Residential Outdoor: 1,326,240; Non-Residential Indoor: 4,773,750; Non-Residential Outdoor: 1,591,250;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	1,642.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	20,898.0099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643
Total	20,898.4165	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	13.7051	10.4602	110.3181	0.2043	18.3537	0.1678	18.5214	4.8675	0.1550	5.0225		20,278.3920	20,278.3920	0.9459		20,302.0400
Total	13.7051	10.4602	110.3181	0.2043	18.3537	0.1678	18.5214	4.8675	0.1550	5.0225		20,278.3920	20,278.3920	0.9459		20,302.0400

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	20,898.009 9					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e- 003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643
Total	20,898.416 5	2.5703	1.9018	2.9700e- 003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	13.7051	10.4602	110.3181	0.2043	18.3537	0.1678	18.5214	4.8675	0.1550	5.0225		20,278.39 20	20,278.392 0	0.9459		20,302.04 00
Total	13.7051	10.4602	110.3181	0.2043	18.3537	0.1678	18.5214	4.8675	0.1550	5.0225		20,278.39 20	20,278.392 0	0.9459		20,302.04 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	209.0754	910.2027	2,366.864 0	5.5563	406.3425	9.1410	415.4835	108.7751	8.6481	117.4232		562,541.9 364	562,541.93 64	39.1023		563,519.4 947

Unmitigated	209.0754	910.2027	2,366.8640	5.5563	406.3425	9.1410	415.4835	108.7751	8.6481	117.4232		562,541.9364	562,541.9364	39.1023		563,519.4947
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4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,141.75	2,327.00	1972.75	7,326,618	7,326,618
City Park	332.64	4,004.00	2946.24	3,540,788	3,540,788
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Racquet Club	44,559.28	67,807.60	55262.40	100,757,931	100,757,931
Single Family Housing	8,672.72	9,028.01	7852.82	29,409,196	29,409,196
Total	56,558.15	84,150.19	69,027.93	143,204,261	143,204,261

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Golf Course	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Racquet Club	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Apartments Low Rise	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Single Family Housing	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121

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	lb/day										lb/day					
NaturalGas Mitigated	4.2448	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447
NaturalGas Unmitigated	4.2448	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447

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					
Apartments Low Rise	17632.6	0.1902	1.6250	0.6915	0.0104		0.1314	0.1314		0.1314	0.1314		2,074.4187	2,074.4187	0.0398	0.0380	2,086.7459
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
Golf Course	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	283317	3.0554	27.7761	23.3320	0.1667		2.1110	2.1110		2.1110	2.1110		33,331.3650	33,331.3650	0.6389	0.6111	33,529.4367
Single Family Housing	92663.4	0.9993	8.5396	3.6339	0.0545		0.6904	0.6904		0.6904	0.6904		10,901.5795	10,901.5795	0.2090	0.1999	10,966.3621
Total		4.2449	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447

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					
Apartments Low Rise	17.6326	0.1902	1.6250	0.6915	0.0104		0.1314	0.1314		0.1314	0.1314		2,074.4187	2,074.4187	0.0398	0.0380	2,086.7459
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
Golf Course	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	283.317	3.0554	27.7761	23.3320	0.1667		2.1110	2.1110		2.1110	2.1110		33,331.3650	33,331.3650	0.6389	0.6111	33,529.4367
Single Family Housing	92.6634	0.9993	8.5396	3.6339	0.0545		0.6904	0.6904		0.6904	0.6904		10,901.5795	10,901.5795	0.2090	0.1999	10,966.3621
Total		4.2449	37.9407	27.6573	0.2315		2.9328	2.9328		2.9328	2.9328		46,307.3632	46,307.3632	0.8876	0.8490	46,582.5447

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	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523
Unmitigated	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523

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	11.4510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	102.6905					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	323.8765	25.6449	628.5701	1.6035		94.4160	94.4160		94.4160	94.4160	11,577.5111	22,248.0000	33,825.5111	34.5264	0.7858	34,922.8387
Landscaping	3.2920	1.2132	103.7612	5.4100e-003		0.5591	0.5591		0.5591	0.5591		184.3812	184.3812	0.1893		189.1136
Total	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523

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	11.4510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	102.6905					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	323.8765	25.6449	628.5701	1.6035		94.4160	94.4160		94.4160	94.4160	11,577.5111	22,248.0000	33,825.5111	34.5264	0.7858	34,922.8387
Landscaping	3.2920	1.2132	103.7612	5.4100e-003		0.5591	0.5591		0.5591	0.5591		184.3812	184.3812	0.1893		189.1136
Total	441.3100	26.8582	732.3313	1.6090		94.9751	94.9751		94.9751	94.9751	11,577.5111	22,432.3812	34,009.8924	34.7157	0.7858	35,111.9523

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

East Lake Specific Plan - Baseline - South Coast AQMD Air District, Annual

East Lake Specific Plan - Baseline

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	176.00	Acre	176.00	7,666,560.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Racquet Club	3,176.00	1000sqft	72.91	3,176,000.00	0
Apartments Low Rise	325.00	Dwelling Unit	20.31	325,000.00	930
Single Family Housing	911.00	Dwelling Unit	295.78	1,639,800.00	2605

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Baseline considers operation at the time of the NOP.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land

Construction Phase - Operation only.

Road Dust -

Energy Use -

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	880.00	2.00
tblConstructionPhase	PhaseEndDate	4/15/2019	12/2/2015
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2016

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					
2015	20.9109	0.0133	0.1150	2.1000e-004	0.0180	3.9000e-004	0.0184	4.7800e-003	3.8000e-004	5.1600e-003	0.0000	18.9631	18.9631	9.0000e-004	0.0000	18.9857
Maximum	20.9109	0.0133	0.1150	2.1000e-004	0.0180	3.9000e-004	0.0184	4.7800e-003	3.8000e-004	5.1600e-003	0.0000	18.9631	18.9631	9.0000e-004	0.0000	18.9857

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					
2015	20.9109	0.0133	0.1150	2.1000e-004	0.0180	3.9000e-004	0.0184	4.7800e-003	3.8000e-004	5.1600e-003	0.0000	18.9631	18.9631	9.0000e-004	0.0000	18.9857
Maximum	20.9109	0.0133	0.1150	2.1000e-004	0.0180	3.9000e-004	0.0184	4.7800e-003	3.8000e-004	5.1600e-003	0.0000	18.9631	18.9631	9.0000e-004	0.0000	18.9857

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635
Energy	0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	21,394.0920	21,394.0920	0.7137	0.2578	21,488.7615
Mobile	27.4361	125.8220	325.4309	0.7689	54.4373	1.2361	55.6734	14.5948	1.1694	15.7642	0.0000	70,620.1239	70,620.1239	4.7922	0.0000	70,739.9286
Waste						0.0000	0.0000		0.0000	0.0000	3,956.9150	0.0000	3,956.9150	233.8470	0.0000	9,803.0895
Water						0.0000	0.0000		0.0000	0.0000	85.1411	3,155.7624	3,240.9035	8.8751	0.2334	3,532.3457
Total	53.5016	133.2184	351.3056	0.8319	54.4373	3.0214	57.4587	14.5948	2.9547	17.5495	4,173.3429	95,443.1748	99,616.5177	248.6409	0.5002	105,981.5887

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	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635
Energy	0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	21,394.0920	21,394.0920	0.7137	0.2578	21,488.7615
Mobile	27.4361	125.8220	325.4309	0.7689	54.4373	1.2361	55.6734	14.5948	1.1694	15.7642	0.0000	70,620.1239	70,620.1239	4.7922	0.0000	70,739.9286
Waste						0.0000	0.0000		0.0000	0.0000	3,956.9150	0.0000	3,956.9150	233.8470	0.0000	9,803.0895
Water						0.0000	0.0000		0.0000	0.0000	85.1411	3,155.7624	3,240.9035	8.8751	0.2334	3,532.3457
Total	53.5016	133.2184	351.3056	0.8319	54.4373	3.0214	57.4587	14.5948	2.9547	17.5495	4,173.3429	95,443.1748	99,616.5177	248.6409	0.5002	105,981.5887

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,978,720; Residential Outdoor: 1,326,240; Non-Residential Indoor: 4,773,750; Non-Residential Outdoor: 1,591,250;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	1,642.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	20.8980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-004	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562
Total	20.8984	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562

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	0.0125	0.0107	0.1131	2.1000e-004	0.0180	1.7000e-004	0.0182	4.7800e-003	1.6000e-004	4.9400e-003	0.0000	18.7078	18.7078	8.7000e-004	0.0000	18.7296
Total	0.0125	0.0107	0.1131	2.1000e-004	0.0180	1.7000e-004	0.0182	4.7800e-003	1.6000e-004	4.9400e-003	0.0000	18.7078	18.7078	8.7000e-004	0.0000	18.7296

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	20.8980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-004	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562
Total	20.8984	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562

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	0.0125	0.0107	0.1131	2.1000e-004	0.0180	1.7000e-004	0.0182	4.7800e-003	1.6000e-004	4.9400e-003	0.0000	18.7078	18.7078	8.7000e-004	0.0000	18.7296
Total	0.0125	0.0107	0.1131	2.1000e-004	0.0180	1.7000e-004	0.0182	4.7800e-003	1.6000e-004	4.9400e-003	0.0000	18.7078	18.7078	8.7000e-004	0.0000	18.7296

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	27.4361	125.8220	325.4309	0.7689	54.4373	1.2361	55.6734	14.5948	1.1694	15.7642	0.0000	70,620.1239	70,620.1239	4.7922	0.0000	70,739.9286
Unmitigated	27.4361	125.8220	325.4309	0.7689	54.4373	1.2361	55.6734	14.5948	1.1694	15.7642	0.0000	70,620.1239	70,620.1239	4.7922	0.0000	70,739.9286

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,141.75	2,327.00	1972.75	7,326,618	7,326,618
City Park	332.64	4,004.00	2946.24	3,540,788	3,540,788
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Racquet Club	44,559.28	67,807.60	55262.40	100,757,931	100,757,931
Single Family Housing	8,672.72	9,028.01	7852.82	29,409,196	29,409,196
Total	56,558.15	84,150.19	69,027.93	143,204,261	143,204,261

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121

Golf Course	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Racquet Club	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Apartments Low Rise	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121
Single Family Housing	0.539084	0.046275	0.197184	0.132216	0.020089	0.005887	0.019010	0.029721	0.001893	0.002336	0.004497	0.000687	0.001121

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive 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	13,727.3887	13,727.3887	0.5667	0.1173	13,776.4988
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	13,727.3887	13,727.3887	0.5667	0.1173	13,776.4988
NaturalGas Mitigated	0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	7,666.7033	7,666.7033	0.1470	0.1406	7,712.2627
NaturalGas Unmitigated	0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	7,666.7033	7,666.7033	0.1470	0.1406	7,712.2627

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					

Apartments Low Rise	6.43588e+006	0.0347	0.2966	0.1262	1.8900e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.4433	343.4433	6.5800e-003	6.3000e-003	345.4842
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
Golf Course	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	1.03411e+008	0.5576	5.0692	4.2581	0.0304		0.3853	0.3853		0.3853	0.3853	0.0000	5,518.3813	5,518.3813	0.1058	0.1012	5,551.1743
Single Family Housing	3.38222e+007	0.1824	1.5585	0.6632	9.9500e-003		0.1260	0.1260		0.1260	0.1260	0.0000	1,804.8788	1,804.8788	0.0346	0.0331	1,815.6042
Total		0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	7,666.7033	7,666.7033	0.1469	0.1406	7,712.2627

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					
Apartments Low Rise	6.43588e+006	0.0347	0.2966	0.1262	1.8900e-003		0.0240	0.0240		0.0240	0.0240	0.0000	343.4433	343.4433	6.5800e-003	6.3000e-003	345.4842
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
Golf Course	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	1.03411e+008	0.5576	5.0692	4.2581	0.0304		0.3853	0.3853		0.3853	0.3853	0.0000	5,518.3813	5,518.3813	0.1058	0.1012	5,551.1743
Single Family Housing	3.38222e+007	0.1824	1.5585	0.6632	9.9500e-003		0.1260	0.1260		0.1260	0.1260	0.0000	1,804.8788	1,804.8788	0.0346	0.0331	1,815.6042
Total		0.7747	6.9242	5.0475	0.0423		0.5352	0.5352		0.5352	0.5352	0.0000	7,666.7033	7,666.7033	0.1469	0.1406	7,712.2627

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
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Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.7105e+006	545.0023	0.0225	4.6600e-003	546.9520
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	3.28398e+007	10,463.4766	0.4320	0.0894	10,500.9100
Single Family Housing	8.53336e+006	2,718.9098	0.1123	0.0232	2,728.6368
Total		13,727.3887	0.5667	0.1173	13,776.4988

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.7105e+006	545.0023	0.0225	4.6600e-003	546.9520
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Racquet Club	3.28398e+007	10,463.4766	0.4320	0.0894	10,500.9100
Single Family Housing	8.53336e+006	2,718.9098	0.1123	0.0232	2,728.6368
Total		13,727.3887	0.5667	0.1173	13,776.4988

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	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635
Unmitigated	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635

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	2.0898					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.7410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.0485	0.3206	7.8571	0.0200		1.1802	1.1802		1.1802	1.1802	131.2868	252.2881	383.5748	0.3915	8.9100e-003	396.0183
Landscaping	0.4115	0.1517	12.9702	6.8000e-004		0.0699	0.0699		0.0699	0.0699	0.0000	20.9085	20.9085	0.0215	0.0000	21.4451
Total	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635

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	2.0898					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.7410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.0485	0.3206	7.8571	0.0200		1.1802	1.1802		1.1802	1.1802	131.2868	252.2881	383.5748	0.3915	8.9100e-003	396.0183
Landscaping	0.4115	0.1517	12.9702	6.8000e-004		0.0699	0.0699		0.0699	0.0699	0.0000	20.9085	20.9085	0.0215	0.0000	21.4451
Total	25.2908	0.4722	20.8273	0.0207		1.2501	1.2501		1.2501	1.2501	131.2868	273.1966	404.4833	0.4130	8.9100e-003	417.4635

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3,240.9035	8.8751	0.2334	3,532.3457
Unmitigated	3,240.9035	8.8751	0.2334	3,532.3457

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
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Land Use	Mgal	MT/yr			
Apartments Low Rise	21.1751 / 13.3495	141.8240	0.6956	0.0175	164.4121
City Park	0 / 209.701	742.3162	0.0307	6.3400e-003	744.9719
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e-003	715.3423
Racquet Club	187.839 / 115.127	1,246.4276	6.1697	0.1547	1,446.7596
Single Family Housing	59.3553 / 37.4197	397.5435	1.9497	0.0489	460.8598
Total		3,240.9035	8.8751	0.2334	3,532.3457

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	21.1751 / 13.3495	141.8240	0.6956	0.0175	164.4121
City Park	0 / 209.701	742.3162	0.0307	6.3400e-003	744.9719
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e-003	715.3423
Racquet Club	187.839 / 115.127	1,246.4276	6.1697	0.1547	1,446.7596
Single Family Housing	59.3553 / 37.4197	397.5435	1.9497	0.0489	460.8598
Total		3,240.9035	8.8751	0.2334	3,532.3457

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3,956.9150	233.8470	0.0000	9,803.0895
Unmitigated	3,956.9150	233.8470	0.0000	9,803.0895

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	149.5	30.3472	1.7935	0.0000	75.1838
City Park	15.14	3.0733	0.1816	0.0000	7.6139
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Racquet Club	18103.2	3,674.7860	217.1736	0.0000	9,104.1268
Single Family Housing	1068.05	216.8045	12.8128	0.0000	537.1240
Total		3,956.9150	233.8470	0.0000	9,803.0895

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	149.5	30.3472	1.7935	0.0000	75.1838
City Park	15.14	3.0733	0.1816	0.0000	7.6139
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Racquet Club	18103.2	3,674.7860	217.1736	0.0000	9,104.1268
Single Family Housing	1068.05	216.8045	12.8128	0.0000	537.1240
Total		3,956.9150	233.8470	0.0000	9,803.0895

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

East Lake Specific Plan - 2022 Project - South Coast AQMD Air District, Winter

East Lake Specific Plan - 2022 Project**South Coast AQMD Air District, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	37.00	1000sqft	0.85	37,000.00	0
Arena	30.00	Acre	30.00	1,306,800.00	0
City Park	372.00	Acre	372.00	16,204,320.00	0
Fast Food Restaurant with Drive Thru	9.00	1000sqft	0.21	9,000.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Hotel	90.00	Room	3.00	130,680.00	0
Racquet Club	6,835.00	1000sqft	156.91	6,835,000.00	0
Apartments Low Rise	495.00	Dwelling Unit	30.94	495,000.00	1416
Single Family Housing	2,420.00	Dwelling Unit	785.71	4,356,000.00	6921
Regional Shopping Center	37.00	1000sqft	0.85	37,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operation only.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land use.

Construction Phase - Operation only.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Energy Use -

Energy Mitigation - City CAP measure E-1.3

Water Mitigation - City CAP measure: E-4.2

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2022

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					
2015	53,959.5576	21.2037	198.4184	0.3668	32.6946	0.5197	33.2143	8.6708	0.4970	9.1678	0.0000	36,404.6495	36,404.6495	1.7217	0.0000	36,447.6913
Maximum	53,959.5576	21.2037	198.4184	0.3668	32.6946	0.5197	33.2143	8.6708	0.4970	9.1678	0.0000	36,404.6495	36,404.6495	1.7217	0.0000	36,447.6913

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					
2015	53,959.5576	21.2037	198.4184	0.3668	32.6946	0.5197	33.2143	8.6708	0.4970	9.1678	0.0000	36,404.6495	36,404.6495	1.7217	0.0000	36,447.6913
Maximum	53,959.5576	21.2037	198.4184	0.3668	32.6946	0.5197	33.2143	8.6708	0.4970	9.1678	0.0000	36,404.6495	36,404.6495	1.7217	0.0000	36,447.6913

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625
Energy	11.0886	99.1999	72.9000	0.6048		7.6612	7.6612		7.6612	7.6612		120,966.9781	120,966.9781	2.3185	2.2177	121,685.8244
Mobile	272.5266	1,412.3996	3,030.6958	10.9637	923.8699	8.9984	932.8683	247.1912	8.3959	255.5871		1,117,641.9363	1,117,641.9363	58.3694		1,119,101.1723
Total	1,347.1779	1,574.8645	4,827.5496	15.3631	923.8699	240.6646	1,164.5344	247.1912	240.0620	487.2532	27,304.5671	1,291,513.6032	1,318,818.1704	142.5376	4.0710	1,323,594.7592

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	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625
Energy	10.1320	90.7019	67.0500	0.5527		7.0003	7.0003		7.0003	7.0003		110,531.2603	110,531.2603	2.1185	2.0264	111,188.0923
Mobile	272.5266	1,412.3996	3,030.6958	10.9637	923.8699	8.9984	932.8683	247.1912	8.3959	255.5871		1,117,641.9363	1,117,641.9363	58.3694		1,119,101.1723
Total	1,346.2213	1,566.3665	4,821.6995	15.3109	923.8699	240.0036	1,163.8735	247.1912	239.4011	486.5923	27,304.5671	1,281,077.8854	1,308,382.4525	142.3376	3.8797	1,313,097.0271

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.07	0.54	0.12	0.34	0.00	0.27	0.06	0.00	0.28	0.14	0.00	0.81	0.79	0.14	4.70	0.79

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 9,823,275; Residential Outdoor: 3,274,425; Non-Residential Indoor: 12,542,970; Non-Residential Outdoor: 4,180,990;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	2,925.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	53,934.7372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643
Total	53,935.1438	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	24.4138	18.6333	196.5167	0.3639	32.6946	0.2988	32.9934	8.6708	0.2762	8.9469		36,123.2014	36,123.2014	1.6850		36,165.3271

Total	24.4138	18.6333	196.5167	0.3639	32.6946	0.2988	32.9934	8.6708	0.2762	8.9469		36,123.2014	36,123.2014	1.6850		36,165.3271
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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	53,934.7372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643
Total	53,935.1438	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	24.4138	18.6333	196.5167	0.3639	32.6946	0.2988	32.9934	8.6708	0.2762	8.9469		36,123.2014	36,123.2014	1.6850		36,165.3271
Total	24.4138	18.6333	196.5167	0.3639	32.6946	0.2988	32.9934	8.6708	0.2762	8.9469		36,123.2014	36,123.2014	1.6850		36,165.3271

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	272.5266	1,412.3996	3,030.6958	10.9637	923.8699	8.9984	932.8683	247.1912	8.3959	255.5871		1,117,641.9363	1,117,641.9363	58.3694		1,119,101.1723
Unmitigated	272.5266	1,412.3996	3,030.6958	10.9637	923.8699	8.9984	932.8683	247.1912	8.3959	255.5871		1,117,641.9363	1,117,641.9363	58.3694		1,119,101.1723

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,262.05	3,544.20	3004.65	11,159,002	11,159,002
Arena	999.90	0.00	0.00	1,541,633	1,541,633
City Park	703.08	8,463.00	6227.28	7,483,939	7,483,939
Fast Food Restaurant with Drive Thru	4,465.08	6,498.27	4884.48	5,067,719	5,067,719
General Office Building	408.11	91.02	38.85	998,846	998,846
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Hotel	735.30	737.10	535.50	1,687,057	1,687,057
Racquet Club	95,895.05	145,927.25	118929.00	216,838,935	216,838,935
Regional Shopping Center	1,579.90	1,848.89	933.88	3,300,583	3,300,583
Single Family Housing	23,038.40	23,982.20	20860.40	78,123,220	78,123,220
Total	131,938.63	192,075.51	156,407.76	328,370,664	328,370,664

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50

General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Arena	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Fast Food Restaurant with Drive Thru	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Golf Course	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Hotel	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Racquet Club	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Apartments Low Rise	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Single Family Housing	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Regional Shopping Center	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day				
NaturalGas Mitigated	10.1320	90.7019	67.0500	0.5527		7.0003	7.0003		7.0003	7.0003	110,531.2603	110,531.2603	2.1185	2.0264	111,188.0923
NaturalGas Unmitigated	11.0886	99.1999	72.9000	0.6048		7.6612	7.6612		7.6612	7.6612	120,966.9781	120,966.9781	2.3185	2.2177	121,685.8244

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					
Apartments Low Rise	26855.7	0.2896	2.4749	1.0532	0.0158		0.2001	0.2001		0.2001	0.2001		3,159.4992	3,159.4992	0.0606	0.0579	3,178.2746
Arena	116574	1.2572	11.4288	9.6002	0.0686		0.8686	0.8686		0.8686	0.8686		13,714.5554	13,714.5554	0.2629	0.2514	13,796.0541
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
Fast Food Restaurant with Drive Thru	6751.97	0.0728	0.6620	0.5560	3.9700e-003		0.0503	0.0503		0.0503	0.0503		794.3497	794.3497	0.0152	0.0146	799.0701
General Office Building	353.781	3.8200e-003	0.0347	0.0291	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003		41.6213	41.6213	8.0000e-004	7.6000e-004	41.8686
Golf Course	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
Hotel	21585.5	0.2328	2.1162	1.7776	0.0127		0.1608	0.1608		0.1608	0.1608		2,539.4673	2,539.4673	0.0487	0.0466	2,554.5581
Racquet Club	609719	6.5754	59.7764	50.2122	0.3587		4.5430	4.5430		4.5430	4.5430		71,731.7002	71,731.7002	1.3749	1.3151	72,157.9659
Regional Shopping Center	226.055	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003		26.5947	26.5947	5.1000e-004	4.9000e-004	26.7527
Single Family Housing	246153	2.6546	22.6847	9.6531	0.1448		1.8341	1.8341		1.8341	1.8341		28,959.1903	28,959.1903	0.5551	0.5309	29,131.2803
Total		11.0887	99.1999	72.9000	0.6048		7.6612	7.6612		7.6612	7.6612		120,966.9781	120,966.9781	2.3185	2.2177	121,685.8244

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					
Apartments Low Rise	24.054	0.2594	2.2167	0.9433	0.0142		0.1792	0.1792		0.1792	0.1792		2,829.8862	2,829.8862	0.0542	0.0519	2,846.7028
Arena	108.287	1.1678	10.6164	8.9178	0.0637		0.8069	0.8069		0.8069	0.8069		12,739.6678	12,739.6678	0.2442	0.2336	12,815.3733
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
Fast Food Restaurant with Drive Thru	6.46326	0.0697	0.6337	0.5323	3.8000e-003		0.0482	0.0482		0.0482	0.0482		760.3832	760.3832	0.0146	0.0139	764.9018
General Office Building	0.300714	3.2400e-003	0.0295	0.0248	1.8000e-004		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003		35.3781	35.3781	6.8000e-004	6.5000e-004	35.5883
Golf Course	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
Hotel	18.6087	0.2007	1.8244	1.5325	0.0110		0.1387	0.1387		0.1387	0.1387		2,189.2533	2,189.2533	0.0420	0.0401	2,202.2629
Racquet Club	566.378	6.1080	55.5273	46.6429	0.3332		4.2201	4.2201		4.2201	4.2201		66,632.7131	66,632.7131	1.2771	1.2216	67,028.6780
Regional Shopping Center	0.196708	2.1200e-003	0.0193	0.0162	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003		23.1421	23.1421	4.4000e-004	4.2000e-004	23.2797
Single Family Housing	215.227	2.3211	19.8347	8.4403	0.1266		1.6037	1.6037		1.6037	1.6037		25,320.8364	25,320.8364	0.4853	0.4642	25,471.3054
Total		10.1320	90.7019	67.0500	0.5527		7.0003	7.0003		7.0003	7.0003		110,531.2603	110,531.2603	2.1185	2.0264	111,188.0923

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
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Category	lb/day										lb/day					
Mitigated	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625
Unmitigated	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625

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	29.5533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	262.8308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	763.8349	60.4814	1,482.4286	3.7818		222.6720	222.6720		222.6720	222.6720	27,304.5671	52,470.0000	79,774.5671	81.4275	1.8532	82,362.5201
Landscaping	7.3437	2.7836	241.5251	0.0128		1.3330	1.3330		1.3330	1.3330		434.6889	434.6889	0.4221		445.2424
Total	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625

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	29.5533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	262.8308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Hearth	763.8349	60.4814	1,482.4286	3.7818		222.6720	222.6720		222.6720	222.6720	27,304.5671	52,470.0000	79,774.5671	81.4275	1.8532	82,362.5201
Landscaping	7.3437	2.7836	241.5251	0.0128		1.3330	1.3330		1.3330	1.3330		434.6889	434.6889	0.4221		445.2424
Total	1,063.5627	63.2650	1,723.9537	3.7946		224.0049	224.0049		224.0049	224.0049	27,304.5671	52,904.6889	80,209.2560	81.8496	1.8532	82,807.7625

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

East Lake Specific Plan - 2022 Project - South Coast AQMD Air District, Annual

East Lake Specific Plan - 2022 Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	37.00	1000sqft	0.85	37,000.00	0
Arena	30.00	Acre	30.00	1,306,800.00	0
City Park	372.00	Acre	372.00	16,204,320.00	0
Fast Food Restaurant with Drive Thru	9.00	1000sqft	0.21	9,000.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Hotel	90.00	Room	3.00	130,680.00	0
Racquet Club	6,835.00	1000sqft	156.91	6,835,000.00	0
Apartments Low Rise	495.00	Dwelling Unit	30.94	495,000.00	1416
Single Family Housing	2,420.00	Dwelling Unit	785.71	4,356,000.00	6921
Regional Shopping Center	37.00	1000sqft	0.85	37,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operation only.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land use.

Construction Phase - Operation only.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Energy Use -

Energy Mitigation - City CAP measure E-1.3

Water Mitigation - City CAP measure: E-4.2

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2022

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					
2015	53.9574	0.0217	0.2034	3.7000e-004	0.0321	5.2000e-004	0.0326	8.5200e-003	5.0000e-004	9.0200e-003	0.0000	33.5807	33.5807	1.5900e-003	0.0000	33.6203
Maximum	53.9574	0.0217	0.2034	3.7000e-004	0.0321	5.2000e-004	0.0326	8.5200e-003	5.0000e-004	9.0200e-003	0.0000	33.5807	33.5807	1.5900e-003	0.0000	33.6203

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					
2015	53.9574	0.0217	0.2034	3.7000e-004	0.0321	5.2000e-004	0.0326	8.5200e-003	5.0000e-004	9.0200e-003	0.0000	33.5807	33.5807	1.5900e-003	0.0000	33.6203
Maximum	53.9574	0.0217	0.2034	3.7000e-004	0.0321	5.2000e-004	0.0326	8.5200e-003	5.0000e-004	9.0200e-003	0.0000	33.5807	33.5807	1.5900e-003	0.0000	33.6203

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649
Energy	2.0237	18.1040	13.3043	0.1104		1.3982	1.3982		1.3982	1.3982	0.0000	56,084.9895	56,084.9895	1.8725	0.6752	56,332.9995
Mobile	36.1809	196.1704	420.0491	1.5302	124.7738	1.2281	126.0020	33.4355	1.1458	34.5813	0.0000	141,510.0515	141,510.0515	7.1708	0.0000	141,689.3209
Waste						0.0000	0.0000		0.0000	0.0000	8,615.4947	0.0000	8,615.4947	509.1612	0.0000	21,344.5234
Water						0.0000	0.0000		0.0000	0.0000	205.8609	6,305.5978	6,511.4586	21.4042	0.5531	7,211.3916

Total	102.0306	215.3784	482.0744	1.6894	124.7738	5.5763	130.3502	33.4355	5.4940	38.9295	9,130.984 1	204,544.9 314	213,675.91 56	540.5799	1.2493	227,562.7 003
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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	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649
Energy	1.8491	16.5531	12.2366	0.1009		1.2776	1.2776		1.2776	1.2776	0.0000	53,247.06 77	53,247.067 7	1.7935	0.6340	53,480.83 88
Mobile	36.1809	196.1704	420.0491	1.5302	124.7738	1.2281	126.0020	33.4355	1.1458	34.5813	0.0000	141,510.0 515	141,510.05 15	7.1708	0.0000	141,689.3 209
Waste						0.0000	0.0000		0.0000	0.0000	8,615.494 7	0.0000	8,615.4947	509.1612	0.0000	21,344.52 34
Water						0.0000	0.0000		0.0000	0.0000	144.1026	5,497.977 1	5,642.0797	15.0277	0.3964	6,135.911 0
Total	101.8560	213.8275	481.0067	1.6799	124.7738	5.4557	130.2295	33.4355	5.3734	38.8089	9,069.225 9	200,899.3 889	209,968.61 48	534.1244	1.0515	223,635.0 590

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.17	0.72	0.22	0.56	0.00	2.16	0.09	0.00	2.20	0.31	0.68	1.78	1.74	1.19	15.84	1.73

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 9,823,275; Residential Outdoor: 3,274,425; Non-Residential Indoor: 12,542,970; Non-Residential Outdoor: 4,180,990;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architctural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architctural Coating	1	2,925.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	53.9347					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-004	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562
Total	53.9352	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562

Unmitigated Construction Off-Site

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	0.0222	0.0191	0.2015	3.7000e-004	0.0321	3.0000e-004	0.0324	8.5200e-003	2.8000e-004	8.8000e-003	0.0000	33.3253	33.3253	1.5500e-003	0.0000	33.3641
Total	0.0222	0.0191	0.2015	3.7000e-004	0.0321	3.0000e-004	0.0324	8.5200e-003	2.8000e-004	8.8000e-003	0.0000	33.3253	33.3253	1.5500e-003	0.0000	33.3641

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	36.1809	196.1704	420.0491	1.5302	124.7738	1.2281	126.0020	33.4355	1.1458	34.5813	0.0000	141,510.0515	141,510.0515	7.1708	0.0000	141,689.3209
Unmitigated	36.1809	196.1704	420.0491	1.5302	124.7738	1.2281	126.0020	33.4355	1.1458	34.5813	0.0000	141,510.0515	141,510.0515	7.1708	0.0000	141,689.3209

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,262.05	3,544.20	3004.65	11,159,002	11,159,002
Arena	999.90	0.00	0.00	1,541,633	1,541,633
City Park	703.08	8,463.00	6227.28	7,483,939	7,483,939
Fast Food Restaurant with Drive Thru	4,465.08	6,498.27	4884.48	5,067,719	5,067,719
General Office Building	408.11	91.02	38.85	998,846	998,846
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Hotel	735.30	737.10	535.50	1,687,057	1,687,057
Racquet Club	95,895.05	145,927.25	118929.00	216,838,935	216,838,935
Regional Shopping Center	1,579.90	1,848.89	933.88	3,300,583	3,300,583
Single Family Housing	23,038.40	23,982.20	20860.40	78,123,220	78,123,220

Total	131,938.63	192,075.51	156,407.76	328,370,664	328,370,664
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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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Fast Food Restaurant with Drive Thru	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Arena	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Fast Food Restaurant with Drive Thru	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Golf Course	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Hotel	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Racquet Club	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Apartments Low Rise	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Single Family Housing	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Regional Shopping Center	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

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	34,947.3779	34,947.3779	1.4428	0.2985	35,072.4032
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36,057.5496	36,057.5496	1.4886	0.3080	36,186.5465
NaturalGas Mitigated	1.8491	16.5531	12.2366	0.1009		1.2776	1.2776		1.2776	1.2776	0.0000	18,299.6898	18,299.6898	0.3507	0.3355	18,408.4357
NaturalGas Unmitigated	2.0237	18.1040	13.3043	0.1104		1.3982	1.3982		1.3982	1.3982	0.0000	20,027.4399	20,027.4399	0.3839	0.3672	20,146.4529

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					
Apartments Low Rise	9.80235e+006	0.0529	0.4517	0.1922	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	523.0905	523.0905	0.0100	9.5900e-003	526.1990
Arena	4.25494e+007	0.2294	2.0858	1.7520	0.0125		0.1585	0.1585		0.1585	0.1585	0.0000	2,270.5985	2,270.5985	0.0435	0.0416	2,284.0915
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
Fast Food Restaurant with Drive Thru	2.46447e+006	0.0133	0.1208	0.1015	7.2000e-004		9.1800e-003	9.1800e-003		9.1800e-003	9.1800e-003	0.0000	131.5135	131.5135	2.5200e-003	2.4100e-003	132.2950
General Office Building	129130	7.0000e-004	6.3300e-003	5.3200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8909	6.8909	1.3000e-004	1.3000e-004	6.9318
Golf Course	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
Hotel	7.8787e+006	0.0425	0.3862	0.3244	2.3200e-003		0.0294	0.0294		0.0294	0.0294	0.0000	420.4373	420.4373	8.0600e-003	7.7100e-003	422.9357

Racquet Club	2.22548e+008	1.2000	10.9092	9.1637	0.0655		0.8291	0.8291		0.8291	0.8291	0.0000	11,875.9875	11,875.9875	0.2276	0.2177	11,946.5605
Regional Shopping Center	82510	4.4000e-004	4.0400e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4031	4.4031	8.0000e-005	8.0000e-005	4.4292
Single Family Housing	8.98459e+007	0.4845	4.1400	1.7617	0.0264		0.3347	0.3347		0.3347	0.3347	0.0000	4,794.5187	4,794.5187	0.0919	0.0879	4,823.0102
Total		2.0237	18.1040	13.3043	0.1104		1.3982	1.3982		1.3982	1.3982	0.0000	20,027.4399	20,027.4399	0.3839	0.3672	20,146.4530

Mitigated

	Natural Gas 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					
Apartments Low Rise	8.77972e+006	0.0473	0.4046	0.1722	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.5194	468.5194	8.9800e-003	8.5900e-003	471.3036
Arena	3.95248e+007	0.2131	1.9375	1.6275	0.0116		0.1473	0.1473		0.1473	0.1473	0.0000	2,109.1949	2,109.1949	0.0404	0.0387	2,121.7288
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
Fast Food Restaurant with Drive Thru	2.35909e+006	0.0127	0.1156	0.0971	6.9000e-004		8.7900e-003	8.7900e-003		8.7900e-003	8.7900e-003	0.0000	125.8900	125.8900	2.4100e-003	2.3100e-003	126.6381
General Office Building	109761	5.9000e-004	5.3800e-003	4.5200e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.8572	5.8572	1.1000e-004	1.1000e-004	5.8920
Golf Course	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
Hotel	6.79216e+006	0.0366	0.3330	0.2797	2.0000e-003		0.0253	0.0253		0.0253	0.0253	0.0000	362.4554	362.4554	6.9500e-003	6.6500e-003	364.6093
Racquet Club	2.06728e+008	1.1147	10.1337	8.5123	0.0608		0.7702	0.7702		0.7702	0.7702	0.0000	11,031.7930	11,031.7930	0.2114	0.2023	11,097.3494
Regional Shopping Center	71798.5	3.9000e-004	3.5200e-003	2.9600e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.8314	3.8314	7.0000e-005	7.0000e-005	3.8542
Single Family Housing	7.85579e+007	0.4236	3.6198	1.5404	0.0231		0.2927	0.2927		0.2927	0.2927	0.0000	4,192.1484	4,192.1484	0.0804	0.0769	4,217.0603
Total		1.8491	16.5531	12.2366	0.1009		1.2776	1.2776		1.2776	1.2776	0.0000	18,299.6898	18,299.6898	0.3507	0.3355	18,408.4357

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.60522e+006	830.0804	0.0343	7.0900e-003	833.0500
Arena	1.35123e+007	4,305.3121	0.1777	0.0368	4,320.7145
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	434610	138.4761	5.7200e-003	1.1800e-003	138.9715
General Office Building	361120	115.0606	4.7500e-003	9.8000e-004	115.4722
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	2.43065e+006	774.4565	0.0320	6.6200e-003	777.2272
Racquet Club	7.06739e+007	22,518.2187	0.9297	0.1923	22,598.7783
Regional Shopping Center	481370	153.3748	6.3300e-003	1.3100e-003	153.9235
Single Family Housing	2.26682e+007	7,222.5705	0.2982	0.0617	7,248.4094
Total		36,057.5496	1.4886	0.3080	36,186.5465

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.52842e+006	805.6099	0.0333	6.8800e-003	808.4920
Arena	1.30595e+007	4,161.0383	0.1718	0.0355	4,175.9246

City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	417087	132.8929	5.4900e-003	1.1400e-003	133.3683
General Office Building	343249	109.3665	4.5200e-003	9.3000e-004	109.7578
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	2.29755e+006	732.0488	0.0302	6.2500e-003	734.6677
Racquet Club	6.83056e+007	21,763.6188	0.8985	0.1859	21,841.4788
Regional Shopping Center	454730	144.8867	5.9800e-003	1.2400e-003	145.4051
Single Family Housing	2.2277e+007	7,097.9161	0.2930	0.0606	7,123.3091
Total		34,947.3779	1.4428	0.2985	35,072.4032

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	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649
Unmitigated	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649

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	5.3935					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	47.9666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.5479	0.7560	18.5304	0.0473		2.7834	2.7834		2.7834	2.7834	309.6286	594.9998	904.6284	0.9234	0.0210	933.9753
Landscaping	0.9180	0.3480	30.1906	1.5900e-003		0.1666	0.1666		0.1666	0.1666	0.0000	49.2929	49.2929	0.0479	0.0000	50.4896
Total	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649

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	5.3935					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	47.9666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.5479	0.7560	18.5304	0.0473		2.7834	2.7834		2.7834	2.7834	309.6286	594.9998	904.6284	0.9234	0.0210	933.9753
Landscaping	0.9180	0.3480	30.1906	1.5900e-003		0.1666	0.1666		0.1666	0.1666	0.0000	49.2929	49.2929	0.0479	0.0000	50.4896
Total	63.8260	1.1040	48.7210	0.0489		2.9500	2.9500		2.9500	2.9500	309.6286	644.2927	953.9213	0.9712	0.0210	984.4649

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5,642.0797	15.0277	0.3964	6,135.9110
Unmitigated	6,511.4586	21.4042	0.5531	7,211.3916

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	32.2512 / 20.3323	216.0088	1.0594	0.0266	250.4123
Arena	40.3847 / 2.57775	189.4839	1.3232	0.0326	232.2739
City Park	0 / 443.231	1,568.9866	0.0648	0.0134	1,574.5997
Fast Food Restaurant with Drive Thru	2.7318 / 0.17437	12.8176	0.0895	2.2000e-003	15.7121
General Office Building	6.57615 / 4.03054	43.6369	0.2160	5.4100e-003	50.6504
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e-003	715.3423
Hotel	2.28301 / 0.253668	11.0939	0.0748	1.8500e-003	13.5143
Racquet Club	404.243 / 247.762	2,682.4095	13.2777	0.3328	3,113.5397
Regional Shopping Center	2.74068 / 1.67977	18.1862	0.0900	2.2600e-003	21.1091

Single Family Housing	157.673 / 99.4024	1,056.0431	5.1793	0.1299	1,224.237 9
Total		6,511.4586	21.4042	0.5531	7,211.391 6

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	22.5759 / 20.3323	172.7984	0.7425	0.0188	196.9581
Arena	28.2693 / 2.57775	135.3762	0.9264	0.0228	165.3390
City Park	0 / 443.231	1,568.9866	0.0648	0.0134	1,574.5997
Fast Food Restaurant with Drive Thru	1.91226 / 0.17437	9.1575	0.0627	1.5400e-003	11.1843
General Office Building	4.6033 / 4.03054	34.8261	0.1514	3.8300e-003	39.7509
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e-003	715.3423
Hotel	1.59811 / 0.253668	8.0351	0.0524	1.2900e-003	9.7303
Racquet Club	282.97 / 247.762	2,140.8013	9.3053	0.2352	2,443.5338
Regional Shopping Center	1.91848 / 1.67977	14.5142	0.0631	1.5900e-003	16.5666
Single Family Housing	110.371 / 99.4024	844.7920	3.6299	0.0918	962.9060
Total		5,642.0797	15.0277	0.3964	6,135.9110

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8,615.4947	509.1612	0.0000	21,344.5234
Unmitigated	8,615.4947	509.1612	0.0000	21,344.5234

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	227.7	46.2210	2.7316	0.0000	114.5107
Arena	2.58	0.5237	0.0310	0.0000	1.2975
City Park	31.99	6.4937	0.3838	0.0000	16.0878
Fast Food Restaurant with Drive Thru	103.67	21.0441	1.2437	0.0000	52.1358
General Office Building	34.41	6.9849	0.4128	0.0000	17.3048
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Hotel	49.27	10.0014	0.5911	0.0000	24.7780
Racquet Club	38959.5	7,908.4264	467.3746	0.0000	19,592.7917
Regional Shopping Center	38.85	7.8862	0.4661	0.0000	19.5377

Single Family Housing	2837.61	576.0092	34.0412	0.0000	1,427.0384
Total		8,615.4947	509.1612	0.0000	21,344.5234

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	227.7	46.2210	2.7316	0.0000	114.5107
Arena	2.58	0.5237	0.0310	0.0000	1.2975
City Park	31.99	6.4937	0.3838	0.0000	16.0878
Fast Food Restaurant with Drive-Thru	103.67	21.0441	1.2437	0.0000	52.1358
General Office Building	34.41	6.9849	0.4128	0.0000	17.3048
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Hotel	49.27	10.0014	0.5911	0.0000	24.7780
Racquet Club	38959.5	7,908.4264	467.3746	0.0000	19,592.7917
Regional Shopping Center	38.85	7.8862	0.4661	0.0000	19.5377
Single Family Housing	2837.61	576.0092	34.0412	0.0000	1,427.0384
Total		8,615.4947	509.1612	0.0000	21,344.5234

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

East Lake Specific Plan - 2040 Project Buildout - South Coast AQMD Air District, Winter

East Lake Specific Plan - 2040 Project Buildout

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	229.00	1000sqft	5.26	229,000.00	0
Arena	30.00	Acre	30.00	1,306,800.00	0
City Park	448.00	Acre	448.00	19,514,880.00	0
Fast Food Restaurant with Drive Thru	67.50	1000sqft	1.55	67,500.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Hotel	540.00	Room	18.00	784,080.00	0
Racquet Club	8,252.00	1000sqft	189.44	8,252,000.00	0
Apartments Low Rise	1,050.00	Dwelling Unit	65.63	1,050,000.00	3003
Single Family Housing	2,590.00	Dwelling Unit	840.91	4,662,000.00	7407
Regional Shopping Center	229.00	1000sqft	5.26	229,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operation only.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land use.

Construction Phase - Operation only.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Energy Use -

Energy Mitigation - City CAP measure: E-1.3

Water Mitigation - City CAP measure: E-4.2

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2040

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					
2015	68,305.3862	24.8603	236.9827	0.4382	39.1106	0.5783	39.6889	10.3723	0.5512	10.9235	0.0000	43,493.4418	43,493.4418	2.0523	0.0000	43,544.7504
Maximum	68,305.3862	24.8603	236.9827	0.4382	39.1106	0.5783	39.6889	10.3723	0.5512	10.9235	0.0000	43,493.4418	43,493.4418	2.0523	0.0000	43,544.7504

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					
2015	68,305.386 2	24.8603	236.9827	0.4382	39.1106	0.5783	39.6889	10.3723	0.5512	10.9235	0.0000	43,493.44 18	43,493.441 8	2.0523	0.0000	43,544.75 04
Maximum	68,305.386 2	24.8603	236.9827	0.4382	39.1106	0.5783	39.6889	10.3723	0.5512	10.9235	0.0000	43,493.44 18	43,493.441 8	2.0523	0.0000	43,544.75 04

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	1,330.0619	78.9840	2,151.125 0	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.58 30	66,062.91 11	100,158.49 41	102.1999	2.3142	103,403.1 137
Energy	14.6327	131.1398	97.9189	0.7982		10.1099	10.1099		10.1099	10.1099		159,629.4 434	159,629.44 34	3.0596	2.9265	160,578.0 414
Mobile	188.3398	1,410.3446	2,096.113 6	11.7362	1,278.778 1	4.9378	1,283.715 9	342.0440	4.5943	346.6382		1,210,116. 5132	1,210,116. 5132	48.8565		1,211,337. 9264
Total	1,533.0344	1,620.4684	4,345.157 4	17.2727	1,278.778 1	294.7701	1,573.548 1	342.0440	294.4266	636.4705	34,095.58 30	1,435,808. 8677	1,469,904. 4507	154.1160	5.2407	1,475,319. 0814

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	1,330.0619	78.9840	2,151.1250	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.5830	66,062.9111	100,158.4941	102.1999	2.3142	103,403.1137
Energy	13.3365	119.5860	89.7050	0.7275		9.2143	9.2143		9.2143	9.2143		145,489.3096	145,489.3096	2.7886	2.6673	146,353.8799
Mobile	188.3398	1,410.3446	2,096.1136	11.7362	1,278.7781	4.9378	1,283.7159	342.0440	4.5943	346.6382		1,210,116.5132	1,210,116.5132	48.8565		1,211,337.9264
Total	1,531.7382	1,608.9146	4,336.9435	17.2020	1,278.7781	293.8745	1,572.6526	342.0440	293.5310	635.5750	34,095.5830	1,421,668.7339	1,455,764.3169	153.8450	4.9815	1,461,094.9199

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.08	0.71	0.19	0.41	0.00	0.30	0.06	0.00	0.30	0.14	0.00	0.98	0.96	0.18	4.95	0.96

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 11,566,800; Residential Outdoor: 3,855,600; Non-Residential Indoor: 16,312,320; Non-Residential Outdoor: 5,437,440;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	3,499.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	68,275.7748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643
Total	68,276.1814	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.3643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	29.2048	22.2899	235.0810	0.4353	39.1106	0.3575	39.4680	10.3723	0.3303	10.7027		43,211.9938	43,211.9938	2.0157		43,262.3861

Total	29.2048	22.2899	235.0810	0.4353	39.1106	0.3575	39.4680	10.3723	0.3303	10.7027		43,211.9938	43,211.9938	2.0157		43,262.3861
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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	68,275.7748					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643
Total	68,276.1814	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.3643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	29.2048	22.2899	235.0810	0.4353	39.1106	0.3575	39.4680	10.3723	0.3303	10.7027		43,211.9938	43,211.9938	2.0157		43,262.3861
Total	29.2048	22.2899	235.0810	0.4353	39.1106	0.3575	39.4680	10.3723	0.3303	10.7027		43,211.9938	43,211.9938	2.0157		43,262.3861

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	188.3398	1,410.3446	2,096.1136	11.7362	1,278.7781	4.9378	1,283.7159	342.0440	4.5943	346.6382		1,210,116.5132	1,210,116.5132	48.8565		1,211,337.9264
Unmitigated	188.3398	1,410.3446	2,096.1136	11.7362	1,278.7781	4.9378	1,283.7159	342.0440	4.5943	346.6382		1,210,116.5132	1,210,116.5132	48.8565		1,211,337.9264

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	6,919.50	7,518.00	6373.50	23,670,611	23,670,611
Arena	999.90	0.00	0.00	1,541,633	1,541,633
City Park	846.72	10,192.00	7499.52	9,012,916	9,012,916
Fast Food Restaurant with Drive Thru	33,488.10	48,737.03	36633.60	38,007,896	38,007,896
General Office Building	2,525.87	563.34	240.45	6,182,048	6,182,048
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Hotel	4,411.80	4,422.60	3213.00	10,122,342	10,122,342
Racquet Club	115,775.56	176,180.20	143584.80	261,792,962	261,792,962
Regional Shopping Center	9,778.30	11,443.13	5779.96	20,427,934	20,427,934
Single Family Housing	24,656.80	25,666.90	22325.80	83,611,215	83,611,215
Total	200,254.31	285,706.78	226,644.35	456,539,286	456,539,286

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50

General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Arena	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
City Park	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Fast Food Restaurant with Drive Thru	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Golf Course	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Hotel	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Racquet Club	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Apartments Low Rise	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Single Family Housing	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Regional Shopping Center	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day				
NaturalGas Mitigated	13.3365	119.5860	89.7050	0.7275		9.2143	9.2143		9.2143	9.2143	145,489.3096	145,489.3096	2.7886	2.6673	146,353.8799
NaturalGas Unmitigated	14.6327	131.1398	97.9189	0.7982		10.1099	10.1099		10.1099	10.1099	159,629.4434	159,629.4434	3.0596	2.9265	160,578.0414

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					
Apartments Low Rise	56966.7	0.6144	5.2499	2.2340	0.0335		0.4245	0.4245		0.4245	0.4245		6,701.9681	6,701.9681	0.1285	0.1229	6,741.7945
Arena	116574	1.2572	11.4288	9.6002	0.0686		0.8686	0.8686		0.8686	0.8686		13,714.5554	13,714.5554	0.2629	0.2514	13,796.0541
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
Fast Food Restaurant with Drive Thru	50639.8	0.5461	4.9647	4.1703	0.0298		0.3773	0.3773		0.3773	0.3773		5,957.6229	5,957.6229	0.1142	0.1092	5,993.0261
General Office Building	2189.62	0.0236	0.2147	0.1803	1.2900e-003		0.0163	0.0163		0.0163	0.0163		257.6019	257.6019	4.9400e-003	4.7200e-003	259.1327
Golf Course	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
Hotel	129513	1.3967	12.6973	10.6658	0.0762		0.9650	0.9650		0.9650	0.9650		15,236.8036	15,236.8036	0.2920	0.2793	15,327.3483
Racquet Club	736124	7.9386	72.1690	60.6219	0.4330		5.4848	5.4848		5.4848	5.4848		86,602.7784	86,602.7784	1.6599	1.5877	87,117.4154
Regional Shopping Center	1399.1	0.0151	0.1372	0.1152	8.2000e-004		0.0104	0.0104		0.0104	0.0104		164.5995	164.5995	3.1500e-003	3.0200e-003	165.5777
Single Family Housing	263445	2.8411	24.2783	10.3312	0.1550		1.9629	1.9629		1.9629	1.9629		30,993.5136	30,993.5136	0.5940	0.5682	31,177.6926
Total		14.6327	131.1398	97.9189	0.7981		10.1099	10.1099		10.1099	10.1099		159,629.4434	159,629.4434	3.0596	2.9265	160,578.0414

Mitigated

Category	lb/day										lb/day					
Mitigated	1,330.0619	78.9840	2,151.1250	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.5830	66,062.9111	100,158.4941	102.1999	2.3142	103,403.1137
Unmitigated	1,330.0619	78.9840	2,151.1250	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.5830	66,062.9111	100,158.4941	102.1999	2.3142	103,403.1137

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	37.4114					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	329.8046					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	953.8110	75.5239	1,851.1287	4.7224		278.0535	278.0535		278.0535	278.0535	34,095.5830	65,520.0000	99,615.5830	101.6796	2.3142	102,847.1949
Landscaping	9.0349	3.4602	299.9963	0.0159		1.6689	1.6689		1.6689	1.6689		542.9111	542.9111	0.5203		555.9188
Total	1,330.0619	78.9840	2,151.1250	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.5830	66,062.9111	100,158.4941	102.1999	2.3142	103,403.1137

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	37.4114					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	329.8046					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Hearth	953.8110	75.5239	1,851.1287	4.7224		278.0535	278.0535		278.0535	278.0535	34,095.5830	65,520.0000	99,615.5830	101.6796	2.3142	102,847.1949
Landscaping	9.0349	3.4602	299.9963	0.0159		1.6689	1.6689		1.6689	1.6689		542.9111	542.9111	0.5203		555.9188
Total	1,330.0619	78.9840	2,151.1250	4.7383		279.7224	279.7224		279.7224	279.7224	34,095.5830	66,062.9111	100,158.4941	102.1999	2.3142	103,403.1137

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

East Lake Specific Plan - 2040 Project Buildout - South Coast AQMD Air District, Annual

East Lake Specific Plan - 2040 Project Buildout

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	229.00	1000sqft	5.26	229,000.00	0
Arena	30.00	Acre	30.00	1,306,800.00	0
City Park	448.00	Acre	448.00	19,514,880.00	0
Fast Food Restaurant with Drive Thru	67.50	1000sqft	1.55	67,500.00	0
Golf Course	169.00	Acre	169.00	7,361,640.00	0
Hotel	540.00	Room	18.00	784,080.00	0
Racquet Club	8,252.00	1000sqft	189.44	8,252,000.00	0
Apartments Low Rise	1,050.00	Dwelling Unit	65.63	1,050,000.00	3003
Single Family Housing	2,590.00	Dwelling Unit	840.91	4,662,000.00	7407
Regional Shopping Center	229.00	1000sqft	5.26	229,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operation only.

Land Use - Recreation/Active Sport land use assumed 70% city park and 30% racquet club. City park: building area is captured in the racquet club land use.

Construction Phase - Operation only.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Energy Use -

Energy Mitigation - City CAP measure: E-1.3

Water Mitigation - City CAP measure: E-4.2

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	2.00
tblLandUse	BuildingSpaceSquareFeet	0.00	6,500.00
tblLandUse	GreenSpaceSquareFeet	7,361,640.00	7,355,140.00
tblProjectCharacteristics	OperationalYear	2018	2040

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					
2015	68.3028	0.0255	0.2429	4.5000e-004	0.0384	5.8000e-004	0.0390	0.0102	5.5000e-004	0.0108	0.0000	40.1204	40.1204	1.8900e-003	0.0000	40.1677
Maximum	68.3028	0.0255	0.2429	4.5000e-004	0.0384	5.8000e-004	0.0390	0.0102	5.5000e-004	0.0108	0.0000	40.1204	40.1204	1.8900e-003	0.0000	40.1677

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					
2015	68.3028	0.0255	0.2429	4.5000e-004	0.0384	5.8000e-004	0.0390	0.0102	5.5000e-004	0.0108	0.0000	40.1204	40.1204	1.8900e-003	0.0000	40.1677
Maximum	68.3028	0.0255	0.2429	4.5000e-004	0.0384	5.8000e-004	0.0390	0.0102	5.5000e-004	0.0108	0.0000	40.1204	40.1204	1.8900e-003	0.0000	40.1677

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.3077
Energy	2.6705	23.9330	17.8702	0.1457		1.8451	1.8451		1.8451	1.8451	0.0000	74,757.7709	74,757.7709	2.5018	0.8973	75,087.7216
Mobile	25.2146	195.7710	291.1886	1.6469	173.5004	0.6787	174.1791	46.4780	0.6315	47.1094	0.0000	154,046.3476	154,046.3476	6.0002	0.0000	154,196.3523
Waste						0.0000	0.0000		0.0000	0.0000	10,612.6010	0.0000	10,612.6010	627.1868	0.0000	26,292.2697
Water						0.0000	0.0000		0.0000	0.0000	272.0277	7,892.0528	8,164.0805	28.2657	0.7271	9,087.4075

Total	107.9540	221.0806	369.6975	1.8535	173.5004	6.2081	179.7085	46.4780	6.1608	52.6388	11,271.26 61	237,500.7 207	248,771.98 68	665.1665	1.6507	265,893.0 588
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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	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.307 7
Energy	2.4339	21.8244	16.3712	0.1328		1.6816	1.6816		1.6816	1.6816	0.0000	70,791.98 47	70,791.984 7	2.3899	0.8405	71,102.21 10
Mobile	25.2146	195.7710	291.1886	1.6469	173.5004	0.6787	174.1791	46.4780	0.6315	47.1094	0.0000	154,046.3 476	154,046.34 76	6.0002	0.0000	154,196.3 523
Waste						0.0000	0.0000		0.0000	0.0000	10,612.60 10	0.0000	10,612.601 0	627.1868	0.0000	26,292.26 97
Water						0.0000	0.0000		0.0000	0.0000	190.4194	6,824.850 6	7,015.2699	19.8397	0.5201	7,666.251 1
Total	107.7174	218.9720	368.1984	1.8406	173.5004	6.0446	179.5450	46.4780	5.9974	52.4753	11,189.65 78	232,467.7 322	243,657.39 00	656.6285	1.3869	260,486.3 918

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.22	0.95	0.41	0.70	0.00	2.63	0.09	0.00	2.65	0.31	0.72	2.12	2.06	1.28	15.98	2.03

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/1/2015	12/2/2015	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 11,566,800; Residential Outdoor: 3,855,600; Non-Residential Indoor: 16,312,320; Non-Residential Outdoor: 5,437,440;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	3,499.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2015

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	68.2758					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-004	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562
Total	68.2762	2.5700e-003	1.9000e-003	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	0.2553	0.2553	3.0000e-005	0.0000	0.2562

Unmitigated Construction Off-Site

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	0.0266	0.0229	0.2410	4.4000e-004	0.0384	3.6000e-004	0.0388	0.0102	3.3000e-004	0.0105	0.0000	39.8651	39.8651	1.8600e-003	0.0000	39.9115
Total	0.0266	0.0229	0.2410	4.4000e-004	0.0384	3.6000e-004	0.0388	0.0102	3.3000e-004	0.0105	0.0000	39.8651	39.8651	1.8600e-003	0.0000	39.9115

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	25.2146	195.7710	291.1886	1.6469	173.5004	0.6787	174.1791	46.4780	0.6315	47.1094	0.0000	154,046.3476	154,046.3476	6.0002	0.0000	154,196.3523
Unmitigated	25.2146	195.7710	291.1886	1.6469	173.5004	0.6787	174.1791	46.4780	0.6315	47.1094	0.0000	154,046.3476	154,046.3476	6.0002	0.0000	154,196.3523

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	6,919.50	7,518.00	6373.50	23,670,611	23,670,611
Arena	999.90	0.00	0.00	1,541,633	1,541,633
City Park	846.72	10,192.00	7499.52	9,012,916	9,012,916
Fast Food Restaurant with Drive Thru	33,488.10	48,737.03	36633.60	38,007,896	38,007,896
General Office Building	2,525.87	563.34	240.45	6,182,048	6,182,048
Golf Course	851.76	983.58	993.72	2,169,728	2,169,728
Hotel	4,411.80	4,422.60	3213.00	10,122,342	10,122,342
Racquet Club	115,775.56	176,180.20	143584.80	261,792,962	261,792,962
Regional Shopping Center	9,778.30	11,443.13	5779.96	20,427,934	20,427,934
Single Family Housing	24,656.80	25,666.90	22325.80	83,611,215	83,611,215

Total	200,254.31	285,706.78	226,644.35	456,539,286	456,539,286
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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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Fast Food Restaurant with Drive Thru	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Golf Course	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Arena	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
City Park	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Fast Food Restaurant with Drive Thru	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Golf Course	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Hotel	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Racquet Club	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Apartments Low Rise	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Single Family Housing	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722
Regional Shopping Center	0.550167	0.040939	0.205797	0.110554	0.011916	0.005723	0.023174	0.041705	0.002259	0.001412	0.004923	0.000709	0.000722

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	46,704.5978	46,704.5978	1.9282	0.3989	46,871.6849
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	48,329.3263	48,329.3263	1.9953	0.4128	48,502.2259
NaturalGas Mitigated	2.4339	21.8244	16.3712	0.1328		1.6816	1.6816		1.6816	1.6816	0.0000	24,087.3869	24,087.3869	0.4617	0.4416	24,230.5262
NaturalGas Unmitigated	2.6705	23.9330	17.8702	0.1457		1.8451	1.8451		1.8451	1.8451	0.0000	26,428.4446	26,428.4446	0.5066	0.4845	26,585.4956

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					
Apartments Low Rise	2.07929e+007	0.1121	0.9581	0.4077	6.1200e-003		0.0775	0.0775		0.0775	0.0775	0.0000	1,109.5860	1,109.5860	0.0213	0.0203	1,116.1797
Arena	4.25494e+007	0.2294	2.0858	1.7520	0.0125		0.1585	0.1585		0.1585	0.1585	0.0000	2,270.5985	2,270.5985	0.0435	0.0416	2,284.0915
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
Fast Food Restaurant with Drive Thru	1.84835e+007	0.0997	0.9061	0.7611	5.4400e-003		0.0689	0.0689		0.0689	0.0689	0.0000	986.3513	986.3513	0.0189	0.0181	992.2127
General Office Building	799210	4.3100e-003	0.0392	0.0329	2.4000e-004		2.9800e-003	2.9800e-003		2.9800e-003	2.9800e-003	0.0000	42.6489	42.6489	8.2000e-004	7.8000e-004	42.9023
Golf Course	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
Hotel	4.72722e+007	0.2549	2.3173	1.9465	0.0139		0.1761	0.1761		0.1761	0.1761	0.0000	2,522.6237	2,522.6237	0.0484	0.0463	2,537.6144

Racquet Club	2.68685e+008	1.4488	13.1708	11.0635	0.0790		1.0010	1.0010		1.0010	1.0010	0.0000	14,338.0612	14,338.0612	0.2748	0.2629	14,423.2652
Regional Shopping Center	510670	2.7500e-003	0.0250	0.0210	1.5000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	27.2513	27.2513	5.2000e-004	5.0000e-004	27.4132
Single Family Housing	9.61574e+007	0.5185	4.4308	1.8854	0.0283		0.3582	0.3582		0.3582	0.3582	0.0000	5,131.3238	5,131.3238	0.0984	0.0941	5,161.8167
Total		2.6705	23.9330	17.8702	0.1457		1.8450	1.8450		1.8450	1.8450	0.0000	26,428.4446	26,428.4446	0.5066	0.4845	26,585.4956

Mitigated

	Natural Gas 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					
Apartments Low Rise	1.86237e+007	0.1004	0.8582	0.3652	5.4800e-003		0.0694	0.0694		0.0694	0.0694	0.0000	993.8290	993.8290	0.0191	0.0182	999.7349
Arena	3.95248e+007	0.2131	1.9375	1.6275	0.0116		0.1473	0.1473		0.1473	0.1473	0.0000	2,109.1949	2,109.1949	0.0404	0.0387	2,121.7288
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
Fast Food Restaurant with Drive Thru	1.76932e+007	0.0954	0.8673	0.7285	5.2000e-003		0.0659	0.0659		0.0659	0.0659	0.0000	944.1748	944.1748	0.0181	0.0173	949.7856
General Office Building	679329	3.6600e-003	0.0333	0.0280	2.0000e-004		2.5300e-003	2.5300e-003		2.5300e-003	2.5300e-003	0.0000	36.2516	36.2516	6.9000e-004	6.6000e-004	36.4670
Golf Course	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
Hotel	4.0753e+007	0.2198	1.9977	1.6781	0.0120		0.1518	0.1518		0.1518	0.1518	0.0000	2,174.7326	2,174.7326	0.0417	0.0399	2,187.6560
Racquet Club	2.49586e+008	1.3458	12.2346	10.2771	0.0734		0.9298	0.9298		0.9298	0.9298	0.0000	13,318.8523	13,318.8523	0.2553	0.2442	13,397.9996
Regional Shopping Center	444375	2.4000e-003	0.0218	0.0183	1.3000e-004		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	23.7135	23.7135	4.5000e-004	4.3000e-004	23.8544
Single Family Housing	8.40764e+007	0.4534	3.8741	1.6486	0.0247		0.3132	0.3132		0.3132	0.3132	0.0000	4,486.6382	4,486.6382	0.0860	0.0823	4,513.3001
Total		2.4339	21.8244	16.3712	0.1328		1.6816	1.6816		1.6816	1.6816	0.0000	24,087.3869	24,087.3869	0.4617	0.4416	24,230.5262

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	5.52623e+006	1,760.7766	0.0727	0.0150	1,767.0758
Arena	1.35123e+007	4,305.3121	0.1777	0.0368	4,320.7145
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	3.25958e+006	1,038.5704	0.0429	8.8700e-003	1,042.2860
General Office Building	2.23504e+006	712.1316	0.0294	6.0800e-003	714.6793
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	1.45839e+007	4,646.7392	0.1918	0.0397	4,663.3630
Racquet Club	8.53257e+007	27,186.5897	1.1224	0.2322	27,283.8505
Regional Shopping Center	2.97929e+006	949.2656	0.0392	8.1100e-003	952.6617
Single Family Housing	2.42606e+007	7,729.9411	0.3191	0.0660	7,757.5952
Total		48,329.3263	1.9953	0.4128	48,502.2259

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	5.36332e+006	1,708.8694	0.0706	0.0146	1,714.9829
Arena	1.30595e+007	4,161.0383	0.1718	0.0355	4,175.9246

City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	3.12815e+006	996.6964	0.0412	8.5100e-003	1,000.2621
General Office Building	2.12443e+006	676.8899	0.0280	5.7800e-003	679.3115
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Hotel	1.37853e+007	4,392.2927	0.1813	0.0375	4,408.0063
Racquet Club	8.24664e+007	26,275.5497	1.0848	0.2244	26,369.5513
Regional Shopping Center	2.81441e+006	896.7313	0.0370	7.6600e-003	899.9394
Single Family Housing	2.38419e+007	7,596.5300	0.3136	0.0649	7,623.7068
Total		46,704.5978	1.9282	0.3989	46,871.6849

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	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.3077
Unmitigated	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.3077

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	6.8276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	60.1893					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	11.9226	0.9441	23.1391	0.0590		3.4757	3.4757		3.4757	3.4757	386.6374	742.9843	1,129.6217	1.1530	0.0262	1,166.2676
Landscaping	1.1294	0.4325	37.4995	1.9900e-003		0.2086	0.2086		0.2086	0.2086	0.0000	61.5651	61.5651	0.0590	0.0000	63.0401
Total	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.3077

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	6.8276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	60.1893					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	11.9226	0.9441	23.1391	0.0590		3.4757	3.4757		3.4757	3.4757	386.6374	742.9843	1,129.6217	1.1530	0.0262	1,166.2676
Landscaping	1.1294	0.4325	37.4995	1.9900e-003		0.2086	0.2086		0.2086	0.2086	0.0000	61.5651	61.5651	0.0590	0.0000	63.0401
Total	80.0689	1.3766	60.6386	0.0610		3.6843	3.6843		3.6843	3.6843	386.6374	804.5494	1,191.1868	1.2120	0.0262	1,229.3077

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7,015.2699	19.8397	0.5201	7,666.2511
Unmitigated	8,164.0805	28.2657	0.7271	9,087.4075

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	68.4117 / 43.1291	458.2005	2.2472	0.0564	531.1776
Arena	40.3847 / 2.57775	189.4839	1.3232	0.0326	232.2739
City Park	0 / 533.784	1,889.5322	0.0780	0.0161	1,896.2921
Fast Food Restaurant with Drive Thru	20.4885 / 1.30778	96.1316	0.6713	0.0165	117.8404
General Office Building	40.701 / 24.9458	270.0770	1.3369	0.0335	313.4851
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e-003	715.3423
Hotel	13.6981 / 1.52201	66.5636	0.4489	0.0111	81.0857
Racquet Club	488.049 / 299.127	3,238.5140	16.0304	0.4019	3,759.0241
Regional Shopping Center	16.9626 / 10.3964	112.5576	0.5572	0.0140	130.6484

Single Family Housing	168.749 / 106.385	1,130.2279	5.5431	0.1390	1,310.238 1
Total		8,164.0805	28.2657	0.7271	9,087.407 5

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	47.8882 / 43.1291	366.5420	1.5749	0.0399	417.7898
Arena	28.2693 / 2.57775	135.3762	0.9264	0.0228	165.3390
City Park	0 / 533.784	1,889.5322	0.0780	0.0161	1,896.292 1
Fast Food Restaurant with Drive Thru	14.342 / 1.30778	68.6810	0.4700	0.0116	83.8821
General Office Building	28.4907 / 24.9458	215.5454	0.9369	0.0237	246.0259
Golf Course	0 / 201.36	712.7923	0.0294	6.0900e- 003	715.3423
Hotel	9.58864 / 1.52201	48.2108	0.3143	7.7600e- 003	58.3821
Racquet Club	341.634 / 299.127	2,584.6222	11.2344	0.2840	2,950.115 7
Regional Shopping Center	11.8738 / 10.3964	89.8310	0.3905	9.8700e- 003	102.5340
Single Family Housing	118.124 / 106.385	904.1369	3.8849	0.0983	1,030.548 2
Total		7,015.2699	19.8397	0.5201	7,666.251 1

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10,612.6010	627.1868	0.0000	26,292.2697
Unmitigated	10,612.6010	627.1868	0.0000	26,292.2697

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	483	98.0446	5.7943	0.0000	242.9014
Arena	2.58	0.5237	0.0310	0.0000	1.2975
City Park	38.53	7.8212	0.4622	0.0000	19.3768
Fast Food Restaurant with Drive Thru	777.53	157.8316	9.3276	0.0000	391.0210
General Office Building	212.97	43.2310	2.5549	0.0000	107.1029
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Hotel	295.65	60.0143	3.5467	0.0000	148.6828
Racquet Club	47036.4	9,547.9641	564.2685	0.0000	23,654.6770
Regional Shopping Center	240.45	48.8092	2.8845	0.0000	120.9227

Single Family Housing	3036.87	616.4572	36.4316	0.0000	1,527.2465
Total		10,612.6010	627.1867	0.0000	26,292.2697

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	483	98.0446	5.7943	0.0000	242.9014
Arena	2.58	0.5237	0.0310	0.0000	1.2975
City Park	38.53	7.8212	0.4622	0.0000	19.3768
Fast Food Restaurant with Drive Thru	777.53	157.8316	9.3276	0.0000	391.0210
General Office Building	212.97	43.2310	2.5549	0.0000	107.1029
Golf Course	157.17	31.9041	1.8855	0.0000	79.0410
Hotel	295.65	60.0143	3.5467	0.0000	148.6828
Racquet Club	47036.4	9,547.9641	564.2685	0.0000	23,654.6770
Regional Shopping Center	240.45	48.8092	2.8845	0.0000	120.9227
Single Family Housing	3036.87	616.4572	36.4316	0.0000	1,527.2465
Total		10,612.6010	627.1867	0.0000	26,292.2697

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Appendix B

Calculation Tables

Table 1
East Lake Specific Plan Land Use by Phase

Table B.1. Land Use Table - City of Lake Elsinore

Land Use Type	Existing/Baseline Development	Proposed Phase I (Year 2022) Development		Proposed Buildout (Year 2040) Development (SPN #11)		Adopted Specific Plan Amendment #10 Development Totals		Proposed 2040 Buildout Totals vs. Adopted SPA #10 Totals Difference
		Phase I Additional	Total After Phase I	Phase II Additional	Total After Buildout			
						Total	Units	
Golf Course (18 Hole)	169 AC	--	169 AC	--	169 AC	169 AC	--	--
Hotel	--	90 RM	90 RM	--	90 RM	--	90 RM	--
Single-Family Residential	600 DU	1,379 DU	1,979 DU	--	1,979 DU	--	1,979 DU	--
Preservation/Mitigation	100.43 AC	--	100.43 AC	--	100.43 AC	--	100.43 AC	--
Active Recreation 2 (e.g. Ski/Water/Hockey)	--	60-100 AC	60-100 AC	--	60-100 AC	--	--	60-100 AC
Action Sport 1 (e.g. Motocross)	93 AC	--	--	--	--	0	--	(93 AC)
Commercial	--	43,500 SF	43,500 SF	246,500 SF	290,000 SF	392,040 SF (30 AC)	--	(102,040 SF)
Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
Multi-Family Residential	--	300 DU	300 DU	300 DU	600 DU	--	1,301 DU	(701)
Single-Family Residential	--	--	--	--	--	--	930 DU	(930 DU)
Restaurant	--	4,500 SF	4,500 SF	25,500 SF	30,000 SF	--	--	30,000 SF
Park	--	N/A	N/A	N/A	N/A	7.5 AC	--	N/A
Active Recreation 1 or 2	--	100 AC	100 AC	--	100 AC	--	--	100 AC
Active Recreation 2 (e.g. Ski/Water/Hockey)	--	--	--	60-100 AC	60-100 AC	--	--	60-100 AC
Commercial	--	30,000 SF	30,000 SF	70,000 SF	100,000 SF	--	--	100,000 SF
Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
Restaurant	--	4,500 SF	4,500 SF	25,500 SF	30,000 SF	--	--	30,000 SF
Skydive Airport	150 AC	--	150 AC	--	150 AC	150 AC	--	--
Multi-Family Residential	--	--	--	--	--	--	48 DU	(48 DU)
Single-Family Residential	--	--	--	--	--	--	215 DU	(215 DU)
Active Open Space	--	--	--	--	--	186.6	--	(186.6)
Limited Industrial	--	--	--	--	--	## SF	--	(## SF)
Preservation/Mitigation	--	20.46 AC	20.46 AC	--	20.46 AC	--	--	20.46 AC
Residential	311 DU	--	311 DU	--	311 DU	--	311 DU	--
Park	5.5	--	5.5	--	5.5	5.5	--	--
Preservation/Mitigation	11.73	--	11.73	--	11.73	11.73	--	--
Preservation/Mitigation	422.6 Ac	--	422.6 AC	--	422.6 AC	422.6 AC	--	--
Active Recreation 1 (Baseball/Concert)	--	100 AC	100 AC	--	100 AC	--	--	100 AC
Action Sport 1 (Motocross)	--	93 AC	93 AC	--	93 AC	--	--	93 AC
Action Sport 2 (Hard Track)	--	80 AC	80 AC	--	80 AC	--	--	80 AC
Commercial	--	--	--	10,000 SF	10,000 SF	818,928 SF	--	(808,928 SF)
Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
Multi-Family Residential	--	--	--	--	--	--	0 DU	(0 DU)
Single-Family Residential	--	--	--	--	--	--	1,189 DU	(1,189 DU)
Restaurant	--	--	--	7,500 SF	7,500 SF	7,500 SF	--	7,500 SF
Preservation/Mitigation	--	70.18 AC	70.18 AC	--	70.18 AC	70.18 AC	--	--
Action Sports Uses	--	--	--	8.5 AC	8.5 AC	0 AC	--	7.5 AC
Preservation/Mitigation	--	174.4 AC	174.4 AC	--	174.4 AC		--	174.4 AC

Table 1
East Lake Specific Plan Land Use by Phase

Table B.1. Land Use Table - City of Lake Elsinore

Land Use Type	Existing/Baseline Development	Proposed Phase I (Year 2022) Development		Proposed Buildout (Year 2040) Development (SPN #11)		Adopted Specific Plan Amendment #10 Development Totals		Proposed 2040 Buildout Totals vs. Adopted SPA #10 Totals Difference
		Phase I Additional	Total After Phase I	Phase II Additional	Total After Buildout			
						Total	Units	
Commercial/Overlay	--	--	--	58,000 SF	58,000 SF	352,836 SF	--	(294,836 SF)
Multi-Family Residential	325 DU	--	195 DU	255 DU	450 DU	--	535 DU	(85 DU)
Single-Family Residential			130 DU	170 DU	300 DU	--	613 DU	(313 DU)

Table B.2. Skylark Airport Emissions

Aircraft Type	Emission Factors							Activity: Baseline and Project	Fuel Consumption
	PM10 (ton/LTO)	PM2.5 (ton/LTO)	NOX (ton/LTO)	SOX (ton/LTO)	CO (ton/LTO)	VOC (ton/LTO)	CO2 (kg/gal)	LTO/peak day LTO/year	kg/LTO
Air Taxi - Piston	3.02E-04	3.92E-05	7.90E-05	7.50E-06	1.41E-02	8.48E-05	8.31	47 3,012	200

Notes:

LTO - landing and take-off cycle

Activity would not change from baseline.

Source:

Criteria Pollutant Emission Factors:

SCAQMD 2016. Draft Aircraft Emissions Inventory for AQMP. Prepared by Integra Environmental Consulting. August. Based on USEPA 2014 NEI Data.

GHG Emission Factors:

The Climate Registry Default Emission Factors. April 2016.

Fuel Consumption:

ICAO 2011. Airport Air Quality Manual. Table B-1. Available: <http://www.icao.int/environmental-protection/Documents/Publications/FINAL.Doc%209889.Corrigendum.en.pdf>

Aviation gasoline density (lb/gal): 6.01

Table B.2. Skylark Airport Emissions (continued)

Emissions (lb/day)						Emissions (Mton/yr)
PM10 total	PM2.5 total	NOX	SOX	CO	VOC	CO2e
28	4	7	1	1,309	8	1,836.31

Table B.3. Target Efficiency for Land Use Sector

	2020	2022	2030	2040	2050
California Adjusted Land Use Sector Emissions Target (MT CO ₂ e)	266,549,666	245,225,693	159,929,800	106,619,866	53,309,933
California Projected Population	40,619,346	41,312,597	44,085,600	47,233,240	49,779,362
California Projected Adjusted Employment	14,987,000	15,302,000	16,580,000	18,141,000	19,803,000
California Projected Service Population (Population + Employment)	55,606,346	56,614,597	60,665,600	65,374,240	69,582,362
<i>Target Efficiency Metric (MT CO₂e/SP)</i>	<i>4.8</i>	<i>4.3</i>	<i>2.6</i>	<i>1.6</i>	<i>0.8</i>

Notes:

2020 target efficiency reflects the California AB32 goal of achieving 1990 emissions by 2020.

2030 target efficiency reflects the California B-30-15 goal of achieving 40% below 1990 emissions by 2030.

2050 target efficiency reflects the California EO-S-03-05 goal of achieving 80% below 1990 emissions by 2050.

2022 and 2040 target efficiencies for the proposed Project were interpolated from the 2020, 2030, and 2050 target efficiencies.

Adjusted land use emissions exclude construction and are adjusted for regulatory requirements (AEP 2016).

Adjusted employment excludes farm, construction, and manufacturing sectors.

Sources:

GHG Emissions from:

ARB 1990 GHG Emissions Inventory. *Inventory Query Tool*. Available: <https://www.arb.ca.gov/cc/inventory/inventory.htm>

AEP 2016. Association of Environmental Professionals. Draft White Paper. Beyond 2020 and Newhall. Table T-1, Adjusted Statewide 1990 Land Use Sector Emissions Inventory 1 (MMT CO₂e/yr) and Table T-2, Example 2020, 2030 and 2050 GHG Efficiency Metrics for the Land Use Sector. April 2016.

Population from:

California Department of Finance. 2014. Report P1: State and County Population Projections. December. Available: <http://www.dof.ca.gov/Forecasting/Demographics/projections/>

Employment from:

California Economic Forecast. 2016. California County-Level Economic Forecast 2016-2040. Prepared for Caltrans Economic Analysis Branch. October. Available: http://www.dot.ca.gov/hq/tpp/offices/eab/index_files/2016/FullReport2016.pdf

Table B.4. Employment (thousands)

Year	2020	2022	2030	2040	2050
Total	17,512	17,852	19,211	20,849	22,596
farm	418	418	420	423	425
construction	776	792	841	878	923
mfg	1,331	1,340	1,370	1,407	1,445
transport & utilities	599	603	658	786	938
wholesale and retail	2,497	2,513	2,581	2,672	2,767
financial	845	862	957	1,070	1,185
professional	2,726	2,823	3,218	3,599	3,990
information	527	539	591	650	714
health and education	2,644	2,705	2,997	3,382	3,779
leisure	1,993	2,052	2,173	2,354	2,550
government	2,542	2,570	2,687	2,776	2,868
<i>excluding farm, construction, and mfg:</i>	<i>14,987</i>	<i>15,302</i>	<i>16,580</i>	<i>18,141</i>	<i>19,803</i>

Source:

California Economic Forecast. 2016. California County-Level Economic Forecast 2016-2040. Prepared for Caltrans Economic Analysis Branch. October.

Table B.5. Project Employment

Land Use Designation		Project Land Use (sft or		Employee Population	
		2022	2040	2022	2040
Commercial Retail (sf/employee)	500	37,000	229,000	74	458
Commercial Tourist (sf/employee)	500				
Commercial Office (sf/employee)	300	37,000	229,000	123	763
Light Industrial (sf/employee)	1,030				
Heavy Industrial (sf/employee)	1,500				
Business Park (sf/employee)	600				
Open Space - Recreation (employee/acre)	0.15	731	856	110	128
<i>Total</i>				<i>307</i>	<i>1,350</i>
Source:					
Employment land use for nonresidential land uses was obtained from: County of Riverside General Plan, Appendix E-1, Non-Residential: Building Square Footage & Employment, Table E-5. December 8, 2015.					