Air Quality and Greenhouse Gas Analysis for the Rockport Ranch Project, Menifee, California

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Acronyms

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
APCD	Air Pollution Control District
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BAU	Business as Usual
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalGreen	California Green Building Standards Code
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California environmental Quality Act
CBC	California Building Code
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Menifee
CO	carbon monoxide
CO_2	carbon dioxide
CO_2E	carbon dioxide equivalent
dB	decibel
dB(A) Leq	A-weighted average sound level
EO	Executive Order
°F	degrees Fahrenheit
GHG	greenhouse gas
GWP	Global Warming Potential
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
KWh	kilowatt-hour
LOS	Level of Service
LST	Localized Significance Threshold
MMT	million metric ton
MPO	Metropolitan Planning Organization
MT	metric ton
MWh	megawatt-hour
NAAQS	National Ambient Air Quality Standards
NO_x	oxides of nitrogen
NO_2	nitrogen dioxide
N_2O	nitrous oxide
OSC	Open Space and Conservation Policy
Pb	lead
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter

PM_{10}	particulate matter less than 10 microns in diameter
project	Rockport Ranch Project
PV	photovoltaic
ROC	reactive organic compounds
ROG	reactive organic gases
RTP	Regional Transportation Plan
RV	recreational vehicle
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SIP	State Implementation Plan
SOx	oxides of sulfur
SO_2	sulfur dioxide
TAC	toxic air contaminant
U.S. EPA	U.S. Environmental Protection Agency
USC	United States Code
VOC	volatile organic compounds
WRCOG	Western Riverside Council of Governments

Executive Summary

This report provides the results of the air quality and greenhouse gas (GHG) emissions modeling performed for the proposed Rockport Ranch Project (project) in city of Menifee, California (City). The 79.68-acre project site is located south of Old Newport Road, west of Briggs Road, north of the Wilderness Lakes Recreational Vehicle (RV) Resort, and east of Camellia at the Lakes Residential Complex (under construction). The proposed project consists of subdivision of the site and construction of 305 single-family residences and associated amenities.

This analysis evaluates the significance of the proposed project in accordance with California Environmental Quality Act and guidance from the South Coast Air Quality Management District (SCAQMD). The project was evaluated to determine if it would (1) be inconsistent with the applicable air quality plan, (2) violate ambient air quality standards, (3) result in cumulative impacts to air quality, (4) impact sensitive receptors, (5) expose a substantial number of people to objectionable odors, (6) significantly contribute to cumulative statewide GHG emissions, and (7) conflict with regulations, plans, and policies aimed at reducing GHG emissions. Project emissions were calculated using the California Emissions Estimator Model Version 2016.3.2.

The General Plan land use designation for the project site is Agriculture (AG). Given that the proposed density of single-family residences was not anticipated under the existing General Plan land use designation, the project would result in emissions that were not accounted for in the SCAQMD 2016 Air Quality Management Plan (AQMP) and current regional growth projections. This inconsistency can only be corrected when SCAQMD amends AQMP based on updated Southern California Association of Governments (SCAG) growth projections after the project has been approved. As regional growth projection and the AQMP are periodically updated, this inconsistency would eventually be addressed and incorporated into the regional air quality plan. However, in the interim period, impacts would be significant. It is beyond the scope of the project to affect when regional agencies update regional growth forecasts and plans, therefore no mitigation is feasible at the project level. Impacts will remain significant and unavoidable.

With incorporation of identified mitigation measure AIR-1, which requires exclusion of wood-fueled fireplaces, the construction and operation of the project would not result in emissions in excess of SCAQMD significance thresholds for any pollutants and would result in less than significant direct and cumulative impacts to air quality. The project would also not emit criteria pollutants in excess of applicable ambient air quality standards or other toxic air contaminants in significant quantities proximate to sensitive receptors and thus would not result in a significant impact to sensitive receptors. The project is not anticipated to create objectionable odors affecting a substantial number of people; therefore, less than significant odor impacts are anticipated.

The significance of project GHG emissions was assessed based on performance standards derived from SCAQMD's *Interim CEQA GHG Significance Thresholds*. As the project would be complete after 2020, performance standards were reduced to match the trajectory needed to achieve the state's 2030 goals. The appropriate performance threshold for the first operational year of the project, 2021, was determined to be 4.6 metric tons (MT) of carbon dioxide equivalent (CO_2E) per service population (SP). Without mitigation, the

project would generate 4,587 MT CO_2E in 2021, the equivalent of approximately 4.8 MT CO_2E per SP. Identified mitigation requires the installation of solar photovoltaic panels capable of generating a total of 1,707,561 kilowatt-hours per year. With mitigation, the project would generate 4,201 MT CO_2E in 2021, the equivalent of approximately 4.4 MT CO_2E per SP. As mitigated emissions do not exceed the SCAQMD's performance standards, the project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the GHG reduction targets established in State Assembly Bill 32, Senate Assembly Bill 32, or other regulations implemented by the state to reduce GHG emissions. These emission levels are also consistent with policies of the City General Plan. Therefore, impacts to global climate change would be less than significant.

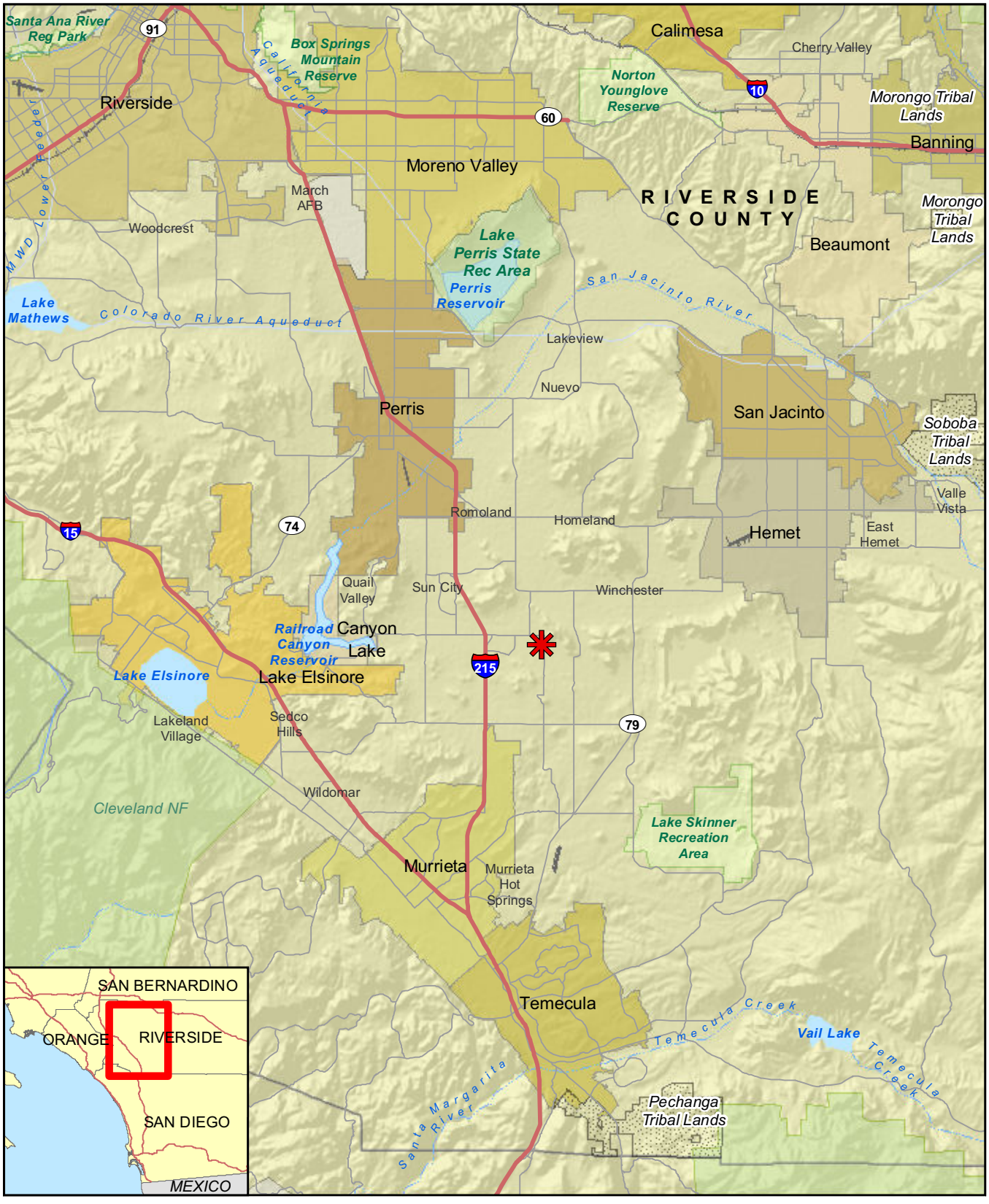
1.0 Introduction

1.1 Purpose of the Report

This report evaluates the significance of air quality and greenhouse gas (GHG) emissions associated with the proposed Rockport Ranch Project (project). This report characterizes existing conditions at the project site and in the region, identifies applicable rules and regulations, and assesses impacts to air quality and climate change from construction and operation of the proposed project. The significance of potential air quality and GHG impacts are assessed based on the air quality thresholds defined by the regional air quality management district, the South Coast Air Quality Management District (SCAQMD).

1.2 Project Description

The project site is located in the city of Menifee, California, south of Old Newport Road, west of Briggs Road, north of the Wilderness Lakes Recreational Vehicle (RV) Resort, and east of Camellia at the Lakes Residential Complex (under construction). Figure 1 shows the regional location of the project site. Figure 2 shows an aerial photograph of the project site and vicinity. The project site consists of single 79.68-acre parcel: Assessor's Parcel Number (APN) 364-190-004. The project applicant proposes to construct 305 detached single-family residences and associated amenities. Figure 3 shows the proposed site plan for the project. Project construction is anticipated to commence in 2018 and would last approximately three years, thus the first operational year would be 2021.



Project Location

FIGURE 1
Regional Location

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Image Source: NearMaps (flown September 2016)

Project Boundary

FIGURE 2

Project Location on Aerial Photograph

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Map Source: Excel Engineering, 9/16/16

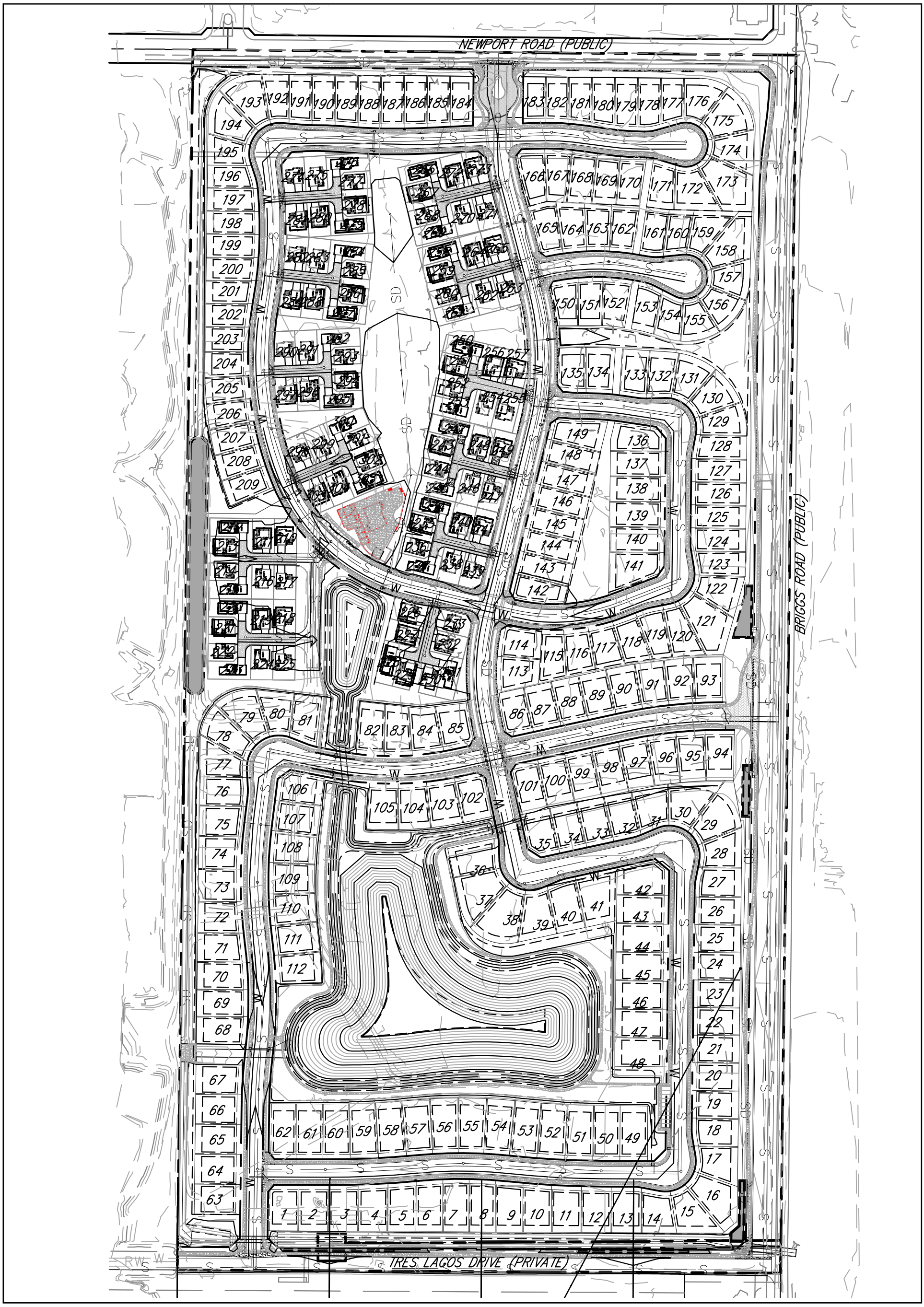

FIGURE 3

Site Plan

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1.3 Fundamentals of Air Quality

Air quality impacts can result from the emission of pollutants associated with construction and operation of a project. Construction impacts are short-term and may result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts are long term and may result from equipment and processes used in the project (e.g., water heaters, engines, boilers, and paints or solvents), motor vehicle emissions associated with the project, regional impacts resulting from growth-inducing development, and local hot-spot effects stemming from sensitive receivers being placed close to highly congested roadways. Health effects can include the following:

- Increased respiratory infections
- Increased discomfort
- Missed days from work and school
- Increased mortality

The analysis of air quality impacts is based on federal and state Ambient Air Quality Standards (AAQS). AAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. AAQS have been established for six pollutants of key concern known as "criteria pollutants". The six criteria pollutants are found all over the United States and each pose a threat to human health. Criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb).

1.3.1 Ozone

Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of nitrogen oxides (NO_X) and reactive organic gases (ROG) (a.k.a. volatile organic chemicals [VOC] or reactive organic compounds [ROC]) in the presence of sunlight. The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Symptomatic responses include such as throat dryness, chest tightness, headache, and nausea. About half of smog-forming emissions come from automobiles.

1.3.2 Carbon Monoxide

Carbon monoxide is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO

combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (United States Environmental Protection Agency [U.S. EPA] 2014a).

Small-scale, localized concentrations of CO above the federal and state AAQS may occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hotspots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

1.3.3 Nitrogen Dioxide

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

1.3.4 Sulfur Dioxide

Sulfur dioxide is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

1.3.5 Inhalable Coarse Particles

PM_{10} is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Under typical conditions (i.e., no wildfires) particles classified under the PM_{10} category are mainly emitted directly from activities that disturb the soil including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear.

Health studies have shown a significant association between exposure to particulate matter and premature death in people with heart or lung diseases. Other important effects include

aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2014a).

1.3.6 Inhalable Fine Particles

Airborne, inhalable particles with aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that $PM_{2.5}$ monitoring begin January 1, 1999. Similar to PM_{10}, $PM_{2.5}$ is also inhaled into the lungs and causes serious health problems.

1.3.7 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phaseout of leaded gasoline, metal processing is currently the primary source of lead emissions.

1.4 Fundamentals of Climate Change

1.4.1 Understanding Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is the collective

of human actions taking place throughout the world that contributes to climate change, it is quintessentially a global or cumulative issue.

1.4.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 25; this means that CH_4 has 25 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as "[T]he cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas" (U.S. EPA 2010). GHG emissions estimates are typically represented in terms of metric tons (MT) of CO_2 equivalent (CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and nitrous oxide (N_2O) would be emitted from the same project operations.

Table 1 Global Warming Potentials and Atmospheric Lifetimes			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)*	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2014.			

2.0 Existing Conditions

2.1 Site Conditions

The project site is occupied by Abacherli Dairy. On-site structures include two operations buildings (total footprint is approximately 7,000 square feet), one single-family residence and three modular residences, and shade/cover structures for livestock and hay.

2.2 Regional Setting and Climate

The project site is located approximately 35 miles north of the Pacific Ocean in Riverside County. Air quality in the County is influenced by both topographical and meteorological conditions. The project site is located in western Riverside County between the Santa Ana Mountains and the San Jacinto Mountains.

The project area, like other inland valley areas in southern California, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The Sun City climate monitoring station (ID 048655) is approximately 5 miles northwest of the project site. Based on measurements taken at the Sun City climate monitoring station, the average annual precipitation is 11 inches, falling primarily from November to April (Western

Regional Climate Center 2016). Winter low temperatures in the project area average about 37 degrees Fahrenheit (°F), and summer high temperatures average about 96°F.

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada–Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

2.3 Existing Air Quality

As discussed below Section 3.0, Regulatory Framework, the State of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. The project is located in the South Coast Air Basin (Basin). The Basin includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except 8-hour ozone and $PM_{2.5}$ standards. The Basin is designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state PM_{10} standards.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the California Air Resources Board (CARB) or federal standards set by the U.S. EPA. The SCAQMD maintains 26 active air quality monitoring sites located throughout the Basin including six sites in Riverside County (CARB 2016a). Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The nearest stations to the project site include the Winchester monitoring station, located approximately 7.4 miles southeast of the site, and the Perris monitoring station located approximately 9.1 miles north of the site. The Winchester monitoring station measures ozone and $PM_{2.5}$, and the Perris monitoring station measures $PM_{10.}$ Table 2 provides a summary of measurements of ozone, $PM_{2.5,}$ and PM_{10} collected at the Winchester and Perris monitoring stations for the years 2011 through 2015.

Table 2
Summary of Air Quality Measurements Recorded at Winchester and Perris Monitoring Stations

Pollutant/Standard	2011	2012	2013	2014	2015
Ozone (Winchester)					
Days State 1-hour Standard Exceeded (0.09 ppm)	1	1	0	1	2
Days State 8-hour Standard Exceeded (0.07 ppm)	27	21	12	14	25
Days Federal 8-hour Standard Exceeded (0.075 ppm)	14	4	3	4	6
Max. 1-hr (ppm)	0.105	0.104	0.093	0.119	0.100
Max 8-hr (ppm)	0.089	0.083	0.079	0.100	0.087
PM_{10}* (Perris)					
Measured Days State 24-hour Standard Exceeded (50 µg/m^3)	Na	Na	Na	Na	Na
Calculated Days State 24-hour Standard Exceeded (50 µg/m^3)	11.8	6.1	Na	36.4	Na
Measured Days Federal 24-hour Standard Exceeded (150 µg/m^3)	0	0	0	0	Na
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m^3)	0.0	0.0	0.0	0.0	Na
Max. Daily (µg/m^3)	65.0	62.0	70.0	87.0	Na
State Annual Average (µg/m^3)	27.7	25.1	Na	33.4	Na
Federal Annual Average (µg/m^3)	29.2	26.5	33.6	35.1	Na
$PM_{2.5}$* (Winchester)					
Measured Days Federal 24-hour Standard Exceeded (35 µg/m^3)	Na	Na	Na	Na	0
Calculated Days Federal 24-hour Standard Exceeded (35 µg/m^3)	Na	Na	Na	Na	Na
Max. Daily (µg/m^3)	34.0	21.7	27.7	64.0	20.5
State Annual Average (µg/m^3)	Na	8.0	7.5	11.2	Na
Federal Annual Average (µg/m^3)	Na	Na	Na	Na	Na

SOURCE: CARB 2016b.
ppm = parts per million
µg/m^3 = micrograms per cubic meter
Na = Not available.
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

2.4 Existing Greenhouse Gas Emissions

2.4.1 Statewide GHG Inventory

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons (MMT) of CO_2E. Table 3 shows the estimated statewide GHG emissions for the years 1990, 2005, and 2014.

Table 3 California GHG Emissions by Sector in 1990, 2008, and 2014			
Sector	1990 Emissions in MMT CO_2E (% total)[1,2]	2005 Emissions in MMT CO_2E (% total)[2,3,4]	2014 Emissions in MMT CO_2E (% total)[2,3,4]
Sources			
Agriculture	23.4 (5%)	34.45 (7%)	36.11 (8%)
Commercial	14.4 (3%)	14.27 (3%)	14.61 (3%)
Electricity Generation	110.6 (26%)	107.85 (22%)	88.24 (20%)
High GWP	--	7.70 (2%)	17.15 (4%)
Industrial	103.0 (24%)	95.41 (20%)	93.32 (21%)
Recycling and Waste	--	7.94 (2%)	8.85 (2%)
Residential	29.7 (7%)	27.98 (6%)	23.73 (5%)
Transportation	150.7 (35%)	184.21 (38%)	159.53 (36%)
Forestry (Net CO_2 flux)[5]	-6.5	--	--
Not Specified	1.3	--	--
TOTAL	**426.6**	**479.81**	**441.54**

SOURCE: CARB 2007 and 2016c.
MMT CO_2E = million metric tons of CO_2 equivalent
[1]1990 data was retrieved from the CARB 2007 source.
[2]Quantities and percentages may not total properly due to rounding.
[3]2005 and 2014 data were retrieved from the CARB 2016c source.
[4]Reported emissions for key sectors. The inventory totals for 2005 and 2014 did not include Forestry or Not Specified sources.

As shown in Table 3, statewide GHG source emissions totaled about 427 MMT CO_2E in 1990, 480 MMT CO_2E in 2005, and 442 MMT CO_2E in 2014. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. However, transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

2.4.2 Regional GHG Inventory

In September 2014, the Western Riverside Council of Governments (WRCOG) adopted the *Subregional Climate Action Plan* (WRCOG 2014). The plan inventories existing emissions within western Riverside County and outlines measures to reduce future emissions. The communitywide GHG emissions were calculated using the International Council for Local Environmental Initiatives (ICLEI) U.S. Community Protocol. The results of the community inventory for 2010 are summarized in Table 4.

Table 4 Western Riverside County GHG Emissions in 2010		
	2010 Baseline Emissions	
Source	MT CO_2E	%
Transportation	3,317,387	56.9%
Commercial/Industrial Energy	1,226,479	21.0%
Residential Energy	1,167,843	20.0%
Waste	112,161	1.9%
Wastewater	10,531	0.2%
Total Inventory	**5,834,400**	**-**
SOURCE: WCROG 2014		

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

2.4.3 On-Site GHG Emissions Sources

The project site is occupied by the Abacherli Dairy farm. Sources of GHG emissions include mobile emissions from maintenance, operation, and livestock hauling, energy use emissions from operational buildings, water use emissions, solid waste emissions, and area source emissions. Area source emissions that are unique to agricultural land uses include N_2O emissions resulting from fertilizer use and CH_4 emission from livestock.

As compared to land uses such as residential and commercial uses, agricultural uses commonly have highly variable emissions. This is because agricultural emissions correlate more strongly with the intensity of use than the building size or lot area. For example, emissions associated with the Abacherli Dairy would vary depending on the number of cattle at the dairy. As a result, existing GHG emissions from the site vary from year to year. Due to the substantial variability of these emissions, this analysis does not attempt to quantify these GHG emissions or take credit for the removal of existing sources of GHG emissions associated with the Abacherli Dairy.

3.0 Regulatory Framework

3.1 Air Quality Regulations

3.1.1 Federal Air Quality Regulations

The Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA [42 USC 7409], the U.S. EPA developed primary and secondary national ambient air quality standards (NAAQS). Six criteria pollutants of primary concern have been designated: ozone, CO, SO_2, NO_2, lead, and PM. The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . " and

the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 USC 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties).

3.1.2 State Air Quality Regulations

3.1.2.1 California Ambient Air Quality Standards (CAAQS)

The U.S. EPA allows states the option to develop different (stricter) standards. The State of California has developed the California Ambient Air Quality Standards (CAAQS) and generally has set more stringent limits on the criteria pollutants (Table 5). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 5). Similar to the federal CAA, the state classifies specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the CAAQS.

The State of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a moderate, serious, severe, or extreme nonattainment area for that pollutant (there is also a marginal classification for federal nonattainment areas). Once a nonattainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas.

Table 5
State and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m³)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chroma-tography			

See footnotes on next page.

Table 5
State and National Ambient Air Quality Standards

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SOURCE: CARB 2016d.

3.1.2.2 Toxic Air Contaminants

A toxic air contaminant (TAC) is any air pollutant which may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. The public's exposure to TACs is a significant public health issue in California. Diesel-exhaust particulate matter emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

As an ongoing process, CARB continues to establish new programs and regulations for the control of diesel-particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to diesel particulate matter will continue to decline.

3.1.2.3 State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the *Federal Register*. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

As the regional air quality management district, the SCAQMD is responsible for preparing and implementing the portion of the SIP applicable to the Basin. The air pollution control district for each county adopts rules, regulations, and programs to attain federal and state air quality standards, and appropriates money (including permit fees) to achieve these objectives.

3.1.2.4 California In-Use Off-Road Diesel-Fueled Fleets Regulation

The California In-Use Off-Road Diesel-Fueled Fleets Regulations were approved by CARB in July 2007, and subsequent major amendments were incorporated in December 2011. The regulations are intended to reduce diesel-exhaust and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation requires that any operator of diesel-powered off-road vehicles with 25 horsepower or greater engines meet specific fleet average targets. CARB maintains schedules for small, medium, and large equipment fleets that require equipment retrofits or replacements over time to gradually bring the existing equipment up to standard. As of January 2018, all newly purchased equipment for medium and large equipment fleets will be required to meet Tier 3 or higher engine standards.

3.1.3 Local Air Quality Regulations

The SCAQMD is the air pollution control agency in the Basin. The role of the local SCAQMD is to protect the people and the environment of the Basin from the effects of air pollution. As the SCAQMD is designated as a nonattainment area for state air quality standards for 8-hour ozone, PM_{10}, and $PM_{2.5}$, SCAQMD periodically prepares air quality management plans (AQMPs) outlining measures to reduce these pollutants. The most recent AQMP, the *2016 Air Quality Management Plan*, was adopted March 2017.

3.2 Climate Change Regulations

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

3.2.1 Federal

3.2.1.1 U.S. Environmental Protection Agency

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the project is the Energy Star program.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products that represent the leading edge in energy-efficient products in 2013 (U.S. EPA 2013).

The U.S. EPA also partners with the public sector, including states, tribes, localities and resource managers, to encourage smart growth, sustainability preparation and renewable energy and climate change preparation. These initiatives include the Clean Energy–Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program and the Sustainable Communities Partnership (U.S. EPA 2014b).

3.2.1.2 Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the United States. Current CAFE standards require vehicle manufacturers of passenger cars and light-duty trucks to achieve an average fuel economy of 35.5 miles per gallon by 2016 and an average fuel economy of 54.5 miles per gallon by 2025. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.2 State

3.2.2.1 Statewide GHG Emission Targets

S-3-05—Statewide GHG Emission Targets

This executive order (EO) establishes the following GHG emissions reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the Secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has been updated every two years.

B-30-15—2030 Statewide GHG Emission Goal

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California to reduce GHG emissions 40 percent below 1990 levels by 2030. This EO also directs all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directs CARB to update its Climate Change Scoping Plan to address the 2030 goal. CARB is expected to develop statewide inventory projection data for 2030, as well as commence its efforts to identify reduction strategies capable of securing emission reductions that allow for achievement of the EO's new interim goal.

3.2.2.2 Assembly Bill 32—California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

3.2.2.3 Senate Bill 32—California Global Warming Solutions Act Update

In August 2016, the California Legislature approved Senate Bill (SB) 32, and in September 2016, it was signed by the governor. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. SB 32 is tied to AB 197, which would establish a legislative oversight committee to which the Chair of CARB would report once a year, and would add two members of the legislature to the air board. Additionally, in implementing the 40 percent reduction target, AB 197 would require CARB to prioritize emissions reductions to consider the social costs of the emissions of GHGs. AB 197 defines "social costs" to mean "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

3.2.2.4 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Original Scoping Plan). CARB has periodically revised GHG emissions forecasts and prepared supplemental revisions to the Original Scoping Plan. Most recently, in 2014, CARB adopted the comprehensive First Update to the Climate Change Scoping Plan: Building on the Framework (First Update to the Scoping Plan) (CARB 2014a). The First Update to the

Scoping Plan ". . . highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050" (CARB 2014a). The First Update to the Scoping Plan found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and notes that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050, if the state realizes the expected benefits of existing policy goals (CARB 2014a).

In conjunction with the First Update to the Scoping Plan, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014a). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014a). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In October 2017, CARB released most recent version of The 2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Draft Scoping Plan; CARB 2017). The Draft Scoping Plan identifies the state strategy for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. The Draft Scoping Plan assessed three scenarios; (1) a Reference Scenario that represents current policies prior to the passage of SB 350 (i.e., October 2015); (2) a Proposed Scoping Plan Scenario (referred to as the "Draft Scoping Plan Scenario") that represents current policies, known commitments, as well as additional measures to reduce emissions from the refinery sector, and (3) an Alternative 1 Scenario that represents all policies and programs included in the Draft Scoping Plan Scenario, as well as additional prescriptive measures to meet the 2030 statewide reduction target without reliance on the Cap-and-Trade Program or a carbon tax.

Measures under the Draft Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard, Sustainable Communities Strategy, and the Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally the Draft Scoping Plan proposes further strategies to reduce waste emissions through cogeneration, reduction of GHG emissions from the refinery sector by 20 percent, and new policies to address GHG emissions from natural and working lands. As discussed in the following section (Section 3.2.2.5), CARB continues adjust the cap of the Cap-and-Trade Program to achieve emission levels consistent with 2020 statewide GHG emissions reduction targets established by AB

32. Modeling for the Draft Scoping Plan Scenario does not reflect reductions achieved by the Cap-and-Trade Program.

As identified in the Alternative 1 Scenario, prescriptive measures necessary to achieve the state's 2030 interim GHG reduction target without reliance on the Cap-and-Trade Program include a 5 percent renewable pipeline gas standard, a 25 percent reduction in GHG emissions from the oil and gas extraction sector, a 25 percent reduction in the GHG emissions from the industrial sector, 20 percent flexible demand response from residential and commercial electric appliances, an additional 7 percent increase in the Low Carbon Fuel Standard (from 18 to 25 percent), an additional 10 percent reduction from the refining sector (from 20 to 30 percent), an additional 10 percent increase to California Renewable Portfolio Standard (from 50 to 60 percent), increased building energy efficiency standards, and additional transportation demand measures.

3.2.2.5 Regional Emissions Targets – SB 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Original Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG emissions reduction targets and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP).

Pursuant to Government Code Section 65080(b)(2)(K), a Sustainable Communities Strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a City's or County's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

3.2.2.6 California Building Standards Code (Title 24)

The California Code of Regulations (CCR), Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including, plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility and so on. Of particular relevance to GHG emissions reductions are the CBC's energy efficiency and green building standards as outlined below.

Part 6 – Energy Code

The CCR, Title 24, Part 6 is the Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The

Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). By reducing California's energy consumption, emissions of statewide GHGs may also be reduced.

The current version of the Energy Code, known as the 2016 Energy Code, became effective January 1, 2017. The 2016 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. The CEC's preliminary estimates indicate that the 2016 Energy Code achieves a 28 percent reduction in home energy use and a 5 percent reduction in non-residential energy use. The CEC has further indicated that the 2020 Energy Code will require new residential developments to achieve zero-net energy use.

Part 11 – California Green Building Standards Code

The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in Model Water Efficient Landscape Ordinance emergency standards;
- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring and particleboards.

3.2.2.7 Other State Measures

Other regulations adopted by California are summarized below.

- Pavley I and Low Emission Vehicle III – A set of vehicle standards that require light-duty cars and trucks to have reduced GHG emissions.
- Low Carbon Fuel Standard – A statewide goal requiring a 10 percent reduction in the carbon intensity of transportation fuels by 2020.

- Renewables Portfolio Standard – Requires electrical providers achieve an energy mix of 33 percent renewable energy by 2020 and 50 percent renewable energy by 2050.
- AB 341 – Solid Waste Diversion – The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of measures in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates that 75 percent of all solid waste generated in the state be reduced, recycled, or composted by 2020 regardless of the source.

3.2.3 Local

The City was incorporated in 2008. The City's first General Plan was adopted December 2013. The General Plan includes a variety of GHG reduction measures such as reducing permitting fees for energy-efficient projects, installing solar energy generation on municipal buildings, providing incentives for public investment in solar energy generation, encouraging energy efficiency through energy audits, and working with regional transportation agencies to improve transit options in Menifee. Relevant to this report, Open Space and Conservation Policy 70 (OSC-70) states that the City will:

> Establish a tracking and monitoring system for greenhouse gas emissions that includes Planning and Building design review standards to evaluate a project's contribution to GHG emissions to demonstrate compliance with AB 32.

Additionally, policies regarding climate change include:

OCS-10.1: Align the City's local GHG reduction targets to be consistent with the statewide GHG reduction target of AB 32.

OCS-10.2: Align the City's long-term GHG reduction goal consistent with the statewide GHG reduction goal of Executive Order S-03-05.

OCS-10.3: Participate in regional GHG emission reduction initiatives.

OCS-10.4: Consider impacts to climate change as a factor in evaluation of policies, strategies, and projects.

4.0 Significance Criteria

The California Natural Resources Agency maintains *State CEQA Guidelines* to assist lead agencies in developing significance thresholds for assessing potentially significant environmental impacts. According to California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, implementation of the proposed project would have significant environmental impacts on air quality if it would:

1) Obstruct or conflict with the implementation of the applicable air quality plan.
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including the release of emissions which exceed quantitative thresholds for ozone precursors).
4) Expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates.
5) Create objectionable odors affecting a substantial number of people.

Additionally, according to CEQA Guidelines Appendix G, implementation of the proposed project would have significant environmental impacts on GHG emissions if it would:

6) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
7) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

4.1 Air Quality Significance Thresholds

4.1.1 Regional Significance Thresholds

As discussed previously, the SCAQMD is the air pollution control agency responsible for protecting the people and the environment of the Basin from the effects of air pollution. Accordingly, the City evaluates project air quality emissions based on the quantitative emission thresholds originally established in the SCAQMD's *CEQA Air Quality Handbook* (SCAQMD 1993). SCAQMD's significance thresholds for impacts to regional air quality are shown in Table 6.

Table 6 SCAQMD Air Quality Significance Thresholds – Mass Daily Thresholds		
Pollutant	Emissions (pounds)	
	Construction	Operational
Oxides of Nitrogen (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
Coarse Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead (Pb)*	3	3
SOURCE: SCAQMD Air Quality Significance Thresholds (SCAQMD 2015).		

4.1.2 Localized Significance Thresholds

The SCAQMD's *Final Localized Significance Threshold Methodology* (LST Methodology) was developed as a tool to assist lead agencies to analyze localized air quality impacts to sensitive receptors in the vicinity of the project (SCAQMD 2008a). The LST Methodology outlines how to analyze localized impacts from common pollutants of concern including NO_2, CO, PM_{10}, and $PM_{2.5}$. Localized air quality impacts would occur if pollutant concentrations at sensitive receptors exceeded applicable NAAQS or CAAQS.

In order to minimize efforts, the SCAQMD developed mass rate lookup tables as a simple screening procedure. If a project's on-site emissions do not exceed the screening levels for any pollutant, it can be concluded that the project would not cause or contribute to an adverse localized air quality impacts. Screening levels are provided for various distances between the project site boundary and the nearest sensitive receptor and various project site acreages. Screening levels increase, as the project distance between the project site boundary and the nearest receiver increases. This is because air pollutant dispersion increases with distance. Screening levels increase, as the project site acreage increases. This is because the distance between construction sources and sensitive receptors increases with project acreage.

4.2 Greenhouse Gas Significance Thresholds

As stated previously, the CEQA Guidelines allow Lead Agencies to establish significance thresholds for their respective jurisdictions. These significance thresholds may be adopted after considering thresholds of significance adopted or recommended by other public agencies or experts.

The City has not adopted its own GHG Thresholds of Significance for CEQA, and is following guidance from the SCAQMD's *Interim CEQA GHG Significance Thresholds* (SCAQMD 2008b). The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. As identified in the Working Group meeting (Meeting No. 15) in September 2010, the five tiers are:

- Tier 1 –The project is exempt from CEQA.
- Tier 2 –The project is consistent with an applicable regional GHG emissions reduction plan.
- Tier 3 –Project GHG emissions represent an incremental increase below, or mitigated to less than Significance Screening Levels, where
  - 3,000 MT CO_2E is the Residential/Commercial Screening Level
  - 10,000 MT CO_2E is the Permitted Industrial Screening Level
- Tier 4 –The project achieves performance standards, where performance standards may include:
  - Achieving a 30 percent or greater reduction under business-as-usual (BAU) methodology.
  - The project would implement substantial early implementation of measures identified the CARB's Scoping Plan
  - The project would achieve 2020 efficiency targets of 4.8 MT CO_2E per service population (SP) for project-level analyses or 6.6 MT CO_2E per SP for plan level analyses where service population includes residential and employment populations provided by a project.
- Tier 5 –Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition

The SCAQMD's Tier 1 and Tier 2 interim thresholds are based on planning consistency, and Tier 3 interim thresholds are based on market capture rates. Tier 4 and Tier 5 interim thresholds are intended to demonstrate project consistency with the AB 32 goal of achieving 1990 emission levels by 2020. Project first operational year would be 2021, which is after the AB 32 2020 goal.

Therefore, applicable performance standards from the *Interim CEQA GHG Significance Thresholds* were adjusted to match the apparent trajectory needed to achieve next state goal – i.e., 40 percent below 1990 levels by 2030. Achievement of a 40 percent reduction from 1990 emission levels by 2030 equates to a compounding annual reduction of approximately 5 percent[1]. Thus, for projects with an initial operational year in 2021, applicable Tier 4 performance standards would equate to:

- The project would achieve 2021 efficiency targets of 4.6 MT CO_2E per SP for project-level analyses or 6.3 MT CO_2E per SP for plan level analyses[2].

[1] 1990 emission levels equal 2020 target;
2030 target is 60 percent (100 – 40) of 1990 emission levels;
60 percent = $(1 - \text{Annual Reduction})^{(1/2030-2020)}$;
Annual Reduction Rate = $1 - \frac{0.6^{(1/2030-2020)}}{1}$ = 4.98 percent per year

[2] 4.8 MT CO_2E per SP $\times 1 - 4.98^{(2021-2020)}$ = 4.6 MT CO_2E per SP;
6.6 MT CO_2E per SP $\times 1 - 4.98^{(2021-2020)}$ = 6.3 MT CO_2E per SP

5.0 Air Quality and GHG Assessment

Implementation of the proposed project would result in air and GHG emissions associated with the construction and operation of the project. Both air and GHG emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the State of California. CalEEMod was developed with the participation of several state air districts including the SCAQMD.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in SCAQMD. Where available, parameters were modified to reflect project-specific data. For example, trip generation rates were modified to reflect the conclusions of the project's Traffic Impact Analysis (Linscott Law & Greenspan Engineers 2016).

5.1 Emissions Modeling

5.1.1 Construction-related Emissions

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related emissions include:

- Fugitive dust from grading activities;
- Construction equipment exhaust; and
- Construction-related trips by workers, delivery trucks, and material-hauling trucks.

Construction-related emissions include emissions from dust raised during demolition and grading, exhaust from construction vehicles, and chemicals used during construction. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Construction operations are subject to the requirements established by the SCAQMD including Rule 403, Fugitive Dust. Rule 403 requires the use of best available control measures for fugitive dust.

Heavy-duty construction equipment is usually diesel powered. Standard construction equipment includes dozers, rollers, scrapers, dewatering pumps, backhoes, loaders, paving equipment, delivery/haul trucks, jacking equipment, welding machines, pile drivers, and so on. Project construction is anticipated to commence in early 2018 and would last approximately three years. Project construction is anticipated to occur in five stages: demolition, site preparation, grading/excavation, building construction and architectural coatings, and paving. The grading phase would last between 8 and 12 months and was modeled over an average 10-month period. The relative durations of the remaining construction phases were based on SCAQMD construction surveys and phase durations,

and construction equipment requirements scaled to match the overall duration of project construction. Construction-related air emissions are calculated and reported in terms of maximum daily emissions. These calculations are based on the construction equipment profile and other factors determined as needed to complete all phases of construction by the target completion year. As such, each phase has varying emissions. Modeled parameters for construction equipment are summarized in Table 7 below.

Table 7
Construction Schedule and Equipment

Construction Phase	Length (Working Days)	Equipment
Demolition	31	3 Concrete Saw
		9 Excavators
		6 Rubber Tired Dozers
Site Preparation	19	9 Rubber Tired Dozers
		12 Loader/Backhoes
Grading	218	2 Excavators
		1 Grader
		1 Rubber Tired Dozer
		2 Scrapers
		2 Loader/Backhoes
Paving	34	6 Paver
		6 Paving Equipment
		6 Roller
Building Construction & Architectural Coatings	482	3 Crane
		9 Forklift
		3 Generator Set
		9 Loader/Backhoes
		3 Welder
		3 Air Compressor

Construction-related trips by workers, delivery trucks, and material-hauling trucks equipment are primarily estimated based on SCAQMD surveys. Based on current grading plans, project grading is anticipated to include 177,500 cubic yards of cut soil and 412,350 cubic yards of fill soil, therefore, the project would require a net import of approximately 234,850 cubic yards of soil. Materials hauling trips required to import fill soil were included in the emissions calculations. Additionally, under SCAQMD Rule 403, dust suppression measures must be undertaken. This analysis assumes that standard dust and emission control during grading operations would be implemented to reduce potential nuisance impacts and to ensure compliance with SCAQMD Rule 403, which is estimated to result in a 61 percent reduction in fugitive dust. Consistent with federal requirements, all equipment was assumed to meet CARB Tier 3 In-Use Off-Road Diesel Engine Standards.

Table 8 shows the total projected construction maximum daily emission levels for each criteria pollutant. The CalEEMod output files for construction emissions are contained in Attachment 1.

Table 8
Unmitigated Construction Air Emissions

Construction Phase	Maximum Daily Air Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}*	$PM_{2.5}$*
Demolition	3	56	76	>1	3	3
Site Preparation	3	57	72	>1	25	15
Grading	2	68	42	>1	60	17
Paving	4	34	54	>1	2	2
Building Construction & Architectural Coatings	17	87	111	>1	17	7
Maximum Daily Emissions	**17**	**87**	**111**	**>1**	**60**	**17**
Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

***** Although compliance with Rule 403 is not mitigation, CalEEMod accounts for site watering in the mitigation module. Emission rates for PM_{10} and $PM_{2.5}$ reflect the CalEEMod mitigated emissions estimates (CalEEMod Output Section 2.1 and 3.1, Mitigated Construction On-site and Off-Site, PM_{10} Total and $PM_{2.5}$ Total).

In addition to the criteria pollutant emissions summarized in Table 8, project construction would result in a total of 8,231 MT CO_2E of GHG emissions. Consistent with SCAQMD guidance, overall GHG emissions are amortized over 30 years and added to operational GHG emissions (SCAQMD 2009); thus, project construction would result in the annual equivalent of 274 MT CO_2E.

5.1.2 Operation-related Emissions

Operation-related sources of air emissions include the direct emission of criteria pollutants. Direct emission sources include mobile sources such as project-generated traffic, energy sources such combustion of natural gas as an on-site fuel source, and area sources such as the use of landscaping equipment, use of fireplaces, use of consumer products, and application of architectural coatings. In addition to these direct emission sources, GHG emissions are also generated indirectly as a result of project electricity use, water use, and solid waste generation.

Mobile source emissions were estimated using emission factors derived using CARB's motor vehicle emission inventory program, EMFAC2014 (CARB 2014b). As stated previously, trip generation rates were taken from the project's Traffic Impact Analysis (Linscott Law & Greenspan Engineers 2016). The traffic study estimates that the project would generate 9.52 average daily trips per day per residence. An average trip length of 6.1 miles was derived from EMFAC2014 data for the Basin subarea in Riverside County. Mobile emissions are estimated by multiplying the project trip rate, average trip length, and the vehicle emission factors.

Energy use emissions include direct air quality and GHG emissions associated with the combustion of on-site fuel sources, such as natural gas, and indirect GHG emissions associated with the generation of electricity from fossil fuels off-site in power plants. Project energy use was estimated based on the size of the proposed land uses using data compiled

from SCAQMD surveys and incorporated into CalEEMod. By default, energy use factors in CalEEMod reflect the most recent 2016 Title 24 energy efficiency requirements.

Direct emissions from combustion of natural gas were modeled using standard emission factors published by the EPA. Indirect emissions from electricity use were modeled based on electricity intensity factors for the project utility provider, Southern California Edison (SCE). This analysis derives energy intensity factors from SCE's *2015 Corporate Responsibility Report* (Edison International 2016), which indicates that in 2015 SCE generated 517 pounds of CO_2E for each megawatt-hour (MWh) of electricity delivered. Projected 2020 energy-intensity factors for SCE were interpolated based on SCE's existing power mix and Renewables Portfolio Standard requirements. As SCE had a power mix with 24.3 percent renewables in 2015 and would be required to have 33 percent renewables in 2020, the projected 2020 energy intensity factor is expected to be approximately 11.5 percent less than the 2015 energy intensity factor.

Area source emissions associated with the proposed project include landscaping equipment, fireplaces, consumer product use, and architectural coatings. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The landscaping equipment values were derived from the 2011 *In-Use Off-Road Equipment Inventory Model* (CARB 2011) and take into account building area, equipment emission factors, and the number of operational days (summer days). The parameters for fireplace type and use are based on surveys performed by SCAQMD and account for 25 days of use per year. Emissions from the use of consumer products such as detergents, cleaning compounds, polishes, floor finishes, disinfectants, and sanitizers, were modeled based on data from CARB's Emissions Inventory and project building areas. Emissions from the application of architectural coatings such as paints, primers, roof coatings, and other materials used to seal materials are calculated using building surface area and typical architectural coating emission factors.

The water use (and wastewater generation) of a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat water and wastewater. In addition to the GHG emissions associated with energy use, wastewater treatment can also emit both CH_4 and N_2O. GHG emissions associated with supplying and treating water and wastewater are calculated for this project based on the typical indoor water use consumption data for single-family residences, which comes from the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California 2003* (as cited in CAPCOA 2017).

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters.

Tables 9 and 10 provide summaries of the operational air and GHG emissions generated by the project. CalEEMod output files for project operation are contained in Attachment 1.

Table 9
Unmitigated Project Operational Air Emissions

Emission Source	Maximum Daily Air Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	93	7	181	0	23	23
Energy Sources	>1	2	1	>1	>1	>1
Mobile Sources	5	35	47	>1	13	3
Total	**99**	**44**	**228**	**1**	**36**	**27**
Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**
NOTE: Totals may vary due to independent rounding.						

Table 10
Unmitigated Project GHG Emissions

Emission Source	Annual GHG Emissions (MT CO_2E)
Vehicles	2,867
Energy Use	1,053
Area Sources	103
Water Use	110
Solid Waste Disposal	180
Construction	274
TOTAL	**4,587**
SOURCE: Attachment 1 NOTE: Totals may vary due to independent rounding.	

5.2 Impact Analysis

5.2.1 Air Quality Impacts

1. *Would the project obstruct or conflict with the implementation of the applicable air quality plan?*

As stated previously, the Basin is designated as in attainment or unclassifiable attainment (expected to be meeting the standard despite a lack of monitoring data) for all federal air quality standards except for the 8-hour ozone and $PM_{2.5}$ standards. The Basin is also designated as in nonattainment for state air quality standards for 8-hour ozone and $PM_{2.5}$, and additionally is in nonattainment of state PM_{10} standards. The regional air quality plan, the 2016 AQMP, outlines measures to reduce of ozone and $PM_{2.5}$. Whereas reducing PM concentrations is achieved by reducing emissions of $PM_{2.5}$ to the atmosphere, reducing ozone concentrations is achieved by reducing the precursors of photochemical formation of ozone, VOC, and oxides of nitrogen (NO_X).

The growth forecasting for the AQMP is based in part on the land uses established by local general plans. Thus, if a project is consistent with land use as designated in the local general plan, it can normally be considered consistent with the AQMP. Projects that propose a different land use than is identified in the local general plan, may also be considered consistent with the AQMP if the proposed land use is less intensive than buildout under the current designation.

The General Plan land use designation for the project site is Agriculture (AG). This land use designation allows for row crops, groves, nurseries, dairies, poultry farms, processing plants, and other related uses; one single-family residence per 10 acres is allowed. The project would develop detached single-family residences at a density of approximately of 4 dwelling units per acre.

Given that the proposed density of single-family residences was not anticipated under the existing General Plan land use designation, the proposed land uses would intensify the development and associated population projections planned for under the City's General Plan. Therefore, the project would conflict with and exceed the assumptions used to develop the 2016 AQMP. This inconsistency can only be corrected when SCAQMD amends AQMP based on updated Southern California Association of Governments (SCAG) growth projections after the project has been approved.

SCAG periodically revises growth projections based on local General Plan Housing and Land Use Element Updates, and SCAQMD incorporated revised growth projections into AQMP assumptions. Therefore, the inconsistency would eventually be addressed and incorporated in to the regional air quality plan. However, in the interim period, direct and cumulative impacts would be significant. It is beyond the scope of the project to affect when regional agencies update regional growth forecasts and plans, therefore no mitigation is feasible at the project-level. Impacts will remain significant and unavoidable.

2. *Would the project result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

As shown in Table 8, construction activities would result in air emissions that are less than all applicable significance thresholds. Therefore, project construction would not result in regional emissions that would exceed the NAAQS or CAAQS or contribute to existing violations. **Impacts would be less than significant.**

As shown in Table 9, without mitigation project operation would result in ROG emissions that exceed the applicable significance threshold. Based on the results of modeling, the primary source of ROG is the use of wood-fired fireplaces.

Mitigation measure AIR-1 would address the impact of operations-related ROG emissions.

AIR-1 The project applicant, or agent thereof, shall require that no wood-burning fireplaces be installed; rather, all fireplaces will be natural gas-fueled type.

Table 11 summarizes the air emissions associated with mitigated operations.

Table 11
Mitigated Project Operational Air Emissions

Sector	Maximum Daily Air Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	14	5	27	0	1	1
Energy Sources	>1	2	1	>1	>1	>1
Mobile Sources	5	35	47	>1	13	3
Total	**19**	**43**	**75**	**>1**	**13**	**4**
Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Note: Totals may vary due to independent rounding.						

As shown in Table 11, mitigated operations would result in air emissions that are less than all applicable significance thresholds. Therefore, project operation would not result in regional emissions that would exceed the NAAQS or CAAQS or contribute to existing violations. With implementation of AIR-1, **impacts would be reduced to a level that is less than significant.**

3. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors)?*

As discussed in Section 2.3, Existing Air Quality, the Basin is classified as in attainment for all criterion pollutants except for ozone, PM_{10}, and $PM_{2.5}$. The Basin is designated as a nonattainment area for federal AAQS for the 8-hour ozone and $PM_{2.5}$ standards, and is in nonattainment area under state PM_{10} standards. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone.

As shown in Tables 8 and 11, mitigated emissions of ozone precursors (ROG and NO_X), PM_{10}, and $PM_{2.5}$ from construction and operation would be below the applicable SCAQMD significance thresholds. These thresholds were developed based on the CAA *de minimis* level, which are designed to provide limits below which project emissions from an individual project would not significantly affect regional air quality or the timely attainment of the NAAQS and CAAQS. Therefore, the project would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$. With implementation of AIR-1, **impacts would be reduced to a level that is less than significant.**

4. *Would the project expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates?*

A sensitive receptor is a person in the population who is more susceptible to health effects due to exposure to an air contaminant than is the population at large. Examples of sensitive receptor locations in the community include residences, schools, playgrounds, childcare centers, churches, athletic facilities, retirement homes, and long-term health care facilities. The sensitive receptors nearest the project site include single-family residences to the north (Tierra Shores Residential Complex, approximately 90 feet north of the project site boundary) and west (Camellia at the Lakes Residential Complex, approximately 70 feet

west of the project site boundary), and mobile homes to the south (Wilderness Lakes RV Resort, there are several mobile homes within a few feet of the southern project site boundary).

5.2.1.1 Localized Air Quality Impacts

As discussed in Section 4.1.2, the SCAQMD's LST Methodology outlines how to analyze localized air quality impacts to sensitive receptors. Table 12 summarizes on-site project emissions and the applicable screening levels identified in the mass rate lookup tables. Applicable screening levels are for projects located within 25 meters of a sensitive receptor and with an area of at least 5 acres. The project site is larger than 5 acres, thus, the average distance between on-site emission sources and the nearest sensitive receptors would be greater than is assumed by these screening levels. As air pollutant dispersion increases with distance, screening levels shown in Table 12 are conservative and are considered adequate screening criteria for assessment of localized air quality impacts.

Table 12
Localized Air Quality Impacts – Screening Levels
(pounds per day)

	Construction			Operation		
Pollutant	On-Site Emissions[1]	Screening Level[2]	Exceeds?	On-Site Emissions[1]	Screening Level[2]	Exceeds?
NO_X	46	270	**No**	7	270	**No**
CO	60	1,577	**No**	28	1,577	**No**
PM_{10}	3	13	**No**	1	4	**No**
$PM_{2.5}$	3	8	**No**	1	2	**No**

SOURCE: SCAQMD 2008a.

[1] For localized air quality, impacts result from on-site emissions; thus, off-site emissions are not included in localized emissions analysis. The maximum daily on-site emissions from a construction phase were identified (CalEEMod Output Section 3). On-site operation emissions include area and energy emission sources and do not include mobile source emissions.

[2] The project site is 79.68 acres and the project site boundary is approximately 60 feet (17 meters) from the nearest sensitive receptor. This analysis uses screening levels for a 5-acre project located 25 meters from the nearest sensitive receptor. The project site is located in Source Receptor Area (SRA) 24 – Perris Valley.

As shown in Table 12, project emissions would not exceed localized significance thresholds. Therefore, the project would not impact adjacent sensitive receptors. **Impacts would be less than significant.**

5.2.1.2 Off-site Impacts from CO Hotspots

Project-related traffic would emit CO. Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses. CO hotspots due to traffic almost exclusively occur at signalized intersections that operate at a level of service (LOS) E or below. Projects may result in or contribute to a CO hotspot if

they worsen traffic flow at signalized intersections operating at LOS E or F. The LOS of an intersection in morning and evening peak traffic hours is commonly abbreviated LOS AM/PM.

All intersections in the vicinity of the project site currently operate at LOS D or better. With the addition of project-generated traffic, intersections in the vicinity of the project site would continue to operate at LOS D or better. Accounting for ambient growth, in 2040 the intersection of Menifee Road and Newport Road would operate LOS E/F and the intersection of Briggs Road and Holland Road would operate at LOS E/F.

Peak hour traffic volumes at these intersections in 2040 would be 5,611 and 1,101 vehicles per hour without the project and 5,834 and 1,139 vehicles per hour with the project. Thus, project-generated traffic would account for an additional 4.0 and 3.5 percent (223 and 38 vehicles), respectively, at these intersections. As outlined in the CO Protocol, increases in intersection traffic volumes of less than 5 percent are not considered significant and are not likely to worsen air quality. Additionally, with the recommended intersection improvements outlined in the project's Traffic Impact Analysis, both intersections would operate at LOS D or better. Therefore, the project would not substantially contribute to a CO hot-spot. **Impacts would be less than significant.**

5. Would the project create objectionable odors affecting a substantial number of people?

The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between the receptor and odor source, and local meteorological conditions. During construction, potential odor sources associated with the project include diesel exhaust associated with construction equipment. Diesel exhaust may be noticeable; however, construction activities would be temporary. Therefore, the diesel exhaust odors are not anticipated to result in significant impacts.

Potential odor sources associated with the operation of the project are anticipated to be those that would be typical of any residential development. Residential developments typically do not result in odor impacts; therefore, **this impact would be less than significant.**

5.2.2 GHG Emissions Impacts

6. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

As shown in Table 10, without mitigation project construction and operation would result in the annual equivalent emission of 4,587 MT CO_2E in 2021. Mitigation measure AIR-1 would reduce both air quality and GHG emissions. Table 13 summarizes the GHG emissions reductions associated with air quality mitigation.

Table 13 Project GHG Emissions with Air Quality Mitigation			
	Annual GHG Emissions (MT CO_2E)		
Emission Source	Unmitigated	AIR-1	Reduction
Vehicles	2,867	2,867	0
Energy Use	1,053	1,053	0
Area Sources	103	72	31
Water Use	110	110	0
Solid Waste Disposal	180	180	0
Construction	274	274	>1
TOTAL	**4,587**	**4,555**	**31**
Residents	965 people		
Per Service Population Emission Rate	**4.8**	**4.7**	-
SOURCE: Attachment 1 NOTE: Totals may vary due to independent rounding.			

As discussed previously, the City uses SCAQMD's *Interim CEQA GHG Significance Thresholds*. The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. Because the project is subject to CEQA and is not subject to a regional GHG emissions reduction plan, the project does not fall under Tiers 1 or 2. Accounting for reductions from air quality mitigation measures, construction and operation of the project would result in the annual equivalent emission of 4,555 MT CO_2E in 2021. This emission level exceeds the 3,000 Residential/Commercial Screening Level; therefore, the project does not fall under Tier 3. Under the subsequent Tier 4 – performance standards, the project is assessed against a project level threshold of 4.6 MT CO_2E per SP in 2021. The project would construct 305 single-family homes. The Citywide average household population is 3.164 persons per household (City of Menifee 2016). Thus, the project is anticipated to provide residences for approximately 965 people. Without additional mitigation, the project would achieve an emission rate of 4.8 MT CO_2E per SP, thereby exceeding the applicable significance threshold and resulting in an impact on the environment.

Mitigation measure GHG-2 would address the impact of project GHG emissions.

GHG-1 Prior to occupancy, the project applicant, or an agent thereof, shall install solar photovoltaic (PV) systems capable of a total generation of 1,707,561 kilowatt-hours (KWh) per year. Solar PV panels may be located on the rooftops of residences or elsewhere. Where the project is completed in phases, residences may be occupied if the project applicant can demonstrate to the satisfaction of City staff that the relative portion of the total solar generation is met (i.e., renewable generation is equal to or greater than 5,599 KWh annually per residence).

Based on regional solar generation potential estimates provided in the California Air Pollution Control Officers Association's (CAPCOA's) *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010), annual generation of 1,678 KWh per KW installed, mitigation measure GHG-1 would require installation of approximately 1,018 KW of solar

PV panels. This equates to approximately 3.34 KW per residence and would offset approximately 64 percent of project electricity demand. Table 14 summarizes the air emissions associated with mitigated operations.

Table 14
Mitigated Project GHG Emissions

Emission Source	Annual GHG Emissions (MT CO_2E)			
	Unmitigated	AIR-1	Fully Mitigated	Total Reduction
Vehicles	2,867	2,867	2,867	0
Energy Use	1,053	1,053	698	354
Area Sources	103	72	72	31
Water Use	110	110	110	0
Solid Waste Disposal	180	180	180	0
Construction	274	274	274	>1
TOTAL	**4,587**	**4,555**	**4,201**	**386**
Residents	965 people			
Per Service Population Emission Rate	**4.8**	**4.7**	**4.4**	**-**

SOURCE: Attachment 1
NOTE: Totals may vary due to independent rounding.

As shown in Table 14, the mitigated project would result in the annual equivalent emission of 4,201 MT CO_2E. This equates to an emissions rate of 4.4 MT CO_2E per SP in 2021. This emission rate is less than the applicable significance thresholds (Tier 4 performance standard; 4.6 MT CO_2E per SP in 2021). With implementation of mitigation measures AIR-1 and GHG-1, **impacts would be reduced to a level that is less than significant.**

7. *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.*

Project construction is anticipated to commence in 2018 and would last approximately three years, thus the first operational year would be 2021. As discussed in Section 3.2.2, State Climate Change Regulations, EO S-3-05 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target. As discussed above, with incorporation of mitigation, the project emissions in 2021 would be below the significance threshold of 4.6 MT CO_2E per SP. As discussed in Section 4.2, the performance standard of 4.6 MT CO_2E per SP in 2021 was derived from the SCAQMD Tier 4 performance standards; these performance standards were originally intended to demonstrate project consistency with the AB 32 goal of achieving 1990 emission levels by 2020. Thus, performance standards were reduced to match the trajectory needed to achieve the state's 2030 goals. As the project is consistent with performance standards, it would have a less than significant impact on achieving the 2020 GHG emission reduction targets identified by EO S-3-05 and AB 32, as well as the 2030 GHG emission reduction targets identified by EO B-30-15 and SB 32.

Project emissions would decline beyond initial operational year of the project, 2021, as a result of continued implementation of federal, state, and local reduction measures such as increased federal and state vehicle efficiency standards, and SCE's increased renewable sources of energy in accordance with Renewables Portfolio Standard goals. Based on currently available models and regulatory forecasting, project emissions would continue to decline from 2021 through at least 2050. Given the reasonably anticipated decline in project emissions once fully constructed and operational, the project is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05.

As discussed in Section 3.2.3, Local Climate Change Regulations, the City General Plan was adopted in 2013 and includes policies OSC 10.1–10.4 related to climate change. These policies include aligning local GHG reduction targets to be consistent with statewide GHG reduction targets defined in AB 32 and EO S-3-05. The City has not yet adopted its own design review standards for evaluating a project's contribution to communitywide GHG emissions and currently follows SCAQMD guidance for determining whether a project supports state goals. As the project is consistent with state GHG emission reduction targets, it is also consistent with the intent of City General Plan policies related to climate change.

As the project would be consistent with 2020 GHG emission reduction targets and would not impede substantial progress toward long-term GHG goals, **impacts would be less than significant.**

6.0 Conclusions and Recommendations

The project's potential to result in impacts to air quality were assessed using criteria from the *State CEQA Guidelines,* the SCAQMD's *CEQA Air Quality Handbook,* and the SCAQMD's *Localized Significance Thresholds* (SCAQMD 1993 and 2008b).

The SCAQMD prepared the 2016 AQMP, which represents its contribution to the SIP, to outline the district's strategy for achieving attainment of federal and state AAQS. The 2016 AQMP provides an overview of air quality and sources of air pollution, and identifies the pollution-control measures needed to meet clean air standards. The project would result in emissions that were not accounted for in the included in the SCAQMD 2016 AQMP and current regional growth projections. This inconsistency can only be corrected when SCAQMD amends AQMP based on updated SCAG growth projections. As regional growth projection and the AQMP are periodically updated, this inconsistency would eventually be addressed and incorporated in to the regional air quality plan. However, in the interim period, direct and cumulative impacts would be significant. It is beyond the scope of the project to affect when regional agencies update regional growth forecasts and plans, therefore no mitigation is feasible at the project-level. **Impacts will remain significant and unavoidable.**

Implementation of the proposed project would result in air quality emissions associated with the construction and operation of the project. With incorporation of mitigation

measure AIR-1, which requires exclusion of wood-fueled fireplaces, project emissions would not exceed the SCAQMD significance thresholds for direct or cumulative impacts to air quality. **Impacts would be less than significant with incorporation of identified mitigation.**

As shown in Table 12, project on-site emissions would not exceed localized significance thresholds. Therefore the project would not expose sensitive receptors to substantial criteria pollutant concentrations. The proposed project does not include any significant source of TACs on-site, and project-related traffic would not expose sensitive receptors to substantial concentrations of CO. Therefore, the project would not result in exposure of sensitive receptors to substantial pollutant concentrations. **Impacts would be less than significant.**

The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between the receptor and odor source, and local meteorological conditions. During construction, potential odor sources associated with the project include diesel exhaust associated with construction equipment. Diesel exhaust may be noticeable; however, construction activities would be temporary, and—given the distance to the nearest sensitive receptors—would dissipate without affecting a substantial number of people. As the project proposes residential uses, operations are not anticipated to generate substantial odors. **Impacts would be less than significant.**

The project's potential to result in impacts to climate change were assessed using criteria from the *State CEQA Guidelines* and the SCAQMD's *Interim CEQA GHG Significance Thresholds* (SCAQMD 2008b). As discussed in Section 4.2, performance standards from SCAQMD *Interim CEQA GHG Significance Thresholds* were adjusted to match the apparent trajectory needed to achieve the state's 2030 goals. Based on these adjustments, the appropriate performance threshold for the first operational year of the project, 2021, was determined to be 4.6 MT CO_2E per SP.

Without mitigation project construction and operation would result in the annual equivalent emission of 4,587 MT CO_2E in 2021, which equates to an emission rate of 4.8 MT CO_2E per SP. These emissions would exceed SCAQMD's screening level and performance standards. Mitigation measure GHG-1 requires the installation of solar PV panels. With incorporation of mitigation measures AIR-1 and GHG-1, project construction and operation would result in the annual equivalent emission of 4,201 MT CO_2E, which equates to an emission rate of 4.4 MT CO_2E per SP. As mitigated emissions do not exceed the performance standard of 4.6 MT CO_2E per SP, the project would not contribute cumulatively considerable GHG emissions. As the project's GHG emissions are less than cumulatively considerable, the project would not conflict with applicable plans, policies, or regulations for the purpose of reducing GHG emissions. **Impacts would be less than significant with incorporation of identified mitigation.**

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ATTACHMENT 1

CalEEMod Output Files

Summary Book

Air Quality

Unmitigated Air Quality Emissions Estimate		Pollutant (lbs/day)					
		ROG	NOx	CO	SO2	PM10	PM2.5
Summer	Construction	17	87	111	0	60	17
	Area	93	7	181	0	23	23
	Energy	0	2	1	0	0	0
	Mobile	5	35	47	0	13	3
Winter	Construction	17	87	104	0	60	17
	Area	93	7	181	0	23	23
	Energy	0	2	1	0	0	0
	Mobile	4	35	42	0	13	3

Unmitigated Air Quality Emissions Estimate	Pollutant (lbs/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Construction Emissions	**17**	**87**	**111**	**0**	**60**	**17**
Maximum Daily Operation Emissions	**99**	**44**	**228**	**1**	**36**	**27**
Area	*93*	*7*	*181*	*0*	*23*	*23*
Energy	*0*	*2*	*1*	*0*	*0*	*0*
Mobile	*5*	*35*	*47*	*0*	*13*	*3*
Maximum Daily On-site Operation Emissions		**9**	**182**		**24**	**24**

Mitigated Air Quality Emissions Estimate		Pollutant (lbs/day)					
		ROG	NOx	CO	SO2	PM10	PM2.5
Summer	Construction	17	87	111	0	60	17
	Area	14	5	27	0	1	1
	Energy	0	2	1	0	0	0
	Mobile	5	35	47	0	13	3
Winter	Construction	17	87	104	0	60	17
	Area	14	5	27	0	1	1
	Energy	0	2	1	0	0	0
	Mobile	4	35	42	0	13	3

Mitigated Air Quality Emissions Estimate	Pollutant (lbs/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Construction Emissions	**17**	**87**	**111**	**0**	**60**	**17**
Maximum Daily Operation Emissions	**19**	**43**	**75**	**0**	**13**	**4**
Area	*14*	*5*	*27*	*0*	*1*	*1*
Energy	*0*	*2*	*1*	*0*	*0*	*0*
Mobile	*5*	*35*	*47*	*0*	*13*	*3*
Maximum Daily On-site Operation Emissions		**7**	**28**		**1**	**1**

Greenhouse Gases

GHG Emissions Estimate			
Emission Source	Emissions ($MTCO_2E$)		
	Unmitigated	AIR-1 & AIR-2	Mitigated
Mobile	2,867	2,867	2,867
Energy	1,053	1,053	698
Area	103	72	72
Water	110	110	110
Waste	180	180	180
Construction	274	274	274
Total	**4,587**	**4,555**	**4,201**
Project Residents	965 people		
Per Service Population	**4.75**	**4.72**	**4.35**

Rockport Ranch 2021 - Riverside-South Coast County, Summer

Rockport Ranch 2021

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1,009.11	1000sqft	23.17	1,009,110.00	0
Other Non-Asphalt Surfaces	759.41	1000sqft	17.43	759,410.00	0
Single Family Housing	305.00	Dwelling Unit	38.69	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	457.58	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CalEEMod default intensity factor is based on SCE's 2012 Corporate Responsibility Report. Updated based on 2015 Corporate Responsibility Report, which reports 517 CO2E/MWh and scaled based on increased RPS compliance.

Land Use - Project Description; single family housing acreage includes lots; other asphalt surfaces includes sidwalks, streets, cluster driveways, intersections, etc.; other non-asphalt surfaces includes all other areas such as landscaping.

Construction Phase - CalEEMod phased durations scaled based on anticiapted project schedule; grading modeled as 10 months; architectural coatings applied during building construction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Client estimated grading duration exceeds CalEEMod grading duration; no change in equipment requirements.

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Demolition - Two operations biuldings (approx. 7,000 sf), one single-family residence (approxiamtely 5,800 sf), three modular homes (approx 1,500 sf each).

Grading - 177,500 cubic yards cut, 412,350 cubic yards fill; 234,850 cubic yards import.

Vehicle Trips - Project Traffic Impact Analysis indicates the project would generate 9.52 tips/units/day. Vehicle trip length 6.05 derrived from Riverside County South Coast subarea EMFAC2014 data for total trips and VMT.

Construction Off-road Equipment Mitigation - Equipment per CARB In-use Offroad Fleet Regulations; Site Watering per SCAQMD requirements

Area Mitigation - Mitigation AIR-1

Energy Mitigation - Mitigation GHG-1. kWh calculated based on the difference between unmitigated emissions and Annual Emission Reduction (4.561 MTCO2E/SP).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	23.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	110.00	482.00
tblConstructionPhase	NumDays	1,550.00	482.00
tblConstructionPhase	NumDays	100.00	31.00
tblConstructionPhase	NumDays	155.00	218.00
tblConstructionPhase	NumDays	110.00	34.00
tblConstructionPhase	NumDays	60.00	19.00
tblGrading	AcresOfGrading	545.00	79.70
tblGrading	MaterialImported	0.00	234,850.00
tblLandUse	LotAcreage	99.03	38.69
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	702.44	457.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleTrips	HO_TL	8.70	6.05
tblVehicleTrips	HS_TL	5.90	6.05
tblVehicleTrips	HW_TL	14.70	6.05

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					
2018	14.0072	144.7992	70.0502	0.1690	54.7912	7.7344	62.5256	29.9492	7.1157	37.0648	0.0000	17,568.1123	17,568.1123	3.5974	0.0000	17,634.3889
2019	22.7409	108.8570	109.3760	0.2914	62.7909	4.6050	65.2993	17.2503	4.3559	19.5625	0.0000	29,196.4573	29,196.4573	3.0059	0.0000	29,271.6041
2020	21.3419	98.8225	103.3901	0.2870	13.5079	3.9417	17.4496	3.6292	3.7279	7.3571	0.0000	28,651.4491	28,651.4491	2.8882	0.0000	28,723.6540
Maximum	**22.7409**	**144.7992**	**109.3760**	**0.2914**	**62.7909**	**7.7344**	**65.2993**	**29.9492**	**7.1157**	**37.0648**	**0.0000**	**29,196.4573**	**29,196.4573**	**3.5974**	**0.0000**	**29,271.6041**

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					
2018	3.1125	66.7046	76.3277	0.1690	21.7299	2.8422	24.5721	11.7760	2.8419	14.6179	0.0000	17,568.1123	17,568.1123	3.5974	0.0000	17,634.3889
2019	17.0581	86.8636	111.4792	0.2914	58.7977	3.3450	60.2229	15.1929	3.3273	16.6125	0.0000	29,196.4573	29,196.4573	3.0059	0.0000	29,271.6041
2020	16.4558	82.9620	106.4689	0.2870	13.5079	3.2537	16.7615	3.6292	3.2400	6.8692	0.0000	28,651.4491	28,651.4491	2.8882	0.0000	28,723.6540
Maximum	**17.0581**	**86.8636**	**111.4792**	**0.2914**	**58.7977**	**3.3450**	**60.2229**	**15.1929**	**3.3273**	**16.6125**	**0.0000**	**29,196.4573**	**29,196.4573**	**3.5974**	**0.0000**	**29,271.6041**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.95**	**32.90**	**-4.05**	**0.00**	**28.27**	**42.01**	**30.09**	**39.80**	**38.09**	**40.45**	**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	93.2745	6.6210	180.5071	0.3970		23.4381	23.4381		23.4381	23.4381	2,856.9101	5,535.6955	8,392.6056	8.5648	0.1939	8,664.5097
Energy	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Mobile	5.2426	35.4617	46.9701	0.1884	12.6061	0.1284	12.7345	3.3730	0.1205	3.4934		19,247.9205	19,247.9205	1.1587		19,276.8877
Total	**98.7928**	**44.4388**	**228.4799**	**0.6005**	**12.6061**	**23.7570**	**36.3631**	**3.3730**	**23.7490**	**27.1220**	**2,856.9101**	**27,791.4567**	**30,648.3668**	**9.7811**	**0.2491**	**30,967.1122**

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	13.8864	4.8462	27.3365	0.0304		0.5078	0.5078		0.5078	0.5078	0.0000	5,858.6367	5,858.6367	0.1564	0.1066	5,894.3035
Energy	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Mobile	5.2426	35.4617	46.9701	0.1884	12.6061	0.1284	12.7345	3.3730	0.1205	3.4934		19,247.9205	19,247.9205	1.1587		19,276.8877
Total	**19.4047**	**42.6641**	**75.3092**	**0.2338**	**12.6061**	**0.8267**	**13.4328**	**3.3730**	**0.8188**	**4.1917**	**0.0000**	**28,114.3979**	**28,114.3979**	**1.3727**	**0.1617**	**28,196.9060**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**80.36**	**3.99**	**67.04**	**61.06**	**0.00**	**96.52**	**63.06**	**0.00**	**96.55**	**84.54**	**100.00**	**-1.16**	**8.27**	**85.97**	**35.07**	**8.95**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	2/12/2018	5	31	
2	Site Preparation	Site Preparation	2/13/2018	3/9/2018	5	19	
3	Grading	Grading	3/10/2018	1/9/2019	5	218	
4	Building Construction	Building Construction	1/10/2019	11/13/2020	5	482	
5	Paving	Paving	11/14/2020	12/31/2020	5	34	
6	Architectural Coating	Architectural Coating	1/10/2019	11/13/2020	5	482	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 79.7

Acres of Paving: 40.6

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	3	8.00	81	0.73
Demolition	Excavators	9	8.00	158	0.38
Demolition	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	9	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	12	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	9	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	9	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	3	6.00	78	0.48
Paving	Pavers	6	8.00	130	0.42
Paving	Paving Equipment	6	8.00	132	0.36
Paving	Rollers	6	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	18	45.00	0.00	79.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	21	53.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	29,356.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	27	853.00	322.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	171.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5527	0.0000	0.5527	0.0837	0.0000	0.0837			0.0000			0.0000
Off-Road	11.1569	114.9675	66.9121	0.1165		5.8157	5.8157		5.4145	5.4145		11,615.2995	11,615.2995	3.2002		11,695.3032
Total	**11.1569**	**114.9675**	**66.9121**	**0.1165**	**0.5527**	**5.8157**	**6.3684**	**0.0837**	**5.4145**	**5.4982**		**11,615.2995**	**11,615.2995**	**3.2002**		**11,695.3032**

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	0.0150	0.6936	0.0805	1.9800e-003	0.0446	2.6000e-003	0.0472	0.0122	2.4900e-003	0.0147		209.8546	209.8546	0.0133		210.1858
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2709	0.1723	2.2256	5.3100e-003	0.5030	3.1400e-003	0.5061	0.1334	2.9000e-003	0.1363		527.9721	527.9721	0.0161		528.3740
Total	**0.2859**	**0.8659**	**2.3061**	**7.2900e-003**	**0.5476**	**5.7400e-003**	**0.5533**	**0.1456**	**5.3900e-003**	**0.1510**		**737.8268**	**737.8268**	**0.0293**		**738.5598**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2156	0.0000	0.2156	0.0326	0.0000	0.0326			0.0000			0.0000
Off-Road	2.7737	54.9388	74.0216	0.1165		2.5882	2.5882		2.5882	2.5882	0.0000	11,615.2995	11,615.2995	3.2002		11,695.3032
Total	**2.7737**	**54.9388**	**74.0216**	**0.1165**	**0.2156**	**2.5882**	**2.8037**	**0.0326**	**2.5882**	**2.6208**	**0.0000**	**11,615.2995**	**11,615.2995**	**3.2002**		**11,695.3032**

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	0.0150	0.6936	0.0805	1.9800e-003	0.0446	2.6000e-003	0.0472	0.0122	2.4900e-003	0.0147		209.8546	209.8546	0.0133		210.1858
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2709	0.1723	2.2256	5.3100e-003	0.5030	3.1400e-003	0.5061	0.1334	2.9000e-003	0.1363		527.9721	527.9721	0.0161		528.3740
Total	**0.2859**	**0.8659**	**2.3061**	**7.2900e-003**	**0.5476**	**5.7400e-003**	**0.5533**	**0.1456**	**5.3900e-003**	**0.1510**		**737.8268**	**737.8268**	**0.0293**		**738.5598**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					54.1988	0.0000	54.1988	29.7921	0.0000	29.7921			0.0000			0.0000
Off-Road	13.6881	144.5963	67.4289	0.1141		7.7307	7.7307		7.1123	7.1123		11,494.87 16	11,494.871 6	3.5785		11,584.33 44
Total	**13.6881**	**144.5963**	**67.4289**	**0.1141**	**54.1988**	**7.7307**	**61.9295**	**29.7921**	**7.1123**	**36.9043**		**11,494.87 16**	**11,494.871 6**	**3.5785**		**11,584.33 44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3191	0.2029	2.6213	6.2500e-003	0.5924	3.7000e-003	0.5961	0.1571	3.4100e-003	0.1605		621.8339	621.8339	0.0189		622.3071
Total	**0.3191**	**0.2029**	**2.6213**	**6.2500e-003**	**0.5924**	**3.7000e-003**	**0.5961**	**0.1571**	**3.4100e-003**	**0.1605**		**621.8339**	**621.8339**	**0.0189**		**622.3071**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.1375	0.0000	21.1375	11.6189	0.0000	11.6189			0.0000			0.0000
Off-Road	2.7934	57.1969	68.8801	0.1141		2.8385	2.8385		2.8385	2.8385	0.0000	11,494.87 16	11,494.871 6	3.5785		11,584.33 43

Total	**2.7934**	**57.1969**	**68.8801**	**0.1141**	**21.1375**	**2.8385**	**23.9760**	**11.6189**	**2.8385**	**14.4574**	**0.0000**	**11,494.8716**	**11,494.8716**	**3.5785**		**11,584.3343**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3191	0.2029	2.6213	6.2500e-003	0.5924	3.7000e-003	0.5961	0.1571	3.4100e-003	0.1605		621.8339	621.8339	0.0189		622.3071
Total	**0.3191**	**0.2029**	**2.6213**	**6.2500e-003**	**0.5924**	**3.7000e-003**	**0.5961**	**0.1571**	**3.4100e-003**	**0.1605**		**621.8339**	**621.8339**	**0.0189**		**622.3071**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5462	0.0000	6.5462	3.3728	0.0000	3.3728			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.5462**	**2.6337**	**9.1800**	**3.3728**	**2.4230**	**5.7958**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

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	0.7944	36.6498	4.2520	0.1046	2.4152	0.1376	2.5528	0.6604	0.1317	0.7921		11,089.0296	11,089.0296	0.7000		11,106.5283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1204	0.0766	0.9892	2.3600e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606		234.6543	234.6543	7.1400e-003		234.8329
Total	**0.9148**	**36.7264**	**5.2412**	**0.1070**	**2.6387**	**0.1390**	**2.7777**	**0.7197**	**0.1329**	**0.8526**		**11,323.6839**	**11,323.6839**	**0.7071**		**11,341.3611**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5530	0.0000	2.5530	1.3154	0.0000	1.3154			0.0000			0.0000
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**1.5231**	**29.9782**	**36.7226**	**0.0620**	**2.5530**	**1.2994**	**3.8525**	**1.3154**	**1.2994**	**2.6148**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

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	0.7944	36.6498	4.2520	0.1046	2.4152	0.1376	2.5528	0.6604	0.1317	0.7921		11,089.0296	11,089.0296	0.7000		11,106.5283
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1204	0.0766	0.9892	2.3600e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606		234.6543	234.6543	7.1400e-003		234.8329
Total	**0.9148**	**36.7264**	**5.2412**	**0.1070**	**2.6387**	**0.1390**	**2.7777**	**0.7197**	**0.1329**	**0.8526**		**11,323.6839**	**11,323.6839**	**0.7071**		**11,341.3611**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5462	0.0000	6.5462	3.3728	0.0000	3.3728			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5462**	**2.3827**	**8.9289**	**3.3728**	**2.1920**	**5.5648**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.7564	34.4004	4.1368	0.1036	56.0212	0.1243	56.1455	13.8182	0.1189	13.9372		10,988.1898	10,988.1898	0.6827		11,005.2570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1101	0.0676	0.8885	2.2900e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		227.5045	227.5045	6.3700e-003		227.6637
Total	**0.8666**	**34.4680**	**5.0253**	**0.1059**	**56.2447**	**0.1257**	**56.3704**	**13.8775**	**0.1202**	**13.9977**		**11,215.6942**	**11,215.6942**	**0.6891**		**11,232.9207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5530	0.0000	2.5530	1.3154	0.0000	1.3154			0.0000			0.0000
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**1.5231**	**29.9782**	**36.7226**	**0.0620**	**2.5530**	**1.2994**	**3.8525**	**1.3154**	**1.2994**	**2.6148**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.7564	34.4004	4.1368	0.1036	56.0212	0.1243	56.1455	13.8182	0.1189	13.9372		10,988.1898	10,988.1898	0.6827		11,005.2570
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1101	0.0676	0.8885	2.2900e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		227.5045	227.5045	6.3700e-003		227.6637
Total	**0.8666**	**34.4680**	**5.0253**	**0.1059**	**56.2447**	**0.1257**	**56.3704**	**13.8775**	**0.1202**	**13.9977**		**11,215.6942**	**11,215.6942**	**0.6891**		**11,232.9207**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.0835	63.2364	51.4913	0.0807		3.8696	3.8696		3.6382	3.6382		7,774.7405	7,774.7405	1.8940		7,822.0905
Total	**7.0835**	**63.2364**	**51.4913**	**0.0807**		**3.8696**	**3.8696**		**3.6382**	**3.6382**		**7,774.7405**	**7,774.7405**	**1.8940**		**7,822.0905**

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	1.0725	36.6544	6.8690	0.0847	2.0621	0.2784	2.3405	0.5937	0.2664	0.8601		8,929.1442	8,929.1442	0.7145		8,947.0055
Worker	4.6966	2.8823	37.8950	0.0975	9.5345	0.0589	9.5934	2.5286	0.0542	2.5828		9,703.0654	9,703.0654	0.2716		9,709.8565
Total	**5.7691**	**39.5366**	**44.7639**	**0.1822**	**11.5966**	**0.3373**	**11.9339**	**3.1223**	**0.3206**	**3.4429**		**18,632.2096**	**18,632.2096**	**0.9861**		**18,656.8620**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0217	42.6782	53.6213	0.0807		2.7106	2.7106		2.7106	2.7106	0.0000	7,774.7405	7,774.7405	1.8940		7,822.0905

Total	**2.0217**	**42.6782**	**53.6213**	**0.0807**		**2.7106**	**2.7106**		**2.7106**	**2.7106**	**0.0000**	**7,774.7405**	**7,774.7405**	**1.8940**		**7,822.0905**

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	1.0725	36.6544	6.8690	0.0847	2.0621	0.2784	2.3405	0.5937	0.2664	0.8601		8,929.1442	8,929.1442	0.7145		8,947.0055
Worker	4.6966	2.8823	37.8950	0.0975	9.5345	0.0589	9.5934	2.5286	0.0542	2.5828		9,703.0654	9,703.0654	0.2716		9,709.8565
Total	**5.7691**	**39.5366**	**44.7639**	**0.1822**	**11.5966**	**0.3373**	**11.9339**	**3.1223**	**0.3206**	**3.4429**		**18,632.2096**	**18,632.2096**	**0.9861**		**18,656.8620**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.3595	57.5581	50.5455	0.0807		3.3511	3.3511		3.1510	3.1510		7,659.1892	7,659.1892	1.8686		7,705.9034
Total	**6.3595**	**57.5581**	**50.5455**	**0.0807**		**3.3511**	**3.3511**		**3.1510**	**3.1510**		**7,659.1892**	**7,659.1892**	**1.8686**		**7,705.9034**

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	0.8975	33.1312	6.0611	0.0841	2.0620	0.1884	2.2504	0.5937	0.1803	0.7740		8,867.5877	8,867.5877	0.6651		8,884.2155
Worker	4.3408	2.5671	34.3942	0.0944	9.5345	0.0577	9.5923	2.5286	0.0532	2.5818		9,396.6014	9,396.6014	0.2409		9,402.6229
Total	**5.2382**	**35.6983**	**40.4553**	**0.1785**	**11.5965**	**0.2462**	**11.8427**	**3.1223**	**0.2334**	**3.3557**		**18,264.1892**	**18,264.1892**	**0.9060**		**18,286.8384**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0217	42.6782	53.6213	0.0807		2.7106	2.7106		2.7106	2.7106	0.0000	7,659.1891	7,659.1891	1.8686		7,705.9034
Total	**2.0217**	**42.6782**	**53.6213**	**0.0807**		**2.7106**	**2.7106**		**2.7106**	**2.7106**	**0.0000**	**7,659.1891**	**7,659.1891**	**1.8686**		**7,705.9034**

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	0.8975	33.1312	6.0611	0.0841	2.0620	0.1884	2.2504	0.5937	0.1803	0.7740		8,867.5877	8,867.5877	0.6651		8,884.2155
Worker	4.3408	2.5671	34.3942	0.0944	9.5345	0.0577	9.5923	2.5286	0.0532	2.5818		9,396.6014	9,396.6014	0.2409		9,402.6229
Total	**5.2382**	**35.6983**	**40.4553**	**0.1785**	**11.5965**	**0.2462**	**11.8427**	**3.1223**	**0.2334**	**3.3557**		**18,264.1892**	**18,264.1892**	**0.9060**		**18,286.8384**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0697	42.1967	43.9562	0.0684		2.2584	2.2584		2.0777	2.0777		6,623.2003	6,623.2003	2.1421		6,676.7522
Paving	1.7855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.8551**	**42.1967**	**43.9562**	**0.0684**		**2.2584**	**2.2584**		**2.0777**	**2.0777**		**6,623.2003**	**6,623.2003**	**2.1421**		**6,676.7522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2290	0.1354	1.8145	4.9800e-003	0.5030	3.0500e-003	0.5060	0.1334	2.8000e-003	0.1362		495.7175	495.7175	0.0127		496.0352
Total	**0.2290**	**0.1354**	**1.8145**	**4.9800e-003**	**0.5030**	**3.0500e-003**	**0.5060**	**0.1334**	**2.8000e-003**	**0.1362**		**495.7175**	**495.7175**	**0.0127**		**496.0352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6828	33.8857	51.8870	0.0684		1.8280	1.8280		1.8280	1.8280	0.0000	6,623.2003	6,623.2003	2.1421		6,676.7522
Paving	1.7855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4683**	**33.8857**	**51.8870**	**0.0684**		**1.8280**	**1.8280**		**1.8280**	**1.8280**	**0.0000**	**6,623.2003**	**6,623.2003**	**2.1421**		**6,676.7522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2290	0.1354	1.8145	4.9800e-003	0.5030	3.0500e-003	0.5060	0.1334	2.8000e-003	0.1362		495.7175	495.7175	0.0127		496.0352
Total	**0.2290**	**0.1354**	**1.8145**	**4.9800e-003**	**0.5030**	**3.0500e-003**	**0.5060**	**0.1334**	**2.8000e-003**	**0.1362**		**495.7175**	**495.7175**	**0.0127**		**496.0352**

3.7 Architectural Coating - 2019

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7993	5.5062	5.5240	8.9100e-003		0.3863	0.3863		0.3863	0.3863		844.3442	844.3442	0.0713		846.1270
Total	**8.9468**	**5.5062**	**5.5240**	**8.9100e-003**		**0.3863**	**0.3863**		**0.3863**	**0.3863**		**844.3442**	**844.3442**	**0.0713**		**846.1270**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9415	0.5778	7.5968	0.0195	1.9114	0.0118	1.9232	0.5069	0.0109	0.5178		1,945.1632	1,945.1632	0.0545		1,946.5246
Total	**0.9415**	**0.5778**	**7.5968**	**0.0195**	**1.9114**	**0.0118**	**1.9232**	**0.5069**	**0.0109**	**0.5178**		**1,945.1632**	**1,945.1632**	**0.0545**		**1,946.5246**

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1783	4.0709	5.4972	8.9100e-003		0.2853	0.2853		0.2853	0.2853	0.0000	844.3441	844.3441	0.0713		846.1270
Total	**8.3257**	**4.0709**	**5.4972**	**8.9100e-003**		**0.2853**	**0.2853**		**0.2853**	**0.2853**	**0.0000**	**844.3441**	**844.3441**	**0.0713**		**846.1270**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9415	0.5778	7.5968	0.0195	1.9114	0.0118	1.9232	0.5069	0.0109	0.5178		1,945.1632	1,945.1632	0.0545		1,946.5246
Total	**0.9415**	**0.5778**	**7.5968**	**0.0195**	**1.9114**	**0.0118**	**1.9232**	**0.5069**	**0.0109**	**0.5178**		**1,945.1632**	**1,945.1632**	**0.0545**		**1,946.5246**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7265	5.0515	5.4943	8.9100e-003		0.3328	0.3328		0.3328	0.3328		844.3442	844.3442	0.0654		845.9785
Total	**8.8740**	**5.0515**	**5.4943**	**8.9100e-003**		**0.3328**	**0.3328**		**0.3328**	**0.3328**		**844.3442**	**844.3442**	**0.0654**		**845.9785**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8702	0.5146	6.8950	0.0189	1.9114	0.0116	1.9230	0.5069	0.0107	0.5176		1,883.7267	1,883.7267	0.0483		1,884.9338
Total	**0.8702**	**0.5146**	**6.8950**	**0.0189**	**1.9114**	**0.0116**	**1.9230**	**0.5069**	**0.0107**	**0.5176**		**1,883.7267**	**1,883.7267**	**0.0483**		**1,884.9338**

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1783	4.0709	5.4972	8.9100e-003		0.2853	0.2853		0.2853	0.2853	0.0000	844.3441	844.3441	0.0654		845.9785
Total	**8.3257**	**4.0709**	**5.4972**	**8.9100e-003**		**0.2853**	**0.2853**		**0.2853**	**0.2853**	**0.0000**	**844.3441**	**844.3441**	**0.0654**		**845.9785**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8702	0.5146	6.8950	0.0189	1.9114	0.0116	1.9230	0.5069	0.0107	0.5176		1,883.7267	1,883.7267	0.0483		1,884.9338
Total	**0.8702**	**0.5146**	**6.8950**	**0.0189**	**1.9114**	**0.0116**	**1.9230**	**0.5069**	**0.0107**	**0.5176**		**1,883.7267**	**1,883.7267**	**0.0483**		**1,884.9338**

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	5.2426	35.4617	46.9701	0.1884	12.6061	0.1284	12.7345	3.3730	0.1205	3.4934		19,247.9205	19,247.9205	1.1587		19,276.8877
Unmitigated	5.2426	35.4617	46.9701	0.1884	12.6061	0.1284	12.7345	3.3730	0.1205	3.4934		19,247.9205	19,247.9205	1.1587		19,276.8877

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	2,903.60	3,022.55	2629.10	5,634,664	5,634,664
Total	2,903.60	3,022.55	2,629.10	5,634,664	5,634,664

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	6.05	6.05	6.05	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
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Non-Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Single Family Housing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
NaturalGas Unmitigated	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	25566.6	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Total		**0.2757**	**2.3561**	**1.0026**	**0.0150**		**0.1905**	**0.1905**		**0.1905**	**0.1905**		**3,007.8407**	**3,007.8407**	**0.0577**	**0.0551**	**3,025.7148**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	25.5666	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Total		**0.2757**	**2.3561**	**1.0026**	**0.0150**		**0.1905**	**0.1905**		**0.1905**	**0.1905**		**3,007.8407**	**3,007.8407**	**0.0577**	**0.0551**	**3,025.7148**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	13.8864	4.8462	27.3365	0.0304		0.5078	0.5078		0.5078	0.5078	0.0000	5,858.6367	5,858.6367	0.1564	0.1066	5,894.3035
Unmitigated	93.2745	6.6210	180.5071	0.3970		23.4381	23.4381		23.4381	23.4381	2,856.9101	5,535.6955	8,392.6056	8.5648	0.1939	8,664.5097

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	1.0759					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.4966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	79.9210	6.3282	155.1083	0.3957		23.2984	23.2984		23.2984	23.2984	2,856.9101	5,490.0000	8,346.9101	8.5199	0.1939	8,617.6908
Landscaping	0.7810	0.2928	25.3988	1.3400e-003		0.1397	0.1397		0.1397	0.1397		45.6955	45.6955	0.0449		46.8189
Total	**93.2745**	**6.6210**	**180.5071**	**0.3970**		**23.4381**	**23.4381**		**23.4381**	**23.4381**	**2,856.9101**	**5,535.6955**	**8,392.6056**	**8.5648**	**0.1939**	**8,664.5097**

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	1.0759					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.4966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5329	4.5535	1.9377	0.0291		0.3682	0.3682		0.3682	0.3682	0.0000	5,812.9412	5,812.9412	0.1114	0.1066	5,847.4846
Landscaping	0.7810	0.2928	25.3988	1.3400e-003		0.1397	0.1397		0.1397	0.1397		45.6955	45.6955	0.0449		46.8189
Total	**13.8864**	**4.8462**	**27.3365**	**0.0304**		**0.5078**	**0.5078**		**0.5078**	**0.5078**	**0.0000**	**5,858.6367**	**5,858.6367**	**0.1564**	**0.1066**	**5,894.3035**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Rockport Ranch 2021 - Riverside-South Coast County, Winter

Rockport Ranch 2021

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1,009.11	1000sqft	23.17	1,009,110.00	0
Other Non-Asphalt Surfaces	759.41	1000sqft	17.43	759,410.00	0
Single Family Housing	305.00	Dwelling Unit	38.69	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	457.58	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CalEEMod default intensity factor is based on SCE's 2012 Corporate Responsibility Report. Updated based on 2015 Corporate Responsibility Report, which reports 517 CO2E/MWh and scaled based on increased RPS compliance.

Land Use - Project Description; single family housing acreage includes lots; other asphalt surfaces includes sidwalks, streets, cluster driveways, intersections, etc.; other non-asphalt surfaces includes all other areas such as landscaping.

Construction Phase - CalEEMod phased durations scaled based on anticiapted project schedule; grading modeled as 10 months; architectural coatings applied during building construction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Client estimated grading duration exceeds CalEEMod grading duration; no change in equipment requirements.

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Demolition - Two operations biuldings (approx. 7,000 sf), one single-family residence (approxiamtely 5,800 sf), three modular homes (approx 1,500 sf each).

Grading - 177,500 cubic yards cut, 412,350 cubic yards fill; 234,850 cubic yards import.

Vehicle Trips - Project Traffic Impact Analysis indicates the project would generate 9.52 tips/units/day. Vehicle trip length 6.05 derrived from Riverside County South Coast subarea EMFAC2014 data for total trips and VMT.

Construction Off-road Equipment Mitigation - Equipment per CARB In-use Offroad Fleet Regulations; Site Watering per SCAQMD requirements

Area Mitigation - Mitigation AIR-1

Energy Mitigation - Mitigation GHG-1. kWh calculated based on the difference between unmitigated emissions and Annual Emission Reduction (4.561 MTCO2E/SP).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	23.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	482.00
tblConstructionPhase	NumDays	1,550.00	482.00
tblConstructionPhase	NumDays	100.00	31.00
tblConstructionPhase	NumDays	155.00	218.00
tblConstructionPhase	NumDays	110.00	34.00
tblConstructionPhase	NumDays	60.00	19.00
tblGrading	AcresOfGrading	545.00	79.70
tblGrading	MaterialImported	0.00	234,850.00
tblLandUse	LotAcreage	99.03	38.69
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	702.44	457.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleTrips	HO_TL	8.70	6.05
tblVehicleTrips	HS_TL	5.90	6.05
tblVehicleTrips	HW_TL	14.70	6.05

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					
2018	13.9995	144.8065	69.5595	0.1662	54.7912	7.7344	62.5256	29.9492	7.1157	37.0648	0.0000	17,270.6007	17,270.6007	3.5950	0.0000	17,338.5088
2019	22.6650	108.8953	101.8713	0.2761	62.7909	4.6084	65.3015	17.2503	4.3592	19.5646	0.0000	27,664.6044	27,664.6044	3.0426	0.0000	27,740.6685
2020	21.2833	98.7554	96.5368	0.2722	13.5079	3.9439	17.4518	3.6292	3.7300	7.3592	0.0000	27,157.4448	27,157.4448	2.9254	0.0000	27,230.5802
Maximum	**22.6650**	**144.8065**	**101.8713**	**0.2761**	**62.7909**	**7.7344**	**65.3015**	**29.9492**	**7.1157**	**37.0648**	**0.0000**	**27,664.6044**	**27,664.6044**	**3.5950**	**0.0000**	**27,740.6685**

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					
2018	3.1048	67.1121	75.9255	0.1662	21.7299	2.8422	24.5721	11.7760	2.8419	14.6179	0.0000	17,270.6007	17,270.6007	3.5950	0.0000	17,338.5088
2019	16.9821	86.9018	103.9746	0.2761	58.7977	3.3484	60.2251	15.1929	3.3307	16.6146	0.0000	27,664.6043	27,664.6043	3.0426	0.0000	27,740.6685
2020	16.3972	82.8948	99.6156	0.2722	13.5079	3.2559	16.7637	3.6292	3.2421	6.8713	0.0000	27,157.4448	27,157.4448	2.9254	0.0000	27,230.5801
Maximum	**16.9821**	**86.9018**	**103.9746**	**0.2761**	**58.7977**	**3.3484**	**60.2251**	**15.1929**	**3.3307**	**16.6146**	**0.0000**	**27,664.6043**	**27,664.6043**	**3.5950**	**0.0000**	**27,740.6685**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**37.04**	**32.78**	**-4.31**	**0.00**	**28.27**	**42.00**	**30.09**	**39.80**	**38.08**	**40.45**	**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	93.2745	6.6210	180.5071	0.3970		23.4381	23.4381		23.4381	23.4381	2,856.9101	5,535.6955	8,392.6056	8.5648	0.1939	8,664.5097
Energy	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Mobile	4.3805	35.1256	42.3227	0.1732	12.6061	0.1305	12.7366	3.3730	0.1225	3.4954		17,714.1923	17,714.1923	1.2266		17,744.8562
Total	**97.9307**	**44.1027**	**223.8325**	**0.5853**	**12.6061**	**23.7591**	**36.3651**	**3.3730**	**23.7510**	**27.1240**	**2,856.9101**	**26,257.7285**	**29,114.6386**	**9.8490**	**0.2491**	**29,435.0807**

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	13.8864	4.8462	27.3365	0.0304		0.5078	0.5078		0.5078	0.5078	0.0000	5,858.6367	5,858.6367	0.1564	0.1066	5,894.3035
Energy	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Mobile	4.3805	35.1256	42.3227	0.1732	12.6061	0.1305	12.7366	3.3730	0.1225	3.4954		17,714.1923	17,714.1923	1.2266		17,744.8562
Total	**18.5426**	**42.3280**	**70.6618**	**0.2187**	**12.6061**	**0.8288**	**13.4349**	**3.3730**	**0.8208**	**4.1937**	**0.0000**	**26,580.6697**	**26,580.6697**	**1.4406**	**0.1617**	**26,664.8745**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**81.07**	**4.02**	**68.43**	**62.64**	**0.00**	**96.51**	**63.06**	**0.00**	**96.54**	**84.54**	**100.00**	**-1.23**	**8.70**	**85.37**	**35.07**	**9.41**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	2/12/2018	5	31	
2	Site Preparation	Site Preparation	2/13/2018	3/9/2018	5	19	
3	Grading	Grading	3/10/2018	1/9/2019	5	218	
4	Building Construction	Building Construction	1/10/2019	11/13/2020	5	482	
5	Paving	Paving	11/14/2020	12/31/2020	5	34	
6	Architectural Coating	Architectural Coating	1/10/2019	11/13/2020	5	482	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 79.7

Acres of Paving: 40.6

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	3	8.00	81	0.73
Demolition	Excavators	9	8.00	158	0.38
Demolition	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	9	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	12	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	9	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	9	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	3	6.00	78	0.48
Paving	Pavers	6	8.00	130	0.42
Paving	Paving Equipment	6	8.00	132	0.36
Paving	Rollers	6	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	18	45.00	0.00	79.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	21	53.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	29,356.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	27	853.00	322.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	171.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5527	0.0000	0.5527	0.0837	0.0000	0.0837			0.0000			0.0000
Off-Road	11.1569	114.9675	66.9121	0.1165		5.8157	5.8157		5.4145	5.4145		11,615.2995	11,615.2995	3.2002		11,695.3032
Total	**11.1569**	**114.9675**	**66.9121**	**0.1165**	**0.5527**	**5.8157**	**6.3684**	**0.0837**	**5.4145**	**5.4982**		**11,615.2995**	**11,615.2995**	**3.2002**		**11,695.3032**

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	0.0158	0.7012	0.0949	1.9300e-003	0.0446	2.6500e-003	0.0472	0.0122	2.5400e-003	0.0148		204.6807	204.6807	0.0145		205.0431
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2644	0.1785	1.8090	4.7600e-003	0.5030	3.1400e-003	0.5061	0.1334	2.9000e-003	0.1363		473.7232	473.7232	0.0140		474.0736
Total	**0.2802**	**0.8798**	**1.9039**	**6.6900e-003**	**0.5476**	**5.7900e-003**	**0.5534**	**0.1456**	**5.4400e-003**	**0.1511**		**678.4038**	**678.4038**	**0.0285**		**679.1167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2156	0.0000	0.2156	0.0326	0.0000	0.0326			0.0000			0.0000
Off-Road	2.7737	54.9388	74.0216	0.1165		2.5882	2.5882		2.5882	2.5882	0.0000	11,615.2995	11,615.2995	3.2002		11,695.3032
Total	**2.7737**	**54.9388**	**74.0216**	**0.1165**	**0.2156**	**2.5882**	**2.8037**	**0.0326**	**2.5882**	**2.6208**	**0.0000**	**11,615.2995**	**11,615.2995**	**3.2002**		**11,695.3032**

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	0.0158	0.7012	0.0949	1.9300e-003	0.0446	2.6500e-003	0.0472	0.0122	2.5400e-003	0.0148		204.6807	204.6807	0.0145		205.0431
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2644	0.1785	1.8090	4.7600e-003	0.5030	3.1400e-003	0.5061	0.1334	2.9000e-003	0.1363		473.7232	473.7232	0.0140		474.0736
Total	**0.2802**	**0.8798**	**1.9039**	**6.6900e-003**	**0.5476**	**5.7900e-003**	**0.5534**	**0.1456**	**5.4400e-003**	**0.1511**		**678.4038**	**678.4038**	**0.0285**		**679.1167**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					54.1988	0.0000	54.1988	29.7921	0.0000	29.7921			0.0000			0.0000
Off-Road	13.6881	144.5963	67.4289	0.1141		7.7307	7.7307		7.1123	7.1123		11,494.87 16	11,494.871 6	3.5785		11,584.33 44
Total	**13.6881**	**144.5963**	**67.4289**	**0.1141**	**54.1988**	**7.7307**	**61.9295**	**29.7921**	**7.1123**	**36.9043**		**11,494.87 16**	**11,494.871 6**	**3.5785**		**11,584.33 44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3114	0.2103	2.1306	5.6000e-003	0.5924	3.7000e-003	0.5961	0.1571	3.4100e-003	0.1605		557.9406	557.9406	0.0165		558.3533
Total	**0.3114**	**0.2103**	**2.1306**	**5.6000e-003**	**0.5924**	**3.7000e-003**	**0.5961**	**0.1571**	**3.4100e-003**	**0.1605**		**557.9406**	**557.9406**	**0.0165**		**558.3533**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.1375	0.0000	21.1375	11.6189	0.0000	11.6189			0.0000			0.0000
Off-Road	2.7934	57.1969	68.8801	0.1141		2.8385	2.8385		2.8385	2.8385	0.0000	11,494.87 16	11,494.871 6	3.5785		11,584.33 43

Total	**2.7934**	**57.1969**	**68.8801**	**0.1141**	**21.1375**	**2.8385**	**23.9760**	**11.6189**	**2.8385**	**14.4574**	**0.0000**	**11,494.8716**	**11,494.8716**	**3.5785**		**11,584.3343**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3114	0.2103	2.1306	5.6000e-003	0.5924	3.7000e-003	0.5961	0.1571	3.4100e-003	0.1605		557.9406	557.9406	0.0165		558.3533
Total	**0.3114**	**0.2103**	**2.1306**	**5.6000e-003**	**0.5924**	**3.7000e-003**	**0.5961**	**0.1571**	**3.4100e-003**	**0.1605**		**557.9406**	**557.9406**	**0.0165**		**558.3533**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5462	0.0000	6.5462	3.3728	0.0000	3.3728			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.5462**	**2.6337**	**9.1800**	**3.3728**	**2.4230**	**5.7958**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

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	0.8353	37.0545	5.0119	0.1021	2.4152	0.1401	2.5553	0.6604	0.1340	0.7945		10,815.6287	10,815.6287	0.7661		10,834.7817
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606		210.5436	210.5436	6.2300e-003		210.6994
Total	**0.9528**	**37.1339**	**5.8159**	**0.1042**	**2.6387**	**0.1415**	**2.7802**	**0.7197**	**0.1353**	**0.8550**		**11,026.1723**	**11,026.1723**	**0.7724**		**11,045.4810**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5530	0.0000	2.5530	1.3154	0.0000	1.3154			0.0000			0.0000
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**1.5231**	**29.9782**	**36.7226**	**0.0620**	**2.5530**	**1.2994**	**3.8525**	**1.3154**	**1.2994**	**2.6148**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

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	0.8353	37.0545	5.0119	0.1021	2.4152	0.1401	2.5553	0.6604	0.1340	0.7945		10,815.6287	10,815.6287	0.7661		10,834.7817
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1175	0.0794	0.8040	2.1100e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2900e-003	0.0606		210.5436	210.5436	6.2300e-003		210.6994
Total	**0.9528**	**37.1339**	**5.8159**	**0.1042**	**2.6387**	**0.1415**	**2.7802**	**0.7197**	**0.1353**	**0.8550**		**11,026.1723**	**11,026.1723**	**0.7724**		**11,045.4810**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5462	0.0000	6.5462	3.3728	0.0000	3.3728			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5462**	**2.3827**	**8.9289**	**3.3728**	**2.1920**	**5.5648**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.7954	34.7469	4.8633	0.1011	56.0212	0.1265	56.1477	13.8182	0.1211	13.9393		10,715.6968	10,715.6968	0.7475		10,734.3842
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		204.1034	204.1034	5.5400e-003		204.2419
Total	**0.9030**	**34.8169**	**5.5834**	**0.1031**	**56.2447**	**0.1279**	**56.3726**	**13.8775**	**0.1223**	**13.9998**		**10,919.8002**	**10,919.8002**	**0.7530**		**10,938.6261**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5530	0.0000	2.5530	1.3154	0.0000	1.3154			0.0000			0.0000
Off-Road	1.5231	29.9782	36.7226	0.0620		1.2994	1.2994		1.2994	1.2994	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**1.5231**	**29.9782**	**36.7226**	**0.0620**	**2.5530**	**1.2994**	**3.8525**	**1.3154**	**1.2994**	**2.6148**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

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	0.7954	34.7469	4.8633	0.1011	56.0212	0.1265	56.1477	13.8182	0.1211	13.9393		10,715.6968	10,715.6968	0.7475		10,734.3842
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1076	0.0700	0.7201	2.0500e-003	0.2236	1.3800e-003	0.2249	0.0593	1.2700e-003	0.0606		204.1034	204.1034	5.5400e-003		204.2419
Total	**0.9030**	**34.8169**	**5.5834**	**0.1031**	**56.2447**	**0.1279**	**56.3726**	**13.8775**	**0.1223**	**13.9998**		**10,919.8002**	**10,919.8002**	**0.7530**		**10,938.6261**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.0835	63.2364	51.4913	0.0807		3.8696	3.8696		3.6382	3.6382		7,774.7405	7,774.7405	1.8940		7,822.0905
Total	**7.0835**	**63.2364**	**51.4913**	**0.0807**		**3.8696**	**3.8696**		**3.6382**	**3.6382**		**7,774.7405**	**7,774.7405**	**1.8940**		**7,822.0905**

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	1.1258	36.5709	7.9864	0.0816	2.0621	0.2819	2.3439	0.5937	0.2697	0.8634		8,595.4241	8,595.4241	0.7937		8,615.2665
Worker	4.5890	2.9837	30.7127	0.0874	9.5345	0.0589	9.5934	2.5286	0.0542	2.5828		8,705.0113	8,705.0113	0.2362		8,710.9164
Total	**5.7148**	**39.5546**	**38.6991**	**0.1690**	**11.5966**	**0.3407**	**11.9373**	**3.1223**	**0.3239**	**3.4462**		**17,300.4354**	**17,300.4354**	**1.0299**		**17,326.1829**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0217	42.6782	53.6213	0.0807		2.7106	2.7106		2.7106	2.7106	0.0000	7,774.7405	7,774.7405	1.8940		7,822.0905

Total	**2.0217**	**42.6782**	**53.6213**	**0.0807**		**2.7106**	**2.7106**		**2.7106**	**2.7106**	**0.0000**	**7,774.7405**	**7,774.7405**	**1.8940**		**7,822.0905**

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	1.1258	36.5709	7.9864	0.0816	2.0621	0.2819	2.3439	0.5937	0.2697	0.8634		8,595.4241	8,595.4241	0.7937		8,615.2665
Worker	4.5890	2.9837	30.7127	0.0874	9.5345	0.0589	9.5934	2.5286	0.0542	2.5828		8,705.0113	8,705.0113	0.2362		8,710.9164
Total	**5.7148**	**39.5546**	**38.6991**	**0.1690**	**11.5966**	**0.3407**	**11.9373**	**3.1223**	**0.3239**	**3.4462**		**17,300.4354**	**17,300.4354**	**1.0299**		**17,326.1829**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.3595	57.5581	50.5455	0.0807		3.3511	3.3511		3.1510	3.1510		7,659.1892	7,659.1892	1.8686		7,705.9034
Total	**6.3595**	**57.5581**	**50.5455**	**0.0807**		**3.3511**	**3.3511**		**3.1510**	**3.1510**		**7,659.1892**	**7,659.1892**	**1.8686**		**7,705.9034**

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	0.9467	32.9576	7.0969	0.0810	2.0620	0.1907	2.2526	0.5937	0.1824	0.7761		8,534.3769	8,534.3769	0.7401		8,552.8800
Worker	4.2509	2.6557	27.8226	0.0846	9.5345	0.0577	9.5923	2.5286	0.0532	2.5818		8,429.6513	8,429.6513	0.2094		8,434.8857
Total	**5.1976**	**35.6133**	**34.9195**	**0.1656**	**11.5965**	**0.2484**	**11.8449**	**3.1223**	**0.2356**	**3.3579**		**16,964.0283**	**16,964.0283**	**0.9495**		**16,987.7657**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0217	42.6782	53.6213	0.0807		2.7106	2.7106		2.7106	2.7106	0.0000	7,659.1891	7,659.1891	1.8686		7,705.9034
Total	**2.0217**	**42.6782**	**53.6213**	**0.0807**		**2.7106**	**2.7106**		**2.7106**	**2.7106**	**0.0000**	**7,659.1891**	**7,659.1891**	**1.8686**		**7,705.9034**

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	0.9467	32.9576	7.0969	0.0810	2.0620	0.1907	2.2526	0.5937	0.1824	0.7761		8,534.3769	8,534.3769	0.7401		8,552.8800
Worker	4.2509	2.6557	27.8226	0.0846	9.5345	0.0577	9.5923	2.5286	0.0532	2.5818		8,429.6513	8,429.6513	0.2094		8,434.8857
Total	**5.1976**	**35.6133**	**34.9195**	**0.1656**	**11.5965**	**0.2484**	**11.8449**	**3.1223**	**0.2356**	**3.3579**		**16,964.0283**	**16,964.0283**	**0.9495**		**16,987.7657**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0697	42.1967	43.9562	0.0684		2.2584	2.2584		2.0777	2.0777		6,623.2003	6,623.2003	2.1421		6,676.7522
Paving	1.7855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.8551**	**42.1967**	**43.9562**	**0.0684**		**2.2584**	**2.2584**		**2.0777**	**2.0777**		**6,623.2003**	**6,623.2003**	**2.1421**		**6,676.7522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2243	0.1401	1.4678	4.4600e-003	0.5030	3.0500e-003	0.5060	0.1334	2.8000e-003	0.1362		444.7061	444.7061	0.0111		444.9823
Total	**0.2243**	**0.1401**	**1.4678**	**4.4600e-003**	**0.5030**	**3.0500e-003**	**0.5060**	**0.1334**	**2.8000e-003**	**0.1362**		**444.7061**	**444.7061**	**0.0111**		**444.9823**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6828	33.8857	51.8870	0.0684		1.8280	1.8280		1.8280	1.8280	0.0000	6,623.2003	6,623.2003	2.1421		6,676.7522
Paving	1.7855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4683**	**33.8857**	**51.8870**	**0.0684**		**1.8280**	**1.8280**		**1.8280**	**1.8280**	**0.0000**	**6,623.2003**	**6,623.2003**	**2.1421**		**6,676.7522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2243	0.1401	1.4678	4.4600e-003	0.5030	3.0500e-003	0.5060	0.1334	2.8000e-003	0.1362		444.7061	444.7061	0.0111		444.9823
Total	**0.2243**	**0.1401**	**1.4678**	**4.4600e-003**	**0.5030**	**3.0500e-003**	**0.5060**	**0.1334**	**2.8000e-003**	**0.1362**		**444.7061**	**444.7061**	**0.0111**		**444.9823**

3.7 Architectural Coating - 2019

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7993	5.5062	5.5240	8.9100e-003		0.3863	0.3863		0.3863	0.3863		844.3442	844.3442	0.0713		846.1270
Total	**8.9468**	**5.5062**	**5.5240**	**8.9100e-003**		**0.3863**	**0.3863**		**0.3863**	**0.3863**		**844.3442**	**844.3442**	**0.0713**		**846.1270**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9200	0.5981	6.1569	0.0175	1.9114	0.0118	1.9232	0.5069	0.0109	0.5178		1,745.0843	1,745.0843	0.0474		1,746.2681
Total	**0.9200**	**0.5981**	**6.1569**	**0.0175**	**1.9114**	**0.0118**	**1.9232**	**0.5069**	**0.0109**	**0.5178**		**1,745.0843**	**1,745.0843**	**0.0474**		**1,746.2681**

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1783	4.0709	5.4972	8.9100e-003		0.2853	0.2853		0.2853	0.2853	0.0000	844.3441	844.3441	0.0713		846.1270
Total	**8.3257**	**4.0709**	**5.4972**	**8.9100e-003**		**0.2853**	**0.2853**		**0.2853**	**0.2853**	**0.0000**	**844.3441**	**844.3441**	**0.0713**		**846.1270**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9200	0.5981	6.1569	0.0175	1.9114	0.0118	1.9232	0.5069	0.0109	0.5178		1,745.0843	1,745.0843	0.0474		1,746.2681
Total	**0.9200**	**0.5981**	**6.1569**	**0.0175**	**1.9114**	**0.0118**	**1.9232**	**0.5069**	**0.0109**	**0.5178**		**1,745.0843**	**1,745.0843**	**0.0474**		**1,746.2681**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7265	5.0515	5.4943	8.9100e-003		0.3328	0.3328		0.3328	0.3328		844.3442	844.3442	0.0654		845.9785
Total	**8.8740**	**5.0515**	**5.4943**	**8.9100e-003**		**0.3328**	**0.3328**		**0.3328**	**0.3328**		**844.3442**	**844.3442**	**0.0654**		**845.9785**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8522	0.5324	5.5776	0.0170	1.9114	0.0116	1.9230	0.5069	0.0107	0.5176		1,689.8832	1,689.8832	0.0420		1,690.9325
Total	**0.8522**	**0.5324**	**5.5776**	**0.0170**	**1.9114**	**0.0116**	**1.9230**	**0.5069**	**0.0107**	**0.5176**		**1,689.8832**	**1,689.8832**	**0.0420**		**1,690.9325**

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	8.1474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1783	4.0709	5.4972	8.9100e-003		0.2853	0.2853		0.2853	0.2853	0.0000	844.3441	844.3441	0.0654		845.9785
Total	**8.3257**	**4.0709**	**5.4972**	**8.9100e-003**		**0.2853**	**0.2853**		**0.2853**	**0.2853**	**0.0000**	**844.3441**	**844.3441**	**0.0654**		**845.9785**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8522	0.5324	5.5776	0.0170	1.9114	0.0116	1.9230	0.5069	0.0107	0.5176		1,689.8832	1,689.8832	0.0420		1,690.9325
Total	**0.8522**	**0.5324**	**5.5776**	**0.0170**	**1.9114**	**0.0116**	**1.9230**	**0.5069**	**0.0107**	**0.5176**		**1,689.8832**	**1,689.8832**	**0.0420**		**1,690.9325**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.3805	35.1256	42.3227	0.1732	12.6061	0.1305	12.7366	3.3730	0.1225	3.4954		17,714.1923	17,714.1923	1.2266		17,744.8562
Unmitigated	4.3805	35.1256	42.3227	0.1732	12.6061	0.1305	12.7366	3.3730	0.1225	3.4954		17,714.1923	17,714.1923	1.2266		17,744.8562

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	2,903.60	3,022.55	2629.10	5,634,664	5,634,664
Total	2,903.60	3,022.55	2,629.10	5,634,664	5,634,664

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	6.05	6.05	6.05	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
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Non-Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Single Family Housing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
NaturalGas Unmitigated	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	25566.6	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Total		**0.2757**	**2.3561**	**1.0026**	**0.0150**		**0.1905**	**0.1905**		**0.1905**	**0.1905**		**3,007.8407**	**3,007.8407**	**0.0577**	**0.0551**	**3,025.7148**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	25.5666	0.2757	2.3561	1.0026	0.0150		0.1905	0.1905		0.1905	0.1905		3,007.8407	3,007.8407	0.0577	0.0551	3,025.7148
Total		**0.2757**	**2.3561**	**1.0026**	**0.0150**		**0.1905**	**0.1905**		**0.1905**	**0.1905**		**3,007.8407**	**3,007.8407**	**0.0577**	**0.0551**	**3,025.7148**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	13.8864	4.8462	27.3365	0.0304		0.5078	0.5078		0.5078	0.5078	0.0000	5,858.6367	5,858.6367	0.1564	0.1066	5,894.3035
Unmitigated	93.2745	6.6210	180.5071	0.3970		23.4381	23.4381		23.4381	23.4381	2,856.9101	5,535.6955	8,392.6056	8.5648	0.1939	8,664.5097

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	1.0759					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.4966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	79.9210	6.3282	155.1083	0.3957		23.2984	23.2984		23.2984	23.2984	2,856.9101	5,490.0000	8,346.9101	8.5199	0.1939	8,617.6908
Landscaping	0.7810	0.2928	25.3988	1.3400e-003		0.1397	0.1397		0.1397	0.1397		45.6955	45.6955	0.0449		46.8189
Total	**93.2745**	**6.6210**	**180.5071**	**0.3970**		**23.4381**	**23.4381**		**23.4381**	**23.4381**	**2,856.9101**	**5,535.6955**	**8,392.6056**	**8.5648**	**0.1939**	**8,664.5097**

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	1.0759					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.4966					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.5329	4.5535	1.9377	0.0291		0.3682	0.3682		0.3682	0.3682	0.0000	5,812.9412	5,812.9412	0.1114	0.1066	5,847.4846
Landscaping	0.7810	0.2928	25.3988	1.3400e-003		0.1397	0.1397		0.1397	0.1397		45.6955	45.6955	0.0449		46.8189
Total	**13.8864**	**4.8462**	**27.3365**	**0.0304**		**0.5078**	**0.5078**		**0.5078**	**0.5078**	**0.0000**	**5,858.6367**	**5,858.6367**	**0.1564**	**0.1066**	**5,894.3035**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Rockport Ranch 2021 - Riverside-South Coast County, Annual

Rockport Ranch 2021

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1,009.11	1000sqft	23.17	1,009,110.00	0
Other Non-Asphalt Surfaces	759.41	1000sqft	17.43	759,410.00	0
Single Family Housing	305.00	Dwelling Unit	38.69	549,000.00	872

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	457.58	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CalEEMod default intensity factor is based on SCE's 2012 Corporate Responsibility Report. Updated based on 2015 Corporate Responsibility Report, which reports 517 CO2E/MWh and scaled based on increased RPS compliance.

Land Use - Project Description; single family housing acreage includes lots; other asphalt surfaces includes sidwalks, streets, cluster driveways, intersections, etc.; other non-asphalt surfaces includes all other areas such as landscaping.

Construction Phase - CalEEMod phased durations scaled based on anticiapted project schedule; grading modeled as 10 months; architectural coatings applied during building construction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Client estimated grading duration exceeds CalEEMod grading duration; no change in equipment requirements.

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Off-road Equipment - Construction equipment increased 3-fold to reflect duration reduction

Demolition - Two operations biuldings (approx. 7,000 sf), one single-family residence (approxiamtely 5,800 sf), three modular homes (approx 1,500 sf each).
Grading - 177,500 cubic yards cut, 412,350 cubic yards fill; 234,850 cubic yards import.

Vehicle Trips - Project Traffic Impact Analysis indicates the project would generate 9.52 tips/units/day. Vehicle trip length 6.05 derrived from Riverside County South Coast subarea EMFAC2014 data for total trips and VMT.

Construction Off-road Equipment Mitigation - Equipment per CARB In-use Offroad Fleet Regulations; Site Watering per SCAQMD requirements

Area Mitigation - Mitigation AIR-1

Energy Mitigation - Mitigation GHG-1. kWh calculated based on the difference between unmitigated emissions and Annual Emission Reduction (4.561 MTCO2E/SP).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	23.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	482.00
tblConstructionPhase	NumDays	1,550.00	482.00
tblConstructionPhase	NumDays	100.00	31.00
tblConstructionPhase	NumDays	155.00	218.00
tblConstructionPhase	NumDays	110.00	34.00
tblConstructionPhase	NumDays	60.00	19.00
tblGrading	AcresOfGrading	545.00	79.70
tblGrading	MaterialImported	0.00	234,850.00
tblLandUse	LotAcreage	99.03	38.69
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	702.44	457.58
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleTrips	HO_TL	8.70	6.05
tblVehicleTrips	HS_TL	5.90	6.05
tblVehicleTrips	HW_TL	14.70	6.05

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					
2018	0.9438	13.4272	6.0041	0.0208	1.5041	0.4563	1.9604	0.7190	0.4214	1.1403	0.0000	1,945.7058	1,945.7058	0.3328	0.0000	1,954.0254
2019	2.8400	14.2346	13.2500	0.0362	1.9590	0.5938	2.5528	0.5201	0.5615	1.0816	0.0000	3,295.2587	3,295.2587	0.3549	0.0000	3,304.1323
2020	2.4805	12.0513	11.9230	0.0328	1.5233	0.4879	2.0112	0.4098	0.4605	0.8703	0.0000	2,964.7061	2,964.7061	0.3323	0.0000	2,973.0124
Maximum	**2.8400**	**14.2346**	**13.2500**	**0.0362**	**1.9590**	**0.5938**	**2.5528**	**0.7190**	**0.5615**	**1.1403**	**0.0000**	**3,295.2587**	**3,295.2587**	**0.3549**	**0.0000**	**3,304.1323**

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					
2018	0.3341	8.5496	6.3004	0.0208	0.7624	0.2191	0.9814	0.3284	0.2184	0.5468	0.0000	1,945.7048	1,945.7048	0.3328	0.0000	1,954.0243
2019	2.1070	11.3555	13.5288	0.0362	1.9113	0.4300	2.3413	0.5089	0.4277	0.9366	0.0000	3,295.2575	3,295.2575	0.3549	0.0000	3,304.1311
2020	1.8829	10.1019	12.4088	0.0328	1.5233	0.4022	1.9255	0.4098	0.4006	0.8104	0.0000	2,964.7050	2,964.7050	0.3323	0.0000	2,973.0112
Maximum	**2.1070**	**11.3555**	**13.5288**	**0.0362**	**1.9113**	**0.4300**	**2.3413**	**0.5089**	**0.4277**	**0.9366**	**0.0000**	**3,295.2575**	**3,295.2575**	**0.3549**	**0.0000**	**3,304.1311**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**30.97**	**24.44**	**-3.40**	**0.00**	**15.83**	**31.65**	**19.56**	**24.37**	**27.48**	**25.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2018**	**3-31-2018**	4.1796	1.9912
2	**4-1-2018**	**6-30-2018**	3.3232	2.2471
3	**7-1-2018**	**9-30-2018**	3.3597	2.2718
4	**10-1-2018**	**12-31-2018**	3.3744	2.2865
5	**1-1-2019**	**3-31-2019**	4.1111	3.2213
6	**4-1-2019**	**6-30-2019**	4.2769	3.3775
7	**7-1-2019**	**9-30-2019**	4.3239	3.4146
8	**10-1-2019**	**12-31-2019**	4.3227	3.4133
9	**1-1-2020**	**3-31-2020**	3.9013	3.2270
10	**4-1-2020**	**6-30-2020**	3.9053	3.2311
11	**7-1-2020**	**9-30-2020**	3.9483	3.2666
		Highest	4.3239	3.4146

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	3.3911	0.1157	5.1137	5.1100e-003		0.3087	0.3087		0.3087	0.3087	32.3968	67.4373	99.8342	0.1017	2.2000e-003	103.0321
Energy	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	1,049.7717	1,049.7717	9.5400e-003	9.1300e-003	1,052.7309
Mobile	0.7590	6.2080	7.4771	0.0309	2.1514	0.0224	2.1738	0.5764	0.0210	0.5975	0.0000	2,862.2923	2,862.2923	0.1856	0.0000	2,866.9313
Waste						0.0000	0.0000		0.0000	0.0000	72.5733	0.0000	72.5733	4.2890	0.0000	179.7974
Water						0.0000	0.0000		0.0000	0.0000	6.3045	82.5941	88.8986	0.6475	0.0153	109.6431
Total	**4.2005**	**6.7537**	**12.7738**	**0.0387**	**2.1514**	**0.3659**	**2.5173**	**0.5764**	**0.3645**	**0.9409**	**111.2746**	**4,062.0955**	**4,173.3701**	**5.2333**	**0.0266**	**4,312.1348**

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	2.3988	0.0935	3.1991	5.3000e-004		0.0221	0.0221		0.0221	0.0221	0.0000	71.0994	71.0994	6.3600e-003	1.2100e-003	71.6185
Energy	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	695.3592	695.3592	9.5400e-003	9.1300e-003	698.3185
Mobile	0.7590	6.2080	7.4771	0.0309	2.1514	0.0224	2.1738	0.5764	0.0210	0.5975	0.0000	2,862.2923	2,862.2923	0.1856	0.0000	2,866.9313
Waste						0.0000	0.0000		0.0000	0.0000	72.5733	0.0000	72.5733	4.2890	0.0000	179.7974
Water						0.0000	0.0000		0.0000	0.0000	6.3045	82.5941	88.8986	0.6475	0.0153	109.6431
Total	**3.2081**	**6.7315**	**10.8592**	**0.0341**	**2.1514**	**0.0792**	**2.2307**	**0.5764**	**0.0779**	**0.6543**	**78.8778**	**3,711.3451**	**3,790.2229**	**5.1380**	**0.0256**	**3,926.3087**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**23.62**	**0.33**	**14.99**	**11.83**	**0.00**	**78.34**	**11.39**	**0.00**	**78.64**	**30.46**	**29.11**	**8.63**	**9.18**	**1.82**	**3.72**	**8.95**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	2/12/2018	5	31	
2	Site Preparation	Site Preparation	2/13/2018	3/9/2018	5	19	
3	Grading	Grading	3/10/2018	1/9/2019	5	218	
4	Building Construction	Building Construction	1/10/2019	11/13/2020	5	482	
5	Paving	Paving	11/14/2020	12/31/2020	5	34	
6	Architectural Coating	Architectural Coating	1/10/2019	11/13/2020	5	482	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 79.7

Acres of Paving: 40.6

Residential Indoor: 1,111,725; Residential Outdoor: 370,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	3	8.00	81	0.73
Demolition	Excavators	9	8.00	158	0.38
Demolition	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	9	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	12	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	9	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	9	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	3	6.00	78	0.48
Paving	Pavers	6	8.00	130	0.42
Paving	Paving Equipment	6	8.00	132	0.36
Paving	Rollers	6	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	18	45.00	0.00	79.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	21	53.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	29,356.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	27	853.00	322.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	171.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.5700e-003	0.0000	8.5700e-003	1.3000e-003	0.0000	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1729	1.7820	1.0371	1.8100e-003		0.0901	0.0901		0.0839	0.0839	0.0000	163.3270	163.3270	0.0450	0.0000	164.4519
Total	**0.1729**	**1.7820**	**1.0371**	**1.8100e-003**	**8.5700e-003**	**0.0901**	**0.0987**	**1.3000e-003**	**0.0839**	**0.0852**	**0.0000**	**163.3270**	**163.3270**	**0.0450**	**0.0000**	**164.4519**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	0.0110	1.3400e-003	3.0000e-005	6.8000e-004	4.0000e-005	7.2000e-004	1.9000e-004	4.0000e-005	2.3000e-004	0.0000	2.9203	2.9203	1.9000e-004	0.0000	2.9251
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7900e-003	2.8600e-003	0.0295	8.0000e-005	7.6700e-003	5.0000e-005	7.7200e-003	2.0400e-003	4.0000e-005	2.0800e-003	0.0000	6.8323	6.8323	2.0000e-004	0.0000	6.8374
Total	**4.0300e-003**	**0.0139**	**0.0309**	**1.1000e-004**	**8.3500e-003**	**9.0000e-005**	**8.4400e-003**	**2.2300e-003**	**8.0000e-005**	**2.3100e-003**	**0.0000**	**9.7526**	**9.7526**	**3.9000e-004**	**0.0000**	**9.7625**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.3400e-003	0.0000	3.3400e-003	5.1000e-004	0.0000	5.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0430	0.8516	1.1473	1.8100e-003		0.0401	0.0401		0.0401	0.0401	0.0000	163.3268	163.3268	0.0450	0.0000	164.4517
Total	**0.0430**	**0.8516**	**1.1473**	**1.8100e-003**	**3.3400e-003**	**0.0401**	**0.0435**	**5.1000e-004**	**0.0401**	**0.0406**	**0.0000**	**163.3268**	**163.3268**	**0.0450**	**0.0000**	**164.4517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	0.0110	1.3400e-003	3.0000e-005	6.8000e-004	4.0000e-005	7.2000e-004	1.9000e-004	4.0000e-005	2.3000e-004	0.0000	2.9203	2.9203	1.9000e-004	0.0000	2.9251
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7900e-003	2.8600e-003	0.0295	8.0000e-005	7.6700e-003	5.0000e-005	7.7200e-003	2.0400e-003	4.0000e-005	2.0800e-003	0.0000	6.8323	6.8323	2.0000e-004	0.0000	6.8374
Total	**4.0300e-003**	**0.0139**	**0.0309**	**1.1000e-004**	**8.3500e-003**	**9.0000e-005**	**8.4400e-003**	**2.2300e-003**	**8.0000e-005**	**2.3100e-003**	**0.0000**	**9.7526**	**9.7526**	**3.9000e-004**	**0.0000**	**9.7625**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5149	0.0000	0.5149	0.2830	0.0000	0.2830	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1300	1.3737	0.6406	1.0800e-003		0.0734	0.0734		0.0676	0.0676	0.0000	99.0657	99.0657	0.0308	0.0000	99.8368
Total	**0.1300**	**1.3737**	**0.6406**	**1.0800e-003**	**0.5149**	**0.0734**	**0.5883**	**0.2830**	**0.0676**	**0.3506**	**0.0000**	**99.0657**	**99.0657**	**0.0308**	**0.0000**	**99.8368**

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	2.7300e-003	2.0700e-003	0.0213	5.0000e-005	5.5300e-003	4.0000e-005	5.5700e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.9320	4.9320	1.5000e-004	0.0000	4.9356
Total	**2.7300e-003**	**2.0700e-003**	**0.0213**	**5.0000e-005**	**5.5300e-003**	**4.0000e-005**	**5.5700e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.9320**	**4.9320**	**1.5000e-004**	**0.0000**	**4.9356**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2008	0.0000	0.2008	0.1104	0.0000	0.1104	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.5434	0.6544	1.0800e-003		0.0270	0.0270		0.0270	0.0270	0.0000	99.0656	99.0656	0.0308	0.0000	99.8366
Total	**0.0265**	**0.5434**	**0.6544**	**1.0800e-003**	**0.2008**	**0.0270**	**0.2278**	**0.1104**	**0.0270**	**0.1374**	**0.0000**	**99.0656**	**99.0656**	**0.0308**	**0.0000**	**99.8366**

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	2.7300e-003	2.0700e-003	0.0213	5.0000e-005	5.5300e-003	4.0000e-005	5.5700e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.9320	4.9320	1.5000e-004	0.0000	4.9356
Total	**2.7300e-003**	**2.0700e-003**	**0.0213**	**5.0000e-005**	**5.5300e-003**	**4.0000e-005**	**5.5700e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.9320**	**4.9320**	**1.5000e-004**	**0.0000**	**4.9356**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6925	0.0000	0.6925	0.3560	0.0000	0.3560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5370	6.2796	3.7019	6.5400e-003		0.2779	0.2779		0.2556	0.2556	0.0000	597.6417	597.6417	0.1861	0.0000	602.2930
Total	**0.5370**	**6.2796**	**3.7019**	**6.5400e-003**	**0.6925**	**0.2779**	**0.9703**	**0.3560**	**0.2556**	**0.6117**	**0.0000**	**597.6417**	**597.6417**	**0.1861**	**0.0000**	**602.2930**

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	0.0856	3.9674	0.4829	0.0109	0.2511	0.0146	0.2657	0.0688	0.0140	0.0828	0.0000	1,050.3187	1,050.3187	0.0697	0.0000	1,052.0619
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	0.0115	8.6600e-003	0.0894	2.3000e-004	0.0232	1.5000e-004	0.0233	6.1600e-003	1.4000e-004	6.2900e-003	0.0000	20.6682	20.6682	6.2000e-004	0.0000	20.6836
Total	**0.0971**	**3.9760**	**0.5722**	**0.0112**	**0.2743**	**0.0148**	**0.2891**	**0.0749**	**0.0141**	**0.0890**	**0.0000**	**1,070.9869**	**1,070.9869**	**0.0704**	**0.0000**	**1,072.7455**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2701	0.0000	0.2701	0.1389	0.0000	0.1389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1607	3.1627	3.8742	6.5400e-003		0.1371	0.1371		0.1371	0.1371	0.0000	597.6410	597.6410	0.1861	0.0000	602.2923
Total	**0.1607**	**3.1627**	**3.8742**	**6.5400e-003**	**0.2701**	**0.1371**	**0.4072**	**0.1389**	**0.1371**	**0.2760**	**0.0000**	**597.6410**	**597.6410**	**0.1861**	**0.0000**	**602.2923**

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	0.0856	3.9674	0.4829	0.0109	0.2511	0.0146	0.2657	0.0688	0.0140	0.0828	0.0000	1,050.3187	1,050.3187	0.0697	0.0000	1,052.0619
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	0.0115	8.6600e-003	0.0894	2.3000e-004	0.0232	1.5000e-004	0.0233	6.1600e-003	1.4000e-004	6.2900e-003	0.0000	20.6682	20.6682	6.2000e-004	0.0000	20.6836
Total	**0.0971**	**3.9760**	**0.5722**	**0.0112**	**0.2743**	**0.0148**	**0.2891**	**0.0749**	**0.0141**	**0.0890**	**0.0000**	**1,070.9869**	**1,070.9869**	**0.0704**	**0.0000**	**1,072.7455**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0782	0.0000	0.0782	0.0184	0.0000	0.0184	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1908	0.1168	2.2000e-004		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	19.4955	19.4955	6.1700e-003	0.0000	19.6497
Total	**0.0166**	**0.1908**	**0.1168**	**2.2000e-004**	**0.0782**	**8.3400e-003**	**0.0866**	**0.0184**	**7.6700e-003**	**0.0261**	**0.0000**	**19.4955**	**19.4955**	**6.1700e-003**	**0.0000**	**19.6497**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-003	0.1234	0.0156	3.6000e-004	0.1924	4.4000e-004	0.1928	0.0475	4.2000e-004	0.0479	0.0000	34.5257	34.5257	2.2600e-003	0.0000	34.5821
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.5000e-004	2.6600e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6647	0.6647	2.0000e-005	0.0000	0.6652
Total	**3.0500e-003**	**0.1237**	**0.0182**	**3.7000e-004**	**0.1931**	**4.4000e-004**	**0.1936**	**0.0477**	**4.2000e-004**	**0.0481**	**0.0000**	**35.1905**	**35.1905**	**2.2800e-003**	**0.0000**	**35.2473**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0305	0.0000	0.0305	7.1800e-003	0.0000	7.1800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	5.3300e-003	0.1049	0.1285	2.2000e-004		4.5500e-003	4.5500e-003		4.5500e-003	4.5500e-003	0.0000	19.4954	19.4954	6.1700e-003	0.0000	19.6496
Total	**5.3300e-003**	**0.1049**	**0.1285**	**2.2000e-004**	**0.0305**	**4.5500e-003**	**0.0351**	**7.1800e-003**	**4.5500e-003**	**0.0117**	**0.0000**	**19.4954**	**19.4954**	**6.1700e-003**	**0.0000**	**19.6496**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-003	0.1234	0.0156	3.6000e-004	0.1924	4.4000e-004	0.1928	0.0475	4.2000e-004	0.0479	0.0000	34.5257	34.5257	2.2600e-003	0.0000	34.5821
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.5000e-004	2.6600e-003	1.0000e-005	7.7000e-004	0.0000	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6647	0.6647	2.0000e-005	0.0000	0.6652
Total	**3.0500e-003**	**0.1237**	**0.0182**	**3.7000e-004**	**0.1931**	**4.4000e-004**	**0.1936**	**0.0477**	**4.2000e-004**	**0.0481**	**0.0000**	**35.1905**	**35.1905**	**2.2800e-003**	**0.0000**	**35.2473**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8996	8.0310	6.5394	0.0103		0.4914	0.4914		0.4621	0.4621	0.0000	895.7470	895.7470	0.2182	0.0000	901.2023
Total	**0.8996**	**8.0310**	**6.5394**	**0.0103**		**0.4914**	**0.4914**		**0.4621**	**0.4621**	**0.0000**	**895.7470**	**895.7470**	**0.2182**	**0.0000**	**901.2023**

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	0.1386	4.7193	0.9394	0.0106	0.2583	0.0355	0.2939	0.0745	0.0340	0.1085	0.0000	1,012.6005	1,012.6005	0.0863	0.0000	1,014.7576
Worker	0.5381	0.3919	4.1105	0.0114	1.1907	7.4700e-003	1.1982	0.3162	6.8800e-003	0.3231	0.0000	1,028.7200	1,028.7200	0.0282	0.0000	1,029.4236
Total	**0.6766**	**5.1112**	**5.0499**	**0.0220**	**1.4490**	**0.0430**	**1.4920**	**0.3907**	**0.0409**	**0.4316**	**0.0000**	**2,041.3204**	**2,041.3204**	**0.1144**	**0.0000**	**2,044.1812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2568	5.4201	6.8099	0.0103		0.3443	0.3443		0.3443	0.3443	0.0000	895.7459	895.7459	0.2182	0.0000	901.2012
Total	**0.2568**	**5.4201**	**6.8099**	**0.0103**		**0.3443**	**0.3443**		**0.3443**	**0.3443**	**0.0000**	**895.7459**	**895.7459**	**0.2182**	**0.0000**	**901.2012**

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	0.1386	4.7193	0.9394	0.0106	0.2583	0.0355	0.2939	0.0745	0.0340	0.1085	0.0000	1,012.6005	1,012.6005	0.0863	0.0000	1,014.7576
Worker	0.5381	0.3919	4.1105	0.0114	1.1907	7.4700e-003	1.1982	0.3162	6.8800e-003	0.3231	0.0000	1,028.7200	1,028.7200	0.0282	0.0000	1,029.4236
Total	**0.6766**	**5.1112**	**5.0499**	**0.0220**	**1.4490**	**0.0430**	**1.4920**	**0.3907**	**0.0409**	**0.4316**	**0.0000**	**2,041.3204**	**2,041.3204**	**0.1144**	**0.0000**	**2,044.1812**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.7250	6.5616	5.7622	9.2000e-003		0.3820	0.3820		0.3592	0.3592	0.0000	792.1061	792.1061	0.1933	0.0000	796.9373
Total	**0.7250**	**6.5616**	**5.7622**	**9.2000e-003**		**0.3820**	**0.3820**		**0.3592**	**0.3592**	**0.0000**	**792.1061**	**792.1061**	**0.1933**	**0.0000**	**796.9373**

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	0.1043	3.8180	0.7470	9.4400e-003	0.2319	0.0216	0.2534	0.0669	0.0207	0.0875	0.0000	902.6045	902.6045	0.0722	0.0000	904.4082
Worker	0.4469	0.3132	3.3437	9.8900e-003	1.0688	6.5800e-003	1.0754	0.2838	6.0600e-003	0.2899	0.0000	894.2301	894.2301	0.0224	0.0000	894.7899
Total	**0.5512**	**4.1312**	**4.0906**	**0.0193**	**1.3007**	**0.0282**	**1.3288**	**0.3507**	**0.0267**	**0.3774**	**0.0000**	**1,796.8345**	**1,796.8345**	**0.0945**	**0.0000**	**1,799.1981**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2305	4.8653	6.1128	9.2000e-003		0.3090	0.3090		0.3090	0.3090	0.0000	792.1052	792.1052	0.1933	0.0000	796.9363
Total	**0.2305**	**4.8653**	**6.1128**	**9.2000e-003**		**0.3090**	**0.3090**		**0.3090**	**0.3090**	**0.0000**	**792.1052**	**792.1052**	**0.1933**	**0.0000**	**796.9363**

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	0.1043	3.8180	0.7470	9.4400e-003	0.2319	0.0216	0.2534	0.0669	0.0207	0.0875	0.0000	902.6045	902.6045	0.0722	0.0000	904.4082
Worker	0.4469	0.3132	3.3437	9.8900e-003	1.0688	6.5800e-003	1.0754	0.2838	6.0600e-003	0.2899	0.0000	894.2301	894.2301	0.0224	0.0000	894.7899
Total	**0.5512**	**4.1312**	**4.0906**	**0.0193**	**1.3007**	**0.0282**	**1.3288**	**0.3507**	**0.0267**	**0.3774**	**0.0000**	**1,796.8345**	**1,796.8345**	**0.0945**	**0.0000**	**1,799.1981**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0692	0.7173	0.7473	1.1600e-003		0.0384	0.0384		0.0353	0.0353	0.0000	102.1439	102.1439	0.0330	0.0000	102.9698
Paving	0.0304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0995**	**0.7173**	**0.7473**	**1.1600e-003**		**0.0384**	**0.0384**		**0.0353**	**0.0353**	**0.0000**	**102.1439**	**102.1439**	**0.0330**	**0.0000**	**102.9698**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5200e-003	2.4600e-003	0.0263	8.0000e-005	8.4100e-003	5.0000e-005	8.4600e-003	2.2300e-003	5.0000e-005	2.2800e-003	0.0000	7.0349	7.0349	1.8000e-004	0.0000	7.0393
Total	**3.5200e-003**	**2.4600e-003**	**0.0263**	**8.0000e-005**	**8.4100e-003**	**5.0000e-005**	**8.4600e-003**	**2.2300e-003**	**5.0000e-005**	**2.2800e-003**	**0.0000**	**7.0349**	**7.0349**	**1.8000e-004**	**0.0000**	**7.0393**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0286	0.5761	0.8821	1.1600e-003		0.0311	0.0311		0.0311	0.0311	0.0000	102.1438	102.1438	0.0330	0.0000	102.9697

Paving	0.0304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0590**	**0.5761**	**0.8821**	**1.1600e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**102.1438**	**102.1438**	**0.0330**	**0.0000**	**102.9697**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5200e-003	2.4600e-003	0.0263	8.0000e-005	8.4100e-003	5.0000e-005	8.4600e-003	2.2300e-003	5.0000e-005	2.2800e-003	0.0000	7.0349	7.0349	1.8000e-004	0.0000	7.0393
Total	**3.5200e-003**	**2.4600e-003**	**0.0263**	**8.0000e-005**	**8.4100e-003**	**5.0000e-005**	**8.4600e-003**	**2.2300e-003**	**5.0000e-005**	**2.2800e-003**	**0.0000**	**7.0349**	**7.0349**	**1.8000e-004**	**0.0000**	**7.0393**

3.7 Architectural Coating - 2019

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	1.0347					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1015	0.6993	0.7016	1.1300e-003		0.0491	0.0491		0.0491	0.0491	0.0000	97.2790	97.2790	8.2200e-003	0.0000	97.4844
Total	**1.1362**	**0.6993**	**0.7016**	**1.1300e-003**		**0.0491**	**0.0491**		**0.0491**	**0.0491**	**0.0000**	**97.2790**	**97.2790**	**8.2200e-003**	**0.0000**	**97.4844**

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	0.1079	0.0786	0.8240	2.2800e-003	0.2387	1.5000e-003	0.2402	0.0634	1.3800e-003	0.0648	0.0000	206.2264	206.2264	5.6400e-003	0.0000	206.3675
Total	**0.1079**	**0.0786**	**0.8240**	**2.2800e-003**	**0.2387**	**1.5000e-003**	**0.2402**	**0.0634**	**1.3800e-003**	**0.0648**	**0.0000**	**206.2264**	**206.2264**	**5.6400e-003**	**0.0000**	**206.3675**

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	1.0347					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0226	0.5170	0.6982	1.1300e-003		0.0362	0.0362		0.0362	0.0362	0.0000	97.2789	97.2789	8.2200e-003	0.0000	97.4843
Total	**1.0574**	**0.5170**	**0.6982**	**1.1300e-003**		**0.0362**	**0.0362**		**0.0362**	**0.0362**	**0.0000**	**97.2789**	**97.2789**	**8.2200e-003**	**0.0000**	**97.4843**

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	0.1079	0.0786	0.8240	2.2800e-003	0.2387	1.5000e-003	0.2402	0.0634	1.3800e-003	0.0648	0.0000	206.2264	206.2264	5.6400e-003	0.0000	206.3675
Total	**0.1079**	**0.0786**	**0.8240**	**2.2800e-003**	**0.2387**	**1.5000e-003**	**0.2402**	**0.0634**	**1.3800e-003**	**0.0648**	**0.0000**	**206.2264**	**206.2264**	**5.6400e-003**	**0.0000**	**206.3675**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9288					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0828	0.5759	0.6264	1.0200e-003		0.0379	0.0379		0.0379	0.0379	0.0000	87.3213	87.3213	6.7600e-003	0.0000	87.4903
Total	**1.0116**	**0.5759**	**0.6264**	**1.0200e-003**		**0.0379**	**0.0379**		**0.0379**	**0.0379**	**0.0000**	**87.3213**	**87.3213**	**6.7600e-003**	**0.0000**	**87.4903**

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	0.0896	0.0628	0.6703	1.9800e-003	0.2143	1.3200e-003	0.2156	0.0569	1.2200e-003	0.0581	0.0000	179.2654	179.2654	4.4900e-003	0.0000	179.3776
Total	**0.0896**	**0.0628**	**0.6703**	**1.9800e-003**	**0.2143**	**1.3200e-003**	**0.2156**	**0.0569**	**1.2200e-003**	**0.0581**	**0.0000**	**179.2654**	**179.2654**	**4.4900e-003**	**0.0000**	**179.3776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9288					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.4641	0.6267	1.0200e-003		0.0325	0.0325		0.0325	0.0325	0.0000	87.3212	87.3212	6.7600e-003	0.0000	87.4902
Total	**0.9491**	**0.4641**	**0.6267**	**1.0200e-003**		**0.0325**	**0.0325**		**0.0325**	**0.0325**	**0.0000**	**87.3212**	**87.3212**	**6.7600e-003**	**0.0000**	**87.4902**

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	0.0896	0.0628	0.6703	1.9800e-003	0.2143	1.3200e-003	0.2156	0.0569	1.2200e-003	0.0581	0.0000	179.2654	179.2654	4.4900e-003	0.0000	179.3776
Total	**0.0896**	**0.0628**	**0.6703**	**1.9800e-003**	**0.2143**	**1.3200e-003**	**0.2156**	**0.0569**	**1.2200e-003**	**0.0581**	**0.0000**	**179.2654**	**179.2654**	**4.4900e-003**	**0.0000**	**179.3776**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7590	6.2080	7.4771	0.0309	2.1514	0.0224	2.1738	0.5764	0.0210	0.5975	0.0000	2,862.2923	2,862.2923	0.1856	0.0000	2,866.9313
Unmitigated	0.7590	6.2080	7.4771	0.0309	2.1514	0.0224	2.1738	0.5764	0.0210	0.5975	0.0000	2,862.2923	2,862.2923	0.1856	0.0000	2,866.9313

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	2,903.60	3,022.55	2629.10	5,634,664	5,634,664
Total	2,903.60	3,022.55	2,629.10	5,634,664	5,634,664

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	6.05	6.05	6.05	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
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Non-Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Single Family Housing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	197.3774	197.3774	0.0000	0.0000	197.3774
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	551.7899	551.7899	0.0000	0.0000	551.7899
NaturalGas Mitigated	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	497.9818	497.9818	9.5400e-003	9.1300e-003	500.9410
NaturalGas Unmitigated	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	497.9818	497.9818	9.5400e-003	9.1300e-003	500.9410

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	9.33183e+006	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	497.9818	497.9818	9.5400e-003	9.1300e-003	500.9410

Total		**0.0503**	**0.4300**	**0.1830**	**2.7400e-003**		**0.0348**	**0.0348**		**0.0348**	**0.0348**	**0.0000**	**497.9818**	**497.9818**	**9.5400e-003**	**9.1300e-003**	**500.9410**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	9.33183e+006	0.0503	0.4300	0.1830	2.7400e-003		0.0348	0.0348		0.0348	0.0348	0.0000	497.9818	497.9818	9.5400e-003	9.1300e-003	500.9410
Total		**0.0503**	**0.4300**	**0.1830**	**2.7400e-003**		**0.0348**	**0.0348**		**0.0348**	**0.0348**	**0.0000**	**497.9818**	**497.9818**	**9.5400e-003**	**9.1300e-003**	**500.9410**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.65853e+006	551.7899	0.0000	0.0000	551.7899
Total		**551.7899**	**0.0000**	**0.0000**	**551.7899**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	-569187	-118.1375	0.0000	0.0000	-118.1375
Other Non-Asphalt Surfaces	-569187	-118.1375	0.0000	0.0000	-118.1375
Single Family Housing	2.08934e+006	433.6524	0.0000	0.0000	433.6524
Total		**197.3774**	**0.0000**	**0.0000**	**197.3774**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive 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	2.3988	0.0935	3.1991	5.3000e-004		0.0221	0.0221		0.0221	0.0221	0.0000	71.0994	71.0994	6.3600e-003	1.2100e-003	71.6185
Unmitigated	3.3911	0.1157	5.1137	5.1100e-003		0.3087	0.3087		0.3087	0.3087	32.3968	67.4373	99.8342	0.1017	2.2000e-003	103.0321

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	0.1964					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0981					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.9990	0.0791	1.9389	4.9500e-003		0.2912	0.2912		0.2912	0.2912	32.3968	62.2556	94.6524	0.0966	2.2000e-003	97.7230
Landscaping	0.0976	0.0366	3.1749	1.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	5.1818	5.1818	5.1000e-003	0.0000	5.3092
Total	**3.3911**	**0.1157**	**5.1137**	**5.1200e-003**		**0.3087**	**0.3087**		**0.3087**	**0.3087**	**32.3968**	**67.4373**	**99.8342**	**0.1017**	**2.2000e-003**	**103.0321**

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	0.1964					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0981					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.6600e-003	0.0569	0.0242	3.6000e-004		4.6000e-003	4.6000e-003		4.6000e-003	4.6000e-003	0.0000	65.9176	65.9176	1.2600e-003	1.2100e-003	66.3094
Landscaping	0.0976	0.0366	3.1749	1.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	5.1818	5.1818	5.1000e-003	0.0000	5.3092
Total	**2.3988**	**0.0935**	**3.1991**	**5.3000e-004**		**0.0221**	**0.0221**		**0.0221**	**0.0221**	**0.0000**	**71.0994**	**71.0994**	**6.3600e-003**	**1.2100e-003**	**71.6185**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	88.8986	0.6475	0.0153	109.6431
Unmitigated	88.8986	0.6475	0.0153	109.6431

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	19.872 / 12.528	88.8986	0.6475	0.0153	109.6431
Total		**88.8986**	**0.6475**	**0.0153**	**109.6431**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	19.872 / 12.528	88.8986	0.6475	0.0153	109.6431
Total		**88.8986**	**0.6475**	**0.0153**	**109.6431**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	72.5733	4.2890	0.0000	179.7974
Unmitigated	72.5733	4.2890	0.0000	179.7974

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	357.52	72.5733	4.2890	0.0000	179.7974
Total		**72.5733**	**4.2890**	**0.0000**	**179.7974**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	357.52	72.5733	4.2890	0.0000	179.7974
Total		**72.5733**	**4.2890**	**0.0000**	**179.7974**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation