AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

CENTER STREET INDUSTRIAL PROJECT

COLTON, SAN BERNARDINO COUNTY, CALIFORNIA

LSA

September 2017

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EXECUTIVE SUMMARY

LSA has prepared an air quality and greenhouse gas (GHG) impact analysis for the proposed Center Street Industrial Project (project) in Colton, San Bernardino County, California.

The air quality study provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the proposed project.

Emissions with regional effects during project construction, were calculated with the California Emissions Estimator Model (CalEEMod; Version 2016.3.1). Results indicate that the project would not exceed criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Standard dust suppression measures recommended by SCAQMD have been identified for short-term construction activities in order to meet the SCAQMD emissions thresholds. Construction emissions for the proposed project would not exceed the localized significance thresholds (LSTs).

Historical air quality data show that existing carbon monoxide (CO) levels for the project area and the general vicinity do not exceed either State or federal ambient air quality standards. The CO concentrations in the project area are much lower than the federal and State CO standards. The proposed project would not result in measureable or significant increases in CO concentrations at intersections in the project vicinity. Therefore, project-related traffic would not significantly affect local CO levels under future year conditions, and the CO concentrations would be below the State and federal standards. No significant impact on local CO levels would occur. Pollutant emissions from project operation, which were also calculated with CalEEMod, would not exceed SCAQMD thresholds for criteria pollutants. Long-term emissions from the operation of the project would not exceed the LSTs.

The proposed project is in San Bernardino County, which has been found to have serpentine and ultramafic rock in its soil (California Department of Conservation 2000). However, according to the California Geological Survey, no such rock has been identified in the project vicinity. Therefore, the potential risk for naturally occurring asbestos during project construction is small and would be less than significant.

This document also addresses the potential of the project to affect global climate change. Short-term construction and long-term operational emissions of the principal GHGs, including carbon dioxide and methane, are quantified, and their significance relative to the California Air Resources Board (ARB) Scoping Plan is discussed. The proposed project would garner more than 100 points on the Screening Table for implementation of GHG reduction measures for commercial development in Colton. Hence, the operational GHG emissions related to the proposed project would be less than significant.

This Air Quality evaluation was prepared in conformance with appropriate standards, using procedures and methodologies included in the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and associated updates. Air quality data posted on the ARB and United States Environmental Protection Agency websites are included to document the local air quality environment.

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LIST OF ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
Basin	South Coast Air Basin
Bio-CO_2	biologically generated carbon dioxide
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CAP	climate action plan
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Colton
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CO_2e/yr	carbon dioxide equivalent per year
EPA	United States Environmental Protection Agency
ft	feet
GCC	global climate change
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
lbs/day	pounds per day
LST	localized significance threshold
mg/m^3	milligrams per cubic meter
MMT	million metric tons
MMT CO_2e	million metric tons of carbon dioxide equivalent

mph	miles per hour
MT	metric tons
MT CO_2e	metric tons of carbon dioxide equivalent
MT CO_2e/yr	metric tons of carbon dioxide equivalent per year
MT/yr	metric tons per year
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NBio-CO_2	nonbiologically generated carbon dioxide
NO	nitric oxide
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone (or smog)
PFCs	perfluorocarbons
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
Ppb	parts per billion
ppm	parts per million
project	Center Street Industrial Project
ROGs	reactive organic gases
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxides
SRA	Source Receptor Area
State	State of California
TAC	toxic air contaminant
UNFCCC	United Nations Framework Convention on Climate Change
VMT	vehicle miles traveled
VOCs	volatile organic compounds

INTRODUCTION

This air quality and greenhouse gas (GHG) impact analysis has been prepared to evaluate the potential air quality impacts and mitigation measures associated with the proposed Center Street Industrial Project (project), an industrial development project in Colton, San Bernardino County, California. This report provides a project-specific air quality and GHG impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses as well as the impacts on the proposed uses on the project site, and evaluating the mitigation measures required as part of the project design. Guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* (SCAQMD 1993), and associated updates will be followed in this air quality impact analysis.

PROJECT LOCATION AND DESCRIPTION

The proposed Center Street development site is on approximately 13.5 acres on West Center Street at Placentia Lane in Colton (Figure 1). The proposed project site plan consists of one light-industrial building with 242,210 square feet of warehouse space and 5,000 feet (ft) of office space, totaling 247,210 square feet, planned to open in 2018. To be conservative, this analysis assumes 50 percent of the warehouse building would be configured to handle refrigerated products. Figure 2 illustrates the site plan of the proposed project.

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses sensitive to air quality. Surrounding land uses consist of industrial and commercial uses, with the nearest residential houses 2,600 ft (792 meters) to the southeast (across Orange Street) (Figure 3). A sports field is located to the south of the project site across Placentia Lane.

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FIGURE 1

N

0 1000 2000
FEET

Center Street Industrial Project

Regional and Project Location

SOURCE:Bing Aerial, 2016; ESRI Streetmap, 2013/Riverside County, 2015.

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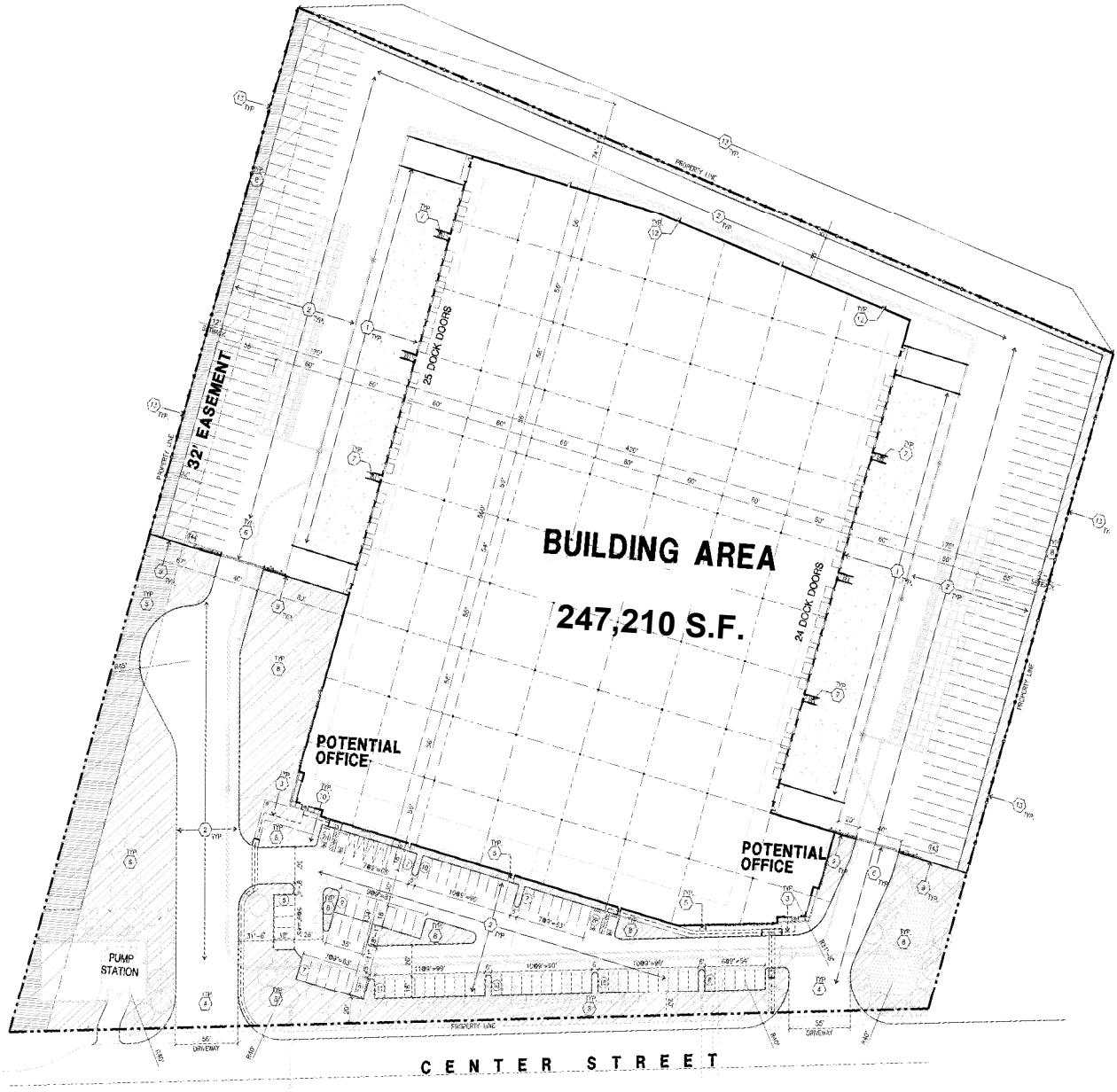

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FIGURE 2

N

0 75 150

FEET

Center Street Industrial Project

Proposed Site Plan

SOURCE: HPA Architecture, August 9, 2017.

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PROJECT SETTING

REGIONAL AIR QUALITY

The project site is in the nondesert portion of San Bernardino County, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD. The air quality assessment for the proposed project includes estimating emissions associated with short-term construction and long-term operation of the proposed project.

A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analyses. SCAQMD's current guidelines, included in its *CEQA Air Quality Handbook* (1993) and associated updates, were adhered to in the assessment of air quality impacts for the proposed project.

Both the State of California (State) and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in Table A, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to setting out primary and secondary AAQS, the State has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM_{10}. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. An alert level is that concentration of pollutants at which initial stage control actions are to begin. An alert will be declared when any one of the pollutant alert levels is reached at any monitoring site and when meteorological conditions are such that the pollutant concentrations can be expected to remain at these levels for 12 or more hours or to increase; or, in the case of oxidants, the situation is likely to recur within the next 24 hours unless control actions are taken.

Pollutant alert levels:

- **O_3:** 392 micrograms per cubic meter ($\mu g/m^3$) (0.20 parts per million [ppm]), 1-hour average
- **CO:** 17 milligrams per cubic meter (mg/m^3) (15 ppm), 8-hour average
- **NO_2:** 1,130 $\mu g/m^3$ (0.6 ppm), 1-hour average; 282 $\mu g/m^3$ (0.15 ppm), 24-hour average
- **SO_2:** 800 $\mu g/m^3$ (0.3 ppm), 24-hour average
- **Particulates measured as PM_{10}:** 350 $\mu g/m^3$, 24-hour average

Table A: 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 (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas)[11]	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	—	
Lead[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average[11]	—		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (ARB 2016). Website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed September 2017.

Footnotes are provided on the following page.

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

[2] National standards (other than 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 3 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 $\mu g/m^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the 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 procedure method which can be shown to the satisfaction of the ARB 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 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 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 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ 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 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 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard 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 1 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 $\mu g/m^3$ as a quarterly average) remains in effect until 1 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 standards 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 Basins, respectively.

°C = degrees Celsius
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
ppb = parts per billion

Table B summarizes the primary health effects and sources of common air pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (United States Environmental Protection Agency [EPA]), these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are more stringent than federal AAQS. Among the pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered pollutants with regional effects, while the others have more localized effects.

Table B: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate Matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	• Cars and trucks (especially diesels) • Fireplaces, wood stoves • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	• Precursor sources[1]: motor vehicles, industrial emissions, and consumer products
Carbon Monoxide (CO)	• Chest pain in heart patients[2] • Headaches, nausea[2] • Reduced mental alertness[2] • Death at very high levels[2]	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen Dioxide (NO_2)	• Increased response to allergens	• See carbon monoxide sources
Toxic Air Contaminants	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders	• Cars and trucks (especially diesels) • Industrial sources such as chrome platers • Neighborhood businesses such as dry cleaners and service stations • Building materials and products

Source: ARB Fact Sheet: Air Pollution and Health. Website: http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm, accessed September 2017.

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

[2] Health effects from CO exposures occur at levels considerably higher than ambient.

ARB = California Air Resources Board

CO = carbon monoxide

The California Clean Air Act (CCAA) provides SCAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution include any facility, building, structure, or installation, or combination thereof, that attracts or generates mobile source activity that results in emissions of any pollutant. In addition, area sources that are generated when minor sources collectively emit a substantial amount of pollution are also managed by the local air districts. Examples of this would be the motor vehicles at an intersection, a mall, and on highways. SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the California Air Resources Board (ARB).

Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and

rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the San Bernardino Station.[1] The monthly average maximum temperature recorded at this station from January 1893 to September 2004 ranged from 66.2°F in January to 96.2°F in July, with an annual average maximum of 79.9°F. The monthly average minimum temperature recorded at this station ranged from 38.5°F in January to 59.4°F in August, with an annual average minimum of 48.2°F. These levels are still representative of the project area. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The San Bernardino Station monitored precipitation from January 1893 to September 2004. Average monthly rainfall during that period varied from 0.1 inches in January to 0 inch or less between May and October, with an annual total of 0.2 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino

[1] Western Regional Climate Center. Website: http://www.wrcc.dri.edu/summary/Climsmsca.html, accessed September 2017.

Counties. In the winter, the greatest pollution problems are CO and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Description of Global Climate Change and its Sources

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[2] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the San Joaquin Delta.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years (1906 to 2005). The rate of warming over the last 50 years is almost double that over the last 100 years (Intergovernmental Panel on Climate Change [IPCC] 2013). The latest projections, based on state-of-the-art climate models, indicate temperatures in the State are expected to rise 3–10.5°F by the end of the century (State of California 2013). The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of CO_2 and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[3]

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2 The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

3 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the amount of heat that escapes, GHGs like carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are:[4]

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which some scientists believe is causing global warming. While GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O) some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons[5] of "CO_2 equivalents" (MT CO_2e). For example, N_2O is 265 times more potent at contributing to global warming than CO_2. Table C identifies the GWP for each type of GHG analyzed in this report.

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and

[4] The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

[5] A metric ton is equivalent to approximately 1.1 tons.

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO_2)	~100	1
Methane (CH_4)	12	28
Nitrous Oxide (N_2O)	121	265

Source: California Air Resources Board, *First Update to the Climate Change Scoping Plan: Building on the Framework* (2014). Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm, accessed September 2017.

deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2, and consequently the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s (National Assessment Synthesis Team 2001).

The transportation sector remains the largest source of GHG emissions in 2012, with 36 percent of the State's GHG emission inventory. The largest emissions category in the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road constitute more than 92 percent of the transportation sector total. Industry and electricity generation were the State's second- and third-largest categories of GHG emissions, respectively.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands) (EPA 2010). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in the State.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[6] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the State; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. However, there are no known project-related emissions of these three GHGs, and these substances are not discussed further in this analysis.

Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, national, State, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (see Table C), accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions

Worldwide emissions of GHGs in 2012 totaled 29 billion MT CO_2e per year (MT CO_2e/yr) (United Nations Framework Convention on Climate Change [UNFCCC] 2015). Global estimates are based on country inventories developed as part of the programs of the UNFCCC.

United States Emissions

In 2015, the United States emitted approximately 6.58 billion MT CO_2e. Total United States emissions have decreased by 2.3 percent from 2014 to 2015. This decrease was largely driven by a decrease in emissions from fossil fuel combustion, which was a result of multiple factors including substitution from coal to natural gas consumption in the electric power sector, warmer winter conditions that reduced demand for heating fuel in the residential and commercial sectors, and a slight decrease in electricity demand. GHG emissions in 2015 were 11.5 percent below 2005 levels (EPA 2017).

State of California Emissions

According to ARB emission inventory estimates, the State emitted approximately 440.4 million metric tons of CO_2e (MMT CO_2e) emissions in 2015. This is a decrease of 1.1 MMT CO_2e from 2014 and a 9.1 percent decrease since 2004 (ARB 2017).

The ARB estimates that transportation was the source of approximately 39 percent of the State's GHG emissions in 2015, followed by electricity generation (both in State and out of State) at 19 percent and industrial sources at 23 percent. The remaining sources of GHG emissions were

[6] The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for O_3 depletion and which are also potent GHGs.

residential and commercial activities at 11 percent, agriculture at 8 percent, and other not specified sources at 1percent (ARB 2017).

The ARB is responsible for developing the State GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities in the State and supports the Assembly Bill (AB) 32 Climate Change Program. The ARB's current GHG emission inventory covers the years 1990–2013 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

The ARB staff have projected Statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 509 MMT CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase but remain at approximately 30 percent and 32 percent of total CO_2e emissions, respectively (ARB 2014).

Air Pollution Constituents and Attainment Status

The ARB coordinates and oversees both State and federal air pollution control programs in the State. The ARB oversees the activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and the EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the AAQS.

Attainment areas may be:

- Attainment/Unclassified ("Unclassifiable" in some lists), which have never violated the air quality standard of interest or don't have enough monitoring data to establish attainment or nonattainment status; or

- Attainment-Maintenance (national ambient air quality standards [NAAQS] only), which violated a NAAQS that is currently in use (was Nonattainment) in or after 1990, but now attains the standard and is officially redesignated to Attainment by the EPA with a Maintenance State Implementation Plan (SIP); or

- Attainment (usually only for California ambient air quality standards [CAAQS], but sometimes for NAAQS), which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official Maintenance period.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table D lists the attainment status for the criteria pollutants in the Basin.

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

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment[1]	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, *Air Quality Standards and Area Designations* (2015).
Website: http://www.arb.ca.gov/desig/desig.htm, accessed September 2017.
[1] Except in Los Angeles County.
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_2 = sulfur dioxide

Ozone

O_3 (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as "Extreme Nonattainment," which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. CO is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as an "Attainment/Maintenance" area under the federal CO standards.

Nitrogen Oxides

NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as NO_X. NO_X is a primary component of the photochemical smog reaction. NO_X also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as nonattainment for the State NO_2 standard and as an "Attainment/ Maintenance" area under the federal NO_2 standard.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

Lead

Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The Los Angeles County portion of the Basin was redesignated as nonattainment for the State and federal standards for lead in 2010.

Particulate Matter

Particulate matter (PM) is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle ($PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems (e.g., asthma). The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease), increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease [e.g., asthma]), decreased lung functions (particularly in children and individuals with asthma), and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The Basin is designated nonattainment for the federal and State $PM_{2.5}$ standards and State PM_{10} standard, and attainment/ maintenance for the federal PM_{10} standard.

Volatile Organic Compounds

Volatile organic compounds (VOCs; also known as ROGs, and reactive organic compounds) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants; however, because VOCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Sulfates

Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently is converted to sulfate compounds in the atmosphere. The conversion of SO_2 to

sulfates takes place comparatively rapidly and completely in urban areas of the State due to regional meteorological features. The entire Basin is in attainment for the State standard for sulfates.

Hydrogen Sulfide

H_2S is a colorless gas with the odor of rotten eggs. H_2S is formed during bacterial decomposition of sulfur-containing organic substances. In addition, H_2S can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, an ARB committee concluded the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is unclassified for the State standard for H_2S.

Visibility-Reducing Particles

Visibility-reducing particles consist of suspended PM, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire Basin is unclassified for the State standard for visibility-reducing particles.

Hazardous Air Pollutants

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

The State regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for the ARB to designate substances as TACs. Once a TAC is identified, the ARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

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

To date, the ARB has designated nearly 200 compounds as TACs. Additionally, the ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines.

LOCAL AIR QUALITY

SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the San Bernardino Station, which monitors most air pollutant data, except SO_2, which were obtained from the Fontana – Arrow Highway Station. The air quality trends from these two stations are used to represent the ambient air quality in the project area. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2, and SO_2.[7,8] The ambient air quality data in Table E show that NO_2, SO_2, federal and State annual average $PM_{2.5}$ standards, and CO levels are below the applicable State and federal standards.

The federal and State 24-hour PM_{10} standard, and federal 24-hour $PM_{2.5}$ standard, exceeded their corresponding standard at least two times in the past 3 years. The State 1-hour O_3 standard was exceeded 6 to 38 times per year in the past 3 years. The federal 8-hour O_3 standard was exceeded 51 to 106 days a year in the past 3 years, and the State 8-hour O_3 standard was exceeded 76 to 108 times per year in the past 3 years.

REGULATORY SETTINGS

Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

Data collected at permanent monitoring stations are used by the EPA to classify regions as “attainment” or “nonattainment,” depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization responsible for ensuring compliance with the CAA requirements for the Basin.

In an effort to help federal agencies ensure the integrity of their environmental reviews and promote sound governmental decision making, the Council on Environmental Quality (CEQ) issued on January 14, 2011, final guidance on the “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact.” This guidance was

7 EPA. 2014–2016 Air Quality Data. Website: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report, accessed September 2017.

8 ARB. iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam, accessed September 2017.

Table E: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2014	2015	2016
Carbon Monoxide (CO) – taken from San Bernardino Station				
Maximum 1-hr concentration (ppm)		4.1	2.3	2.2
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		2.4	1.8	1.7
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3) – taken from San Bernardino Station				
Maximum 1-hr concentration (ppm)		0.121	0.134	0.158
Number of days exceeded:	State: > 0.09 ppm	38	6	10
Maximum 8-hr concentration (ppm)		0.099	0.117	0.118
Number of days exceeded:	State: > 0.07 ppm	76	79	108
	Federal: > 0.07 ppm	51	57	106
Coarse Particulates (PM_{10}) – taken from San Bernardino Station				
Maximum 24-hr concentration (µg/m^3)		131	180	ND
Number of days exceeded:	State: > 50 µg/m^3	2	3	ND
	Federal: > 150 µg/m^3	0	1	ND
Annual arithmetic average concentration (µg/m^3)		32.7	31.7	ND
Exceeded for the year:	State: > 20 µg/m^3	Yes	Yes	ND
Fine Particulates ($PM_{2.5}$) – taken from San Bernardino Station				
Maximum 24-hr concentration (µg/m^3)		32.2	53.5	32.5
Number of days exceeded:	Federal: > 35 µg/m^3	0	2	0
Annual arithmetic average concentration (µg/m^3)		11.3	10.7	10.8
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2) – taken from San Bernardino Station				
Maximum 1-hr concentration (ppm)		0.073	0.071	0.059
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.026	0.023	0.016
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2) – taken from Fontana – Arrow Highway Station				
Maximum 24-hr concentration (ppm)		0.001	0.001	0.008
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0003	0.0003	0.0004
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Sources: United States Environmental Protection Agency. 2014–2016 Air Quality Data. Website: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report, accessed September 2017.
California Air Resources Board. iADAM Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam, accessed September 2017.

[1] The exceedances of the federal 8-hr O_3 standard are based on the old 0.075 ppm standard. In 2015, the EPA revised the standard to 0.070 ppm.

µg/m^3 = micrograms per cubic meter
EPA = United States Environmental Protection Agency
hr = hour
ND = no data available
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million

developed as part of the CEQ's effort to modernize and reinvigorate federal agency implementation of the National Environmental Policy Act. The EPA established new national air quality standards for ground-level O_3 and fine particulate matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and PM, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the United States Supreme Court upheld the way the government sets air quality standards under the CAA. The court unanimously rejected industry arguments that the EPA must consider financial cost, as well as health benefits, in writing standards.

The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for O_3 and soot in 1997. Nevertheless, the court threw out the EPA's policy for implementing new O_3 rules, saying the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget to implement the 8-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the 8-hour O_3 standard in April 2003. The EPA completed final 8-hour nonattainment status on April 15, 2004. The EPA revoked the 1-hour O_3 standard on June 15, 2005, and lowered the 8-hour O_3 standard from 0.08 ppm to 0.075 ppm on April 1, 2008.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 to 35 $\mu g/m^3$ and revoked the annual PM_{10} standard on December 17, 2006. The EPA issued final designations for the 2006 24-hour $PM_{2.5}$ standard on December 12, 2008.

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 that are required to implement a regulatory approach to GCC.

On September 30, 2009, the EPA announced a proposal that focuses on large facilities emitting more than 25,000 tons of GHGs. The EPA is finalizing the first-ever national GHG emissions standards under the CAA, and the National Highway Traffic Safety Administration is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 miles per gallon.

State Regulations/Standards

The California Air Pollution Control Officers Association (CAPCOA) is a nonprofit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing knowledge, experience, and information among the air quality regulatory agencies around the State. CAPCOA meets regularly with federal and State air quality officials to develop Statewide rules and to assure consistent application of rules and regulations. CAPCOA works with specialized task forces (including regulated industry) by participating actively in the legislative process and continuing to coordinate local efforts

with those of the State and federal air agencies. The goal is to protect public health while maintaining economic vitality. California adopted the CCAA in 1988. The ARB administers the CAAQS for the 10 air pollutants designated in the CCAA. These 10 State air pollutants are the six criteria pollutants designated by the federal CAA as well as four others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

California Climate Action Milestones

In 1988, AB 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect the State's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1771 also contained several additional requirements for the CEC, including (1) updating the State's GHG inventory from an existing 1998 report and continuing to update it every 5 years; (2) acquiring, developing, and distributing information on GCC to agencies and businesses; (3) establishing a State interagency task force to ensure policy coordination; and (4) establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement GCC requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to the ARB by AB 1803. The ARB updates the inventory annually.

AB 1493, authored by Assembly Member Fran Pavley in 2002, directed the ARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by the ARB in 2004. On September 24, 2009, the ARB adopted amendments to the "Pavley" regulations that reduced GHG emissions in new passenger vehicles from 2009 through 2016. AB 1493 also directed the State's Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of their retail sales with renewable power by 2017, was established by SB 1078 in 2002. The Renewable Portfolio Standard was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by the ARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The renewable electricity standard is projected to reduce GHG emissions from the electricity sector by at least 12 MMT CO_2e in 2020.

Executive Order S-3-05 (June 2005) established GHG targets for the State (e.g., returning to year 2000 emission levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050).

Executive Order S-3-05 directed the Secretary of the California Environmental Protection Agency to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

The ARB released the 2017 Climate Change Scoping Plan Update on January 20, 2017. This Scoping Plan Update establishes a proposed framework of action for California to meet the target of 40 percent reduction in GHGs by 2030 compared to 1990 levels. This goal builds on California's success in establishing effective policies that have helped reduce emissions of GHGs while delivering substantial economic and environmental benefits. Further, the goal aligns California with the rest of the world in the global effort to fight climate change.

The first Scoping Plan was required by AB 32, the Global Warming Solutions Act, and was adopted in 2008. Under that plan, California set in place a range of effective programs to slash GHGs from cars, trucks, fuels, industry, and electrical generation, and the State is well on its way to achieving the goal of AB 32 to reach 1990 levels of GHGs by 2020. The 2017 Climate Change Scoping Plan Update builds on those programs and takes aim at the 2030 target established by SB 32 (Pavley). That bill, and related laws, is designed specifically to continue California's leadership in the fight against climate change and guide the State toward an equitable clean energy economy and prosperous future. To reach that future, the 2017 Climate Change Scoping Plan Update draws on the successes and the lessons learned from the first chapter of California's efforts to fight climate change under AB 32. The 2017 Climate Change Scoping Plan Update builds on key programs such as the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; and much cleaner cars, trucks, and freight movement, powering the State off cleaner renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using methane to meet energy needs.

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established SCAQMD and other air districts throughout the State. The federal CAA Amendments of 1977 required each state to adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the State.

The ARB is responsible for incorporating air quality management plans for local air basins into an SIP for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan

SCAQMD and SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. Every 3 years, SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The latest plan is the 2016 AQMP, which incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2016 AQMP included the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and

demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards. Key elements of the 2016 AQMP include:

- Calculation and credit for co-benefits from other planning efforts (e.g., climate, energy, and transportation)
- A strategy with fair-share emission reductions at the federal, State, and local levels
- Investment in strategies and technologies meeting multiple air quality objectives
- Identification of new partnerships and significant funding for incentives to accelerate deployment of zero and near-zero technologies
- Enhanced socioeconomic assessment, including an expanded environmental justice analysis
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the ozone strategy
- Attainment of the 1-hour ozone standard by 2022 with no reliance on "black box" future technology (CAA Section 182(e)(5) measures)

Local Policies

San Bernardino County Regional Greenhouse Gas Reduction Plan

In 2006, the California legislature passed AB 32, the Global Warming Solutions Act of 2006. The law establishes a limit on GHG emissions for the State of California to reduce Statewide emissions to 1990 levels by 2020. As a response, a project partnership led by the San Bernardino Associated Governments, the predecessor agency to the San Bernardino County Transportation Authority, has compiled an inventory of GHG emissions and developed reduction measures that could be adopted by the 21 Partnership Cities of San Bernardino County. Once adopted, the regional GHG reduction plan will serve as the basis for cities in San Bernardino County to develop more detailed community level climate action plans (CAPs). The City of Colton (City) is one of the partnership cities participating in this study.

The partnership cities committed to undertake the following actions that would reduce GHG emissions associated with regional (or countywide) activities as a whole.

- Prepare a current year (2008) GHG emissions inventory for each of the 21 partnership cities in the county
- Prepare a future year (2020) GHG emissions forecast for each of the cities

- Develop a tool for each city to develop its municipal inventory (i.e., emissions due only to the city's municipal operations and sometimes referred to as a municipal inventory) and municipal reduction plan

- Develop GHG reduction measures and city selection of measures appropriate for each jurisdiction

- Develop consistent baseline information for jurisdictions to use for their development of community CAPs meeting jurisdiction-identified reduction goals

City of Colton General Plan

The Model Air Quality Element of the City's General Plan was adopted in 1991 in an effort to comply with federal and State regulations and to improve air quality in the county and region. The following are the goals established in the Model Air Quality Element:

- **Goal 1.** Effective coordination of air quality improvement within the portion of the South Coast Air Basin in San Bernardino County and improved air quality through reductions in pollutants from Orange and Los Angeles counties

- **Goal 2.** A diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants

- **Goal 3.** Minimum feasible emissions from air carrier airports

- **Goal 4.** A pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants

- **Goal 5.** Reduce particulate emissions from roads, parking lots, construction sites, and agricultural lands

- **Goal 6.** Reduced emissions through reduced energy consumption

City of Colton Climate Action Plan

The City adopted its CAP on November 3, 2015. The CAP presents the GHG inventories, identifies the effectiveness of California initiatives to reduce GHG emissions, and identifies local measures that were selected by the City to reduce GHG emissions under the City's jurisdictional control to achieve the City's identified GHG reduction target. The City participated in the San Bernardino County Regional GHG Reduction Plan (Plan) which presents the collective results of all local efforts to reduce GHG emissions consistent with Statewide GHG targets expressed in AB 32, the "Global Warming Solutions Act of 2006," and SB 375. The CAP builds on the regional work and refines it to provide City-specific information and to develop the local implementation plan for City-selected GHG reduction measures. The CAP identifies how the GHG reduction measures will be implemented and monitored by the City to ensure that progress is being made toward the GHG reduction target.

THRESHOLDS OF SIGNIFICANCE

A number of modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. SCAQMD's current guidelines, the *CEQA Air Quality Handbook* (SCAQMD 1993) with associated updates, and the City guidelines were adhered to in the assessment of air quality impacts for the proposed project.

This air quality and GHG impact analysis includes estimated emissions associated with short-term construction and long-term operation of the proposed project. Criteria pollutants with regional impacts would be emitted by project-related vehicular trips, as well as by emissions associated with stationary sources used on site. Localized air quality impacts (i.e., higher CO concentrations [CO hot spots] near intersections or roadway segments in the project vicinity) would be small and less than significant due to the generally low ambient CO concentrations (maximum 2.2 ppm for the 1-hour period and 1.7 ppm for the 8-hour period) in the project area.

The net increase in pollutant emissions determines the significance and impact on regional air quality as a result of the proposed project. The results also allow the local government to determine whether the proposed project will deter the region from achieving the goal of reducing pollutants in accordance with the AQMP in order to comply with the NAAQS and CAAQS.

STATE THRESHOLDS OF SIGNIFICANCE

Based on the *Guidelines for the Implementation of California Environmental Quality Act*, Appendix G, Public Resources Code Sections 15000–15387, a project would normally be considered to have a significant effect on air quality if the project would violate any State AAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with the adopted environmental plans and goals of the community in which it is located.

POLLUTANTS WITH REGIONAL EFFECTS

In addition to the NAAQS and CAAQS, SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Thresholds for Construction Emissions

The following California Environmental Quality Act (CEQA) significance thresholds for construction emissions have been established for the Basin:

- 75 pounds per day (lbs/day) of VOC
- 100 lbs/day of NO_X

- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with construction-related emissions that exceed any of these emission thresholds are considered to be significant under the SCAQMD guidelines.

Regional Thresholds for Operational Emissions

The following CEQA significance thresholds for operational emissions have been established for the Basin:

- 55 lbs/day of VOCs
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with operational emissions that exceed any of these emission thresholds are considered to be significant under the SCAQMD guidelines.

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.00 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

LOCALIZED IMPACTS ANALYSIS

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized significance thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the NAAQS or CAAQS, as previously shown in Table A. LSTs are based on the ambient concentrations of that pollutant in the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST is the Central San Bernardino Valley area (SRA 34).

In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$, both of which are nonattainment pollutants. For these two, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1301. The Rule 403 threshold of 10.4 µg/m^3 applies to construction emissions (and may apply to operational emissions at aggregate handling facilities). The Rule 1301 threshold of 2.5 µg/m^3 applies to nonaggregate handling operational activities.

To avoid the need for every air quality analysis to perform air dispersion modeling, SCAQMD performed air dispersion modeling for a range of construction sites less than or equal to 5 acres in size and created look-up tables that correlate pollutant emissions rates with project size to screen out projects that are unlikely to generate enough emissions to result in a locally significant concentration of any criteria pollutant. These look-up tables can also be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required.

SCAQMD has issued guidance on applying California Emissions Estimator Model (CalEEMod) modeling results to localized impacts analyses.[9] The LST methodology uses look-up tables based on site acreage to determine the significance of emissions for CEQA purposes. However, CalEEMod does not allow the user to mitigate construction emissions by directly modifying acreage disturbed. CalEEMod calculates construction emissions (off-road exhaust and fugitive dust) based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment. For construction emissions, the localized significance for a project greater than 5 acres can be determined by following the SCAQMD guidance to approximate the amount of acres disturbed per day. For this project, approximately 4 acres would be disturbed per day during the grading phase; thus, LST screening thresholds for 4 acres were used in this analysis. As shown in the impacts section later, the on-site operational emissions are so low there is no potential for an LST impact, so the conservative 1-acre thresholds are used.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The existing sensitive receivers nearest to the project site are residences approximately 2,600 ft (792 meters) to the southeast of the project boundary. The SCAQMD LST look-up tables provide localized thresholds for sensitive receptors up to 500 meters away from a project site. While the 2,600 ft distance means that the likelihood of a significant LST impact is very small, to be conservative the 500 meter thresholds have been used, resulting in the following emissions thresholds for project construction and operations:

- **Construction LSTs (4 acres, 500 meters, Central San Bernardino Valley)**
    - 747 lbs/day of NO_X
    - 26,221 lbs/day of CO

[9] SCAQMD. Fact Sheet for Applying CalEEMod to localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf, accessed September 2017.

- 221 lbs/day of PM_{10}
- 115 lbs/day of $PM_{2.5}$

- **Operation LSTs (1 acre, 500 meters, Central San Bernardino Valley)**
  - 652 lbs/day of NO_X
  - 21,708 lbs/day of CO
  - 47 lbs/day of PM_{10}
  - 24 lbs/day of $PM_{2.5}$

GLOBAL CLIMATE CHANGE

The County of San Bernardino released an updated development review process document for the evaluation of GHG emissions in March 2014. This document includes screening tables for implementation of GHG reduction measures for commercial development. The proposed project is required to garner 100 points using the screening tables to be considered consistent with the County of San Bernardino GHG Emissions Reduction Plan.[10] Projects that are consistent with the San Bernardino GHG Emission Reduction Plan would be considered to have a less than significant impact related to the emission of GHGs. The proposed project's consistency with the County of San Bernardino GHG Emissions Reduction Plan has been used in this analysis as the measure of significance for GHG emissions.

[10] County of San Bernardino. Greenhouse Gas Emissions Development Review Processes. Updated March 2015. Website: http://www.sbcounty.gov/Uploads/lus/GreenhouseGas/FinalGHGUpdate.pdf, accessed September 2017.

IMPACTS AND MITIGATION

Air pollutant emissions associated with the project would occur over the short term from construction activities (e.g., fugitive dust from site preparation and grading) and emissions from equipment exhaust. There would be long-term regional emissions associated with project-related vehicular trips and due to energy consumption (e.g., electricity usage) by the proposed land uses.

CONSTRUCTION IMPACTS

Equipment Exhausts and Related Construction Activities

Construction activities produce combustion emissions from various sources such as earth-moving activities, on-site construction processes, utility engines, tenant improvements, and motor vehicles transporting the construction crew. The exhaust emissions from construction equipment envisioned on site would vary daily as construction activities change. On-site construction activities would result in localized on-site emissions. Table F lists the tentative project construction schedule for the proposed project based on a probable start date, a planned opening in 2018, and the assumption that the architectural coatings would be applied during the latter portion of the building construction phase. Table G lists the potential construction equipment to be used during project construction under each project alternative.

The most recent version of the CalEEMod (Version 2016.3.1) was used to calculate the construction emissions shown in Table H. The emissions shown in Table H show a combined total of on-site and off-site emissions from the CalEEMod output tables listed as "Mitigated Construction," even though the only measures that have been applied to the analysis are the required construction emissions control measures, or standard conditions.

Because no exceedances of any criteria pollutants are expected, no significant impacts would occur for project construction. Details of the emission factors and other assumptions are included in Appendix A.

Table F: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Site Preparation	1/2/2018	1/15/2018	5	10
2	Grading	1/16/2018	2/26/2018	5	30
3	Building Construction	2/27/2018	10/22/2018	5	170
4	Architectural Coating	7/31/2018	10/22/2018	5	60
5	Paving	10/23/2018	12/3/2018	5	30

Source: Estimated by LSA from the site plan (assuming a 2018 opening year) and using CalEEMod defaults (September 2017).
CalEEMod = California Emissions Estimator Model

Table G: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Site Preparation	Rubber-Tired Dozers	3	8	255	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	1	8	247	0.40
	Scrapers	2	8	367	0.48
	Tractors/Loaders/Backhoes	2	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Architectural Coating	Air Compressors	1	6	78	0.48
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38

Source: Compiled by LSA using CalEEMod defaults (September 2017).
CalEEMod = California Emissions Estimator Model

Table H: Short-Term Regional Construction Emissions

	Total Regional Pollutant Emissions (lbs/day)							
Construction Phase	VOC	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Site Preparation	4.7	48.3	23.5	0.0	8.3	2.6	4.5	2.4
Grading	5.2	59.6	36.2	0.1	4.1	2.6	1.7	2.4
Building Construction	4.7	36.3	18.6	0.1	3.4	1.6	0.9	1.5
Architectural Coating	40.3	2.2	3.0	0.0	0.5	0.2	0.1	0.2
Paving	2.2	17.6	15.6	0.0	0.2	1.0	0.0	0.9
Peak Daily	**45.0**	**59.6**	**36.2**	**0.1**	**10.9**		**6.9**	
SCAQMD Thresholds	**75.0**	**100.0**	**550.0**	**150.0**	**150.0**		**55.0**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (September 2017).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Fugitive Dust

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies

substantially on a project-by-project basis, depending on the level of activity, the specific operations, and the weather conditions at the time of construction. The proposed project will be required to comply with SCAQMD Rules 402 and 403 to control fugitive dust.

Table H lists total construction emissions (i.e., fugitive-dust emissions and construction-equipment exhausts) that have incorporated a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction.

Architectural Coatings

Architectural coatings contain VOCs that are part of the O_3 precursors. Based on the proposed project, application of the architectural coatings for the proposed peak construction day is estimated to result in a combined peak of 40.3 + 4.7 = 45.0 lbs/day of VOC. Therefore, VOC emissions from architectural coating applications would not exceed the SCAQMD VOC threshold of 75 lbs/day.

Localized Impacts Analysis

SCAQMD has issued guidance on applying CalEEMod modeling results to localized impacts analyses.[11] Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. Table I shows the construction emission rates would not exceed the LSTs for the existing residences 2,600 ft from the project site.

Table I: Construction Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	60	35	11	7
LST Thresholds	**747**	**26,221**	**221**	**115**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (September 2017).
Note: Source Receptor Area – Central San Bernardino Valley, 4 acres, receptors at 500 meters.
CO = carbon monoxide
LST = local significance threshold
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Odors

Heavy-duty equipment in the project area during construction would emit odors, primarily from equipment exhaust. However, construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

SCAQMD Rule 402 regarding nuisances states: “A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment,

[11] SCAQMD. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf, accessed September 2017.

nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors posing a health risk to potential on-site and existing off-site uses would not occur as a result of the proposed project.

Naturally Occurring Asbestos

The proposed project is in San Bernardino County, which is among the counties found to have serpentine and ultramafic rock in their soils (California Department of Conservation 2000). However, according to the California Geological Survey, no such rock has been identified in the project vicinity. Therefore, the potential risk for naturally occurring asbestos during project construction is small and less than significant.

Construction Emissions Conclusions

Tables H and I show that daily regional construction emissions would not exceed the daily thresholds of any criteria pollutant emission thresholds established by SCAQMD, and there will be no locally significant impacts during construction.

LONG-TERM REGIONAL AIR QUALITY IMPACTS

Long-Term Project Operational Emissions

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would result in net increases in both stationary- and mobile-source emissions. The stationary-source emissions would come from many sources, including the use of consumer products, landscape equipment, general energy, and solid waste.

Based on the dailytrip generation rates provided in the *Traffic Impact Analysis* (Translutions Inc. 2017) of 257 cars, 27 2-axle trucks, 36 3-axle trucks, and 95 4+-axle trucks, and assuming the average haul truck round trip would be 24 miles (the SCAG average truck trip length), long-term operational emissions associated with the proposed project are shown in Table J. Because off-road equipment (e.g., forklifts) is typically used in daily operations of warehouses, it was assumed that four forklifts would be used for warehouse operations, and these were included in CalEEMod. While these forklifts could be electric- or compressed natural gas (CNG) powered, because diesel-powered forklifts produce the highest emissions, this analysis includes four diesel-powered forklifts operating 8 hours a day, to be conservative. The 5 percent improvement in energy efficiency achieved for commercial development built to the 2016 California Building Standards, as compared to the 2013 California Building Standards, were accounted for in CalEEMod.

Area sources include architectural coatings, consumer products, and landscaping. Energy sources include natural gas consumption for heating. Table J shows the emissions of all criteria pollutants as a result of the proposed project would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. Therefore, project-related long-term air quality impacts would not be significant, and no mitigation would be required.

Table J: Opening Year Regional Operational Emissions

Source	Pollutant Emissions, lbs/day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project Scenario						
Area	5.7	0.0	0.0	0.0	0.0	0.0
Energy	0.2	1.8	1.5	0.0	0.1	0.1
Mobile	1.3	27.6	16.7	0.1	5.4	1.5
Warehouse Equipment	0.4	3.1	2.4	0.0	0.3	0.2
Total Project Emissions	**7.6**	**32.5**	**20.6**	**0.1**	**5.7**	**1.9**
SCAQMD Thresholds	**55.0**	**55.0**	**550.0**	**150.0**	**150.0**	**55.0**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (September 2017).
Note: A representative amount of diesel-powered warehouse equipment (e.g., forklifts) was assumed.
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Localized Impacts Analysis

Table K shows the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table K include all on-site project-related stationary sources and 5 percent of the project-related new mobile sources, which is an estimate of the amount of project-related new vehicle traffic that will occur on site. A total of 5 percent is considered conservative because the average round trip lengths assumed are 24 miles for commercial-work (the haul trucks), 16.8 miles for commercial-customer, and 13.8 miles for other types of trips. It is unlikely that the average on-site distance driven will be even 1,000 ft, which is approximately 2 percent of the total miles traveled. Considering the total trip length included in the CalEEMod, the 5 percent assumption is conservative.

Table K: Long-Term Operational Localized Impacts Analysis

Emissions Sources	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	5	3	1	0
LST	**652**	**21,708**	**47**	**24**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (September 2017).
Note: Source Receptor Area – Central San Bernardino Valley, 1 acre, receptors at 500 meters, on-site traffic assumed to be 5 percent of total.
CO = carbon monoxide
LST = Local Significance Thresholds
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Table K shows the operational emission rates would not exceed the LSTs for residents in the project area. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Greenhouse Gas Emissions

This section evaluates potential significant impacts to GCC that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs. Mitigation measures are identified as appropriate.

Construction and operation of project development would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent of energy is consumed during construction (United Nations Environment Programme 2007). Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** During project construction, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g., CO_2, CH_4, and N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment.

- **Gas, Electricity, and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Preliminary estimates indicate that the total energy used to pump and treat this water exceeds 6.5 percent of the total electricity used in the State per year (State of California 2014). The warehouse maybe 100 percent unrefrigerated, however, to be conservative, this analysis assumes 50 percent of the warehouse building would be configured to handle refrigerated products. Therefore, this would result in very high electricity usage.

- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and is not released into the atmosphere.

- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

GHG emissions associated with the project would occur over the short term from construction activities and would consist primarily of emissions from equipment exhaust. Table L lists the annual CO_2 emissions for each of the planned construction phases. The CalEEMod modeling output in Appendix A provides details.

Table L: Short-Term Regional Construction Emissions

Construction Phase	Peak Annual Emissions (MT/yr)				Total Emissions per Phase (MT CO_2e)
	CO_2	CH_4	N_2O	CO_2e	
2018					
Site Preparation	18.0	0.0	0.0	18.0	18.0
Grading	88.0	0.0	0.0	89.0	89.0
Building Construction	623.0	0.1	0.0	625.0	625.0
Architectural Coatings	22.0	0.0	0.0	22.0	22.0
Paving	33.0	0.0	0.0	34.0	34.0
Total Construction Emissions					**788.0**
Total Construction Emissions Amortized over 30 years					**26.0**

Source: Compiled by LSA (September 2017).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT CO_2e = metric tons of carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities and customers/visitors to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. An increase in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project.

The GHG emission estimates presented in Table M show the emissions that are associated with the proposed project. Appendix A includes the worksheets for the GHG emissions.

Table M: Long-Term Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Proposed Project						
Construction Emissions Amortized over 30 Years	0.0	26.0	26.0	0.0	0.00	26.0
Operational Emissions						
Area	0.0	0.0	0.0	0.0	0.00	0.0
Energy	0.0	2,041.0	2,041.0	0.1	0.00	2,049.0
Mobile	0.0	1,753.0	1,753.0	0.1	0.00	1,755.0
Warehouse Equipment	0.0	36.0	36.0	0.0	0.00	37.0
Waste	47.0	0.0	47.0	2.8	0.00	117.0
Water	18.0	237.0	255.0	1.9	0.10	316.0
Total Project Emissions	**65.0**	**4,094.0**	**4,159.0**	**4.8**	**0.07**	**4,300.0**

Source: Compiled by LSA (September 2017).
Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = nonbiologically generated CO_2

The biggest contributors to the total GHG emissions are the emissions from power plants producing the electricity used by the project. This would be principally building heating, cooling, office equipment, and lighting.

As Table M shows, the proposed project would generate 4,300 MT CO_2e per yr. Based on the screening tables for implementation of GHG reduction measures for commercial development, the proposed project is required to garner 100 points to be considered consistent with the County of San Bernardino GHG Emissions Reduction Plan. As Table N shows, the proposed project would garner more than 100 points on the Screening Table for implementation of GHG reduction measures for commercial development in Colton by implementing GHG reduction measures such as using greatly enhanced window insulation, use of improved efficiency water heaters, skylights, very high efficiency lighting, solar ready roofs, landscaping using only moderate water using plants, weather based irrigation control systems combined with drip irrigation, providing four public charging stations for use by electric vehicles, and use of water efficient showerheads, toilets/urinals and faucets. Projects that are consistent with the San Bernardino GHG Emission Reduction Plan are considered to have a less than significant impact related to the emission of GHGs. Hence, the proposed project's operational GHG emissions would be less than significant.

LONG-TERM MICROSCALE (CARBON MONOXIDE HOT SPOT) ANALYSIS

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, school children, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

Table N: Screening for Implementation of Greenhouse Gas Reduction Measures for Commercial Development

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency Development			
Building Envelope			
Insulation	2008 baseline (walls R-13; roof/attic R-30)	0 points	
	Modestly Enhanced Insulation (walls R-13, roof/attic R-38)	15 points	
	Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)	18 points	
	Greatly Enhanced Insulation (spray foam insulated walls R-15 or higher, roof/attic R-38 or higher)	20 points	
Windows	2008 Baseline Windows (0.57 U-factor, 0.4 solar heat gain coefficient [SHGC])	0 points	
	Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC)	7 points	
	Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC)	8 points	
	Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	12 points	12 points
Cool Roof	Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance)	12 points	
	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14 points	
	Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	16 points	
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage.		
	Air barrier applied to exterior walls, calking, and visual inspection, such as the HERS Verified Quality Insulation Installation (QII or equivalent)	12 points	
	Blower Door HERS Verified Envelope Leakage or equivalent	10 points	
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls.		
	Modest Thermal Mass (10% of floor or 10% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	4 points	
	Enhanced Thermal Mass (20% of floor or 20% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	6 points	

Feature	Description	Assigned Point Values	Project Points
	Enhanced Thermal Mass (80% of floor or 80% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	24 points	
Indoor Space Efficiencies			
Heating/Cooling Distribution System	Minimum Duct Insulation (R-4.2 required)	0 points	
	Modest Duct insulation (R-6)	8 points	
	Enhanced Duct Insulation (R-8)	10 points	
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14 points	
Space Heating/ Cooling Equipment	2008 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF)	0 points	
	Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF)	7 points	
	High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF)	8 points	
	Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF)	12 points	
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based on design and engineering data documenting the energy savings.	TBD	
Water Heaters	2008 Minimum Efficiency (0.57 Energy Factor)	0 points	
	Improved Efficiency Water Heater (0.675 Energy Factor)	14 points	14 points
	High Efficiency Water Heater (0.72 Energy Factor)	16 points	
	Very High Efficiency Water Heater (0.92 Energy Factor)	19 points	
	Solar Preheat System (0.2 Net Solar Fraction)	4 points	
	Enhanced Solar Preheat System (0.35 Net Solar Fraction)	8 points	
Daylighting	Daylighting is the ability of each room in the building to provide outside light during the day, reducing the need for artificial lighting during daylight hours.		
	All peripheral rooms in the building have at least one window or skylight	1 points	
	All rooms in the building have daylight (e.g., through use of windows, solar tubes, and skylights)	5 points	5 points
	All rooms daylighted	7 points	
Artificial Lighting	2008 Minimum (required)	0 points	
	Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures, 50 lumens/watt for 15–40 watt fixtures, and 60 lumens/watt for fixtures > 40 watt)	9 points	
	High Efficiency Lights (50% of in-unit fixtures are high efficacy)	12 points	12 points

Feature	Description	Assigned Point Values	Project Points
	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14 points	
Appliances	Star Commercial Refrigerator (new)	4 points	
	Energy Star Commercial Dish Washer (new)	4 points	
	Energy Star Commercial Cloths Washing	4 points	
Miscellaneous Commercial/Industrial Building Efficiencies			
Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	6 point	
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21.	6 Points	
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	
Existing Commercial Building Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings in the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and must have the approval of the City Planning Department. The decision to allow applicants to ability to participate in this program will be evaluated based on, but not limited to, the following:	TBD	
	Will the energy efficiency retrofit project benefit low income or disadvantaged communities?		
	Does the energy efficiency retrofit project fit within the overall assumptions in the reduction measure associated with commercial building energy efficiency retrofits?		
	Does the energy efficiency retrofit project provide co-benefits important to the City?		
	Point value will be determined based on the engineering and design criteria of the energy efficiency retrofit project.		
Reduction Measure PS E4: Commercial/Industrial Renewable Energy			
Photovoltaic	Solar photovoltaic panels installed on commercial buildings or in collective arrangements in a commercial development such that the total power provided augments:		
	Solar Ready Roofs (sturdy roof and electric hookups)	2 points	2 points
	10 percent of the power needs of the project	8 points	
	20 percent of the power needs of the project	14 points	

Feature	Description	Assigned Point Values	Project Points
	30 percent of the power needs of the project	20 points	
	40 percent of the power needs of the project	26 points	
	50 percent of the power needs of the project	32 points	
	60 percent of the power needs of the project	38 points	
	70 percent of the power needs of the project	44 points	
	80 percent of the power needs of the project	50 points	
	90 percent of the power needs of the project	56 points	
	100 percent of the power needs of the project	60 points	
Wind Turbines	Some areas of the City lend themselves to wind turbine applications. Analysis of the area's capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments:		
	10 percent of the power needs of the project	8 points	
	20 percent of the power needs of the project	14 points	
	30 percent of the power needs of the project	20 points	
	40 percent of the power needs of the project	26 points	
	50 percent of the power needs of the project	32 points	
	60 percent of the power needs of the project	38 points	
	70 percent of the power needs of the project	44 points	
	80 percent of the power needs of the project	50 points	
	90 percent of the power needs of the project	56 points	
	100 percent of the power needs of the project	60 points	
Off-Site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing commercial/industrial that will help implement reduction measures associated with existing buildings. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based on the energy generated by the proposal.	TBD	
Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (e.g., geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based on engineering data documenting the ability to generate electricity.	TBD	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS W2: Commercial/Industrial Water Conservation			
Irrigation and Landscaping			
Water Efficient Landscaping	Eliminate conventional turf from landscaping Only moderate water using plants Only low water using plants Only California Native landscape that requires no or only supplemental irrigation	0 points 3 points 4 points 8 points	3 points
Trees	Increase tree planting in parking areas 50% beyond City Code requirements	TBD	
Water Efficient Irrigation Systems	Low precipitation spray heads < 0.75”/hr or drip irrigation Weather-based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)	1 point 5 points	5 points
Recycled Water	Recycled water connection (purple pipe) to irrigation system on site	5 points	
Storm Water Reuse Systems	Innovative on-site storm water collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based on design and engineering data documenting the water savings.	TBD	
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3 points	3 points
Toilets	Water Efficient Toilets/Urinals (1.5 gpm) Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 4 points	3 points
Faucets	Water Efficient faucets (1.28 gpm)	3 points	3 points
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	4 points	
Commercial Laundry Washers	Water Efficient laundry (15% water savings) High Efficiency laundry equipment that captures and reuses rinse water (30% water savings)	3 points 6 points	
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based on design and engineering data documenting the water savings.	TBD	
Reduction Measure PS T1: Land Use Based Trips and VMT Reduction			
Mixed Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-use projects will be determined based on traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	

Feature	Description	Assigned Point Values	Project Points
Local Retail Near Residential (Commercial-Only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based on traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	
Reduction Measure PS T2: Bicycle Infrastructure			
Bicycle Infrastructure	Provide bicycle paths within project boundaries. Provide bicycle path linkages between project site and other land uses. Provide bicycle path linkages between project site and transit.	TBD 2 points 5 points	
Reduction Measure PS T3: Electric Vehicle Infrastructure			
Electric Vehicles	Provide public charging station for use by an electric vehicle (10 points for each charging station in the facility).	10 points	40 points (4 charging stations)
Reduction Measure PS T4: Employee Based Trip and VMT Reduction Policy			
Compressed Work Week	Reducing the number of days per week that employees need to be on site will reduce the number of vehicle trips associated with commercial/industrial development. Compressed work week such that full-time employees are on site: 5 days per week 4 days per week 3 days per week	TBD	
Car/Vanpools	Car/vanpool program Car/vanpool program with preferred parking Car/vanpool with guaranteed ride home program Subsidized employee incentive car/vanpool program Combination of all the above	TBD	
Employee Bicycle/ Pedestrian Programs	Complete sidewalk to residential within 0.5 mile Complete bike path to residential within 3 miles Bike lockers and secure racks Showers and changing facilities Subsidized employee walk/bike program (Note: combine all applicable points for total value)	TBD	
Shuttle/Transit Programs	Local transit within 0.25 mile Light rail transit within 0.5 mile Shuttle service to light rail transit station	TBD	

Feature	Description	Assigned Point Values	Project Points
	Guaranteed ride home program Subsidized transit passes Note: combine all applicable points for total value		
CRT	Employer-based Commute Trip Reduction (CRT). CRTs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goals using a variety of employee commute trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: Incentive-based CRT Programs (1–8 points) Mandatory CRT programs (5–20 points)	TBD	
Other Trip Reductions	Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project.	TBD	
Total Points from Commercial/Industrial Project:			**104**

AFUE = Annual Fuel Utilization Efficiency
CRRC = Cool Roof Rating Council
City = City of Colton
CRT = Commute Trip Reduction
EER = Energy Efficient Ratio
GHG = greenhouse gas
gpm = gallons per minute
HERS = Home Energy Rating System
hr = hour
HSPF = Heating Seasonal Performance Factor
HVAC = heating, ventilation, and air conditioning
lumens/watt = lumens per watt
SHGC = solar heat gain coefficient
TBD = to be determined
TIA = Traffic Impact Analysis
VMT = vehicle miles traveled

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Fontana Arrow Highway Station, the closest station with complete monitored CO data, showed a highest recorded 1-hour concentration of 2.2 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.7 ppm (the State standard is 9 ppm) during the past 3 years (Table E). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Therefore, the project can be implemented in an existing setting with no significant peak-hour intersection impacts. Given the extremely low level of CO concentrations in the project area, and no traffic impacts at any intersections, project-related vehicles are not expected to contribute significantly to result in CO concentrations exceeding the State or federal CO standards. Because no CO hot spots would occur, there would be no project-related impacts on CO concentrations.

AIR QUALITY MANAGEMENT PLAN CONSISTENCY

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are

addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project is an industrial development and is not defined as a regionally significant project under CEQA; therefore, the project does not meet SCAG's Intergovernmental Review criteria.

The proposed land uses require a General Plan amendment and zoning change. The City's General Plan is consistent with, and after the amendment would continue to be consistent with, the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD *CEQA Air Quality Handbook*, consistency with the Basin 2016 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below:

1. The project would result in short-term construction pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD. Long-term operational pollutant emissions would be less than the SCAQMD significance thresholds, as demonstrated above; therefore, the project would not result in an increase in the frequency or severity of an air quality standards violation and would not cause a new air quality standard violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant.

The land use envisioned for the project site would not increase the frequency or severity of an air quality standards violation or cause a new violation, and thus is consistent with the growth assumptions in the AQMP. Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP.

STANDARD CONDITIONS

Construction

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and, thus, the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors (SCAQMD Rule

403).[12] As shown in Table H, implementation of Rule 403 measures results in dust emissions below SCAQMD thresholds.

The applicable Rule 403 measures are as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more)
- Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 ft) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114
- Pave construction access roads at least 30 meters (100 ft) onto the site from the main road
- Reduce traffic speeds on all unpaved roads to 15 mph or less

The applicable California Department of Resources Recycling and Recovery Sustainable (Green) Building Program Measures are:

- Recycle/reuse at least 50 percent of the construction material (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard)[13]
- Use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project

Operations

The proposed project is required to comply with Title 24 of the California Code of Regulations established by the CEC regarding energy conservation and green buildings standards. In addition, as shown in Table N, the proposed project would implement GHG reduction measures such as using greatly enhanced window insulation, use of improved efficiency water heaters, skylights, very high efficiency lighting, solar ready roofs, landscaping using only moderate water using plants, weather based irrigation control systems combined with drip irrigation, providing four public charging stations for use by electric vehicles, and use of water efficient showerheads, toilets/urinals and faucets.

12 SCAQMD. Rule 403. Website: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf, accessed September 2017.

13 California Department of Resources Recycling and Recovery. Construction and Demolition Debris Recycling. Website: http://www.calrecycle.ca.gov/ConDemo, accessed September 2017.

CUMULATIVE IMPACTS

The project would contribute criteria pollutants to the area during temporary project construction. A number of individual projects in the area may be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. However, each project would be required to comply with SCAQMD's standard construction measures. The proposed project's short-term construction emissions would not exceed the significance thresholds. Therefore, the project will not have a significant short-term cumulative impact.

The project's long-term operational emissions would not exceed SCAQMD's criteria pollutant thresholds. Because climate change impacts are cumulative in nature, no typical single project can result in emissions of such a magnitude that it, in and of itself, would be significant on a project basis. Because the project would garner more than 100 points on the City GHG screening table, the proposed project would result in less than significant cumulative impacts on global climate change. Therefore, the proposed project would not result in a significant long-term cumulative impact.

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APPENDIX A

CALEEMOD MODEL PRINTOUTS

translutions
the transportation solutions company...

Table A - Project Trip Generation

Land Use	Units[1]	Peak Hour						Daily
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	
High-Cube Warehouse[2]	247 TSF							
Trip Generation Rates[3]		0.076	0.034	0.110	0.037	0.083	0.120	1.680
PCE Inbound/Outbound Splits		69%	31%	100%	31%	69%	100%	50%/50%
Passenger Car Equivalent Rates Calculations - Rates								
Passenger Cars								
Recommended Mix (%)[4]		61.90%	61.90%	61.90%	61.90%	61.90%	61.90%	61.90%
PCE Factor[5]		1.0	1.0	1.0	1.0	1.0	1.0	1.0
PCE Rates		0.047	0.021	0.068	0.023	0.051	0.074	1.040
2-Axle Trucks								
Recommended Mix (%)[4]		6.45%	6.45%	6.45%	6.45%	6.45%	6.45%	6.45%
PCE Factor[5]		1.5	1.5	1.5	1.5	1.5	1.5	1.5
PCE Rates		0.007	0.003	0.011	0.004	0.008	0.012	0.163
3-Axle Trucks								
Recommended Mix (%)[4]		8.65%	8.65%	8.65%	8.65%	8.65%	8.65%	8.65%
PCE Factor[5]		2.0	2.0	2.0	2.0	2.0	2.0	2.0
PCE Rates		0.013	0.006	0.019	0.006	0.014	0.021	0.291
4-Axle Trucks								
Recommended Mix (%)[4]		22.99%	22.99%	22.99%	22.99%	22.99%	22.99%	22.99%
PCE Factor[5]		3.0	3.0	3.0	3.0	3.0	3.0	3.0
PCE Rates		0.052	0.024	0.076	0.026	0.057	0.083	1.159
Total Trips								
Passenger Cars		12	5	17	5	13	18	257
2-Axle Trucks		1	1	2	1	1	2	27
3-Axle Trucks		1	1	2	1	2	3	36
4-Axle+ Trucks		4	2	6	2	5	7	95
Total Vehicle Trips		18	9	27	9	21	30	415
Final Rates (In Passenger Car Equivalents)								
Passenger Cars		0.047	0.021	0.068	0.023	0.051	0.074	1.040
2-Axle Trucks		0.007	0.003	0.011	0.004	0.008	0.012	0.163
3-Axle Trucks		0.013	0.006	0.019	0.006	0.014	0.021	0.291
4-Axle+ Trucks		0.052	0.024	0.076	0.026	0.057	0.083	1.159
Total PCE Rate		0.120	0.054	0.174	0.059	0.131	0.189	2.652
Total PCE Trips								
Passenger Cars		12	5	17	5	13	18	257
Truck PCE								
2-Axle Trucks		2	1	3	1	2	3	40
3-Axle Trucks		4	1	5	1	4	5	72
4-Axle+ Trucks		13	6	19	6	14	20	286
Truck PCE		19	8	27	8	20	28	398
Total PCE		31	13	44	13	33	46	655

[1] TSF = Thousand Square Feet

[2] To provide flexiblity as the project is finalized, this analysis is based on 247 Thousand Square Feet.

[3] Rates based on Land Use 152 - "High-Cube Warehouse" from Institute of Transportation Engineers (ITE) *Trip Generation,* (9th Ed.)

[4] Recommended Truck Percentage from SCAQMD, Truck Mix Percentages per City of Fontana Truck Trip Generation Study for Heavy Warehouse uses, August 2003

[5] Recommended PCE Factor per San Bernardino County CMP

Center Street Development

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Unrefrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Other Non-Asphalt Surfaces	1.97	Acre	1.97	85,813.20	0
Parking Lot	176.00	Space	1.58	70,400.00	0
Other Asphalt Surfaces	4.15	Acre	4.15	180,774.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Information

Land Use - From Site Plan/Traffic Study

Construction Phase - Construction schedule modified to fit in 2018, as project operational year is 2018 in TIA.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Soil Hauling phase will not involve offf road equipment usage.

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Trip generation rates from Traffic Impact Analysis, August 2017. 24 mile truck trip distance assumed.

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Energy Mitigation - To account for improvement in building standards between 2013 CBC and 2016 CBC.

Operational Off-Road Equipment - Assuming 2 forklifts will be used for operational purposes at the warehouse.

Fleet Mix - From TIA, July 2017.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	300.00	170.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	5/20/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	1/15/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	7/20/2018	2/26/2018
tblConstructionPhase	PhaseEndDate	2/15/2019	12/3/2018
tblConstructionPhase	PhaseEndDate	1/12/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	2/16/2019	7/31/2018
tblConstructionPhase	PhaseStartDate	7/21/2018	2/27/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	1/16/2018
tblConstructionPhase	PhaseStartDate	1/16/2019	10/23/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	1/2/2018
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00

tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	LotAcreage	2.84	2.71
tblLandUse	LotAcreage	2.84	2.71
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblVehicleTrips	CW_TL	16.60	24.00
tblVehicleTrips	CW_TL	16.60	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.7285	4.5751	3.7575	8.6100e-003	0.5231	0.2075	0.7306	0.1852	0.1941	0.3792	0.0000	785.3116	785.3116	0.1156	0.0000	788.2025
Maximum	**1.7285**	**4.5751**	**3.7575**	**8.6100e-003**	**0.5231**	**0.2075**	**0.7306**	**0.1852**	**0.1941**	**0.3792**	**0.0000**	**785.3116**	**785.3116**	**0.1156**	**0.0000**	**788.2025**

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	1.7285	4.5750	3.7575	8.6100e-003	0.4018	0.2075	0.6093	0.1282	0.1941	0.3223	0.0000	785.3112	785.3112	0.1156	0.0000	788.2021
Maximum	**1.7285**	**4.5750**	**3.7575**	**8.6100e-003**	**0.4018**	**0.2075**	**0.6093**	**0.1282**	**0.1941**	**0.3223**	**0.0000**	**785.3112**	**785.3112**	**0.1156**	**0.0000**	**788.2021**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.18**	**0.00**	**16.60**	**30.77**	**0.00**	**15.02**	**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**	1.7199	1.7199
2	**4-1-2018**	**6-30-2018**	1.3299	1.3299
3	**7-1-2018**	**9-30-2018**	2.2871	2.2871
		Highest	2.2871	2.2871

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	1.0340	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114
Energy	0.0359	0.3259	0.2737	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	2,045.6858	2,045.6858	0.0766	0.0210	2,053.8433
Mobile	0.2265	5.1276	2.7551	0.0186	0.9358	0.0210	0.9568	0.2525	0.0200	0.2725	0.0000	1,753.1159	1,753.1159	0.0865	0.0000	1,755.2786
Offroad	0.0463	0.4094	0.3149	4.0000e-004		0.0327	0.0327		0.0301	0.0301	0.0000	36.2736	36.2736	0.0113	0.0000	36.5559
Waste						0.0000	0.0000		0.0000	0.0000	47.1304	0.0000	47.1304	2.7853	0.0000	116.7637
Water						0.0000	0.0000		0.0000	0.0000	18.1211	236.9725	255.0937	1.8710	0.0460	315.5681
Total	**1.3427**	**5.8629**	**3.3493**	**0.0210**	**0.9358**	**0.0785**	**1.0143**	**0.2525**	**0.0748**	**0.3274**	**65.2516**	**4,072.0585**	**4,137.3101**	**4.8308**	**0.0669**	**4,278.0210**

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	1.0340	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114
Energy	0.0357	0.3243	0.2724	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	2,040.9717	2,040.9717	0.0765	0.0209	2,049.1083
Mobile	0.2265	5.1276	2.7551	0.0186	0.9358	0.0210	0.9568	0.2525	0.0200	0.2725	0.0000	1,753.1159	1,753.1159	0.0865	0.0000	1,755.2786
Offroad	0.0463	0.4094	0.3149	4.0000e-004		0.0327	0.0327		0.0301	0.0301	0.0000	36.2736	36.2736	0.0113	0.0000	36.5559
Waste						0.0000	0.0000		0.0000	0.0000	47.1304	0.0000	47.1304	2.7853	0.0000	116.7637
Water						0.0000	0.0000		0.0000	0.0000	18.1211	236.9725	255.0937	1.8710	0.0460	315.5681
Total	**1.3425**	**5.8613**	**3.3480**	**0.0210**	**0.9358**	**0.0784**	**1.0142**	**0.2525**	**0.0747**	**0.3272**	**65.2516**	**4,067.3444**	**4,132.5960**	**4.8306**	**0.0669**	**4,273.2860**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.01**	**0.03**	**0.04**	**0.05**	**0.00**	**0.15**	**0.01**	**0.00**	**0.16**	**0.04**	**0.00**	**0.12**	**0.11**	**0.00**	**0.09**	**0.11**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/15/2018	5	10	
2	Grading	Grading	1/16/2018	2/26/2018	5	30	
3	Building Construction	Building Construction	2/27/2018	10/22/2018	5	170	
4	Architectural Coating	Architectural Coating	7/31/2018	10/22/2018	5	60	
5	Paving	Paving	10/23/2018	12/3/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 7.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 370,500; Non-Residential Outdoor: 123,500; Striped Parking Area: 20,219 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0903**	**0.0129**	**0.1032**	**0.0497**	**0.0119**	**0.0615**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.5000e-004	4.3800e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9038	0.9038	3.0000e-005	0.0000	0.9046
Total	**5.3000e-004**	**4.5000e-004**	**4.3800e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9038**	**0.9038**	**3.0000e-005**	**0.0000**	**0.9046**

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					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0407**	**0.0129**	**0.0535**	**0.0223**	**0.0119**	**0.0342**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.5000e-004	4.3800e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9038	0.9038	3.0000e-005	0.0000	0.9046
Total	**5.3000e-004**	**4.5000e-004**	**4.3800e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9038**	**0.9038**	**3.0000e-005**	**0.0000**	**0.9046**

3.3 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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9728	84.9728	0.0265	0.0000	85.6341
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.1301**	**0.0395**	**0.1696**	**0.0540**	**0.0364**	**0.0903**	**0.0000**	**84.9728**	**84.9728**	**0.0265**	**0.0000**	**85.6341**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7700e-003	1.4900e-003	0.0146	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0127	3.0127	1.1000e-004	0.0000	3.0154
Total	**1.7700e-003**	**1.4900e-003**	**0.0146**	**3.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**3.0127**	**3.0127**	**1.1000e-004**	**0.0000**	**3.0154**

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					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9727	84.9727	0.0265	0.0000	85.6340
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.0586**	**0.0395**	**0.0981**	**0.0243**	**0.0364**	**0.0606**	**0.0000**	**84.9727**	**84.9727**	**0.0265**	**0.0000**	**85.6340**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7700e-003	1.4900e-003	0.0146	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0127	3.0127	1.1000e-004	0.0000	3.0154
Total	**1.7700e-003**	**1.4900e-003**	**0.0146**	**3.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**3.0127**	**3.0127**	**1.1000e-004**	**0.0000**	**3.0154**

3.4 Building Construction - 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					
Off-Road	0.2278	1.9882	1.4943	2.2900e-003		0.1275	0.1275		0.1198	0.1198	0.0000	202.1022	202.1022	0.0495	0.0000	203.3400
Total	**0.2278**	**1.9882**	**1.4943**	**2.2900e-003**		**0.1275**	**0.1275**		**0.1198**	**0.1198**	**0.0000**	**202.1022**	**202.1022**	**0.0495**	**0.0000**	**203.3400**

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	0.0335	1.0161	0.2309	2.2200e-003	0.0515	6.9800e-003	0.0584	0.0149	6.6800e-003	0.0215	0.0000	211.9115	211.9115	0.0155	0.0000	212.2977
Worker	0.1230	0.1036	1.0144	2.3200e-003	0.2283	1.6200e-003	0.2300	0.0606	1.4900e-003	0.0621	0.0000	209.1299	209.1299	7.6000e-003	0.0000	209.3200
Total	**0.1565**	**1.1197**	**1.2453**	**4.5400e-003**	**0.2798**	**8.6000e-003**	**0.2884**	**0.0755**	**8.1700e-003**	**0.0837**	**0.0000**	**421.0414**	**421.0414**	**0.0231**	**0.0000**	**421.6177**

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	0.2278	1.9882	1.4943	2.2900e-003		0.1275	0.1275		0.1198	0.1198	0.0000	202.1019	202.1019	0.0495	0.0000	203.3398
Total	**0.2278**	**1.9882**	**1.4943**	**2.2900e-003**		**0.1275**	**0.1275**		**0.1198**	**0.1198**	**0.0000**	**202.1019**	**202.1019**	**0.0495**	**0.0000**	**203.3398**

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	0.0335	1.0161	0.2309	2.2200e-003	0.0515	6.9800e-003	0.0584	0.0149	6.6800e-003	0.0215	0.0000	211.9115	211.9115	0.0155	0.0000	212.2977
Worker	0.1230	0.1036	1.0144	2.3200e-003	0.2283	1.6200e-003	0.2300	0.0606	1.4900e-003	0.0621	0.0000	209.1299	209.1299	7.6000e-003	0.0000	209.3200
Total	**0.1565**	**1.1197**	**1.2453**	**4.5400e-003**	**0.2798**	**8.6000e-003**	**0.2884**	**0.0755**	**8.1700e-003**	**0.0837**	**0.0000**	**421.0414**	**421.0414**	**0.0231**	**0.0000**	**421.6177**

3.5 Architectural Coating - 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					
Archit. Coating	1.1917					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9600e-003	0.0602	0.0556	9.0000e-005		4.5200e-003	4.5200e-003		4.5200e-003	4.5200e-003	0.0000	7.6598	7.6598	7.3000e-004	0.0000	7.6780
Total	**1.2007**	**0.0602**	**0.0556**	**9.0000e-005**		**4.5200e-003**	**4.5200e-003**		**4.5200e-003**	**4.5200e-003**	**0.0000**	**7.6598**	**7.6598**	**7.3000e-004**	**0.0000**	**7.6780**

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	8.6800e-003	7.3200e-003	0.0716	1.6000e-004	0.0161	1.1000e-004	0.0162	4.2800e-003	1.1000e-004	4.3900e-003	0.0000	14.7621	14.7621	5.4000e-004	0.0000	14.7755
Total	**8.6800e-003**	**7.3200e-003**	**0.0716**	**1.6000e-004**	**0.0161**	**1.1000e-004**	**0.0162**	**4.2800e-003**	**1.1000e-004**	**4.3900e-003**	**0.0000**	**14.7621**	**14.7621**	**5.4000e-004**	**0.0000**	**14.7755**

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	1.1917					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9600e-003	0.0602	0.0556	9.0000e-005		4.5200e-003	4.5200e-003		4.5200e-003	4.5200e-003	0.0000	7.6598	7.6598	7.3000e-004	0.0000	7.6780
Total	**1.2007**	**0.0602**	**0.0556**	**9.0000e-005**		**4.5200e-003**	**4.5200e-003**		**4.5200e-003**	**4.5200e-003**	**0.0000**	**7.6598**	**7.6598**	**7.3000e-004**	**0.0000**	**7.6780**

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	8.6800e-003	7.3200e-003	0.0716	1.6000e-004	0.0161	1.1000e-004	0.0162	4.2800e-003	1.1000e-004	4.3900e-003	0.0000	14.7621	14.7621	5.4000e-004	0.0000	14.7755
Total	**8.6800e-003**	**7.3200e-003**	**0.0716**	**1.6000e-004**	**0.0161**	**1.1000e-004**	**0.0162**	**4.2800e-003**	**1.1000e-004**	**4.3900e-003**	**0.0000**	**14.7621**	**14.7621**	**5.4000e-004**	**0.0000**	**14.7755**

3.6 Paving - 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					
Off-Road	0.0247	0.2628	0.2220	3.4000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	31.2174	31.2174	9.7200e-003	0.0000	31.4604
Paving	7.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0322**	**0.2628**	**0.2220**	**3.4000e-004**		**0.0143**	**0.0143**		**0.0132**	**0.0132**	**0.0000**	**31.2174**	**31.2174**	**9.7200e-003**	**0.0000**	**31.4604**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3300e-003	1.1200e-003	0.0110	3.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2595	2.2595	8.0000e-005	0.0000	2.2616
Total	**1.3300e-003**	**1.1200e-003**	**0.0110**	**3.0000e-005**	**2.4700e-003**	**2.0000e-005**	**2.4800e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**2.2595**	**2.2595**	**8.0000e-005**	**0.0000**	**2.2616**

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	0.0247	0.2628	0.2220	3.4000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	31.2174	31.2174	9.7200e-003	0.0000	31.4604
Paving	7.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0322**	**0.2628**	**0.2220**	**3.4000e-004**		**0.0143**	**0.0143**		**0.0132**	**0.0132**	**0.0000**	**31.2174**	**31.2174**	**9.7200e-003**	**0.0000**	**31.4604**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3300e-003	1.1200e-003	0.0110	3.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2595	2.2595	8.0000e-005	0.0000	2.2616
Total	**1.3300e-003**	**1.1200e-003**	**0.0110**	**3.0000e-005**	**2.4700e-003**	**2.0000e-005**	**2.4800e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**2.2595**	**2.2595**	**8.0000e-005**	**0.0000**	**2.2616**

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	0.2265	5.1276	2.7551	0.0186	0.9358	0.0210	0.9568	0.2525	0.0200	0.2725	0.0000	1,753.1159	1,753.1159	0.0865	0.0000	1,755.2786
Unmitigated	0.2265	5.1276	2.7551	0.0186	0.9358	0.0210	0.9568	0.2525	0.0200	0.2725	0.0000	1,753.1159	1,753.1159	0.0865	0.0000	1,755.2786

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Unrefrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	414.96	414.96	414.96	2,393,352	2,393,352

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 Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,687.9520	1,687.9520	0.0697	0.0144	1,693.9907
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,690.9229	1,690.9229	0.0698	0.0144	1,696.9723
NaturalGas Mitigated	0.0357	0.3243	0.2724	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.0197	353.0197	6.7700e-003	6.4700e-003	355.1175
NaturalGas Unmitigated	0.0359	0.3259	0.2737	1.9600e-003		0.0248	0.0248		0.0248	0.0248	0.0000	354.7629	354.7629	6.8000e-003	6.5000e-003	356.8710

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	6.39483e+006	0.0345	0.3135	0.2633	1.8800e-003		0.0238	0.0238		0.0238	0.0238	0.0000	341.2525	341.2525	6.5400e-003	6.2600e-003	343.2804
Unrefrigerated Warehouse-No Rail	253175	1.3700e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.5104	13.5104	2.6000e-004	2.5000e-004	13.5907
Total		**0.0359**	**0.3259**	**0.2737**	**1.9500e-003**		**0.0248**	**0.0248**		**0.0248**	**0.0248**	**0.0000**	**354.7629**	**354.7629**	**6.8000e-003**	**6.5100e-003**	**356.8710**

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	6.37464e+006	0.0344	0.3125	0.2625	1.8700e-003		0.0238	0.0238		0.0238	0.0238	0.0000	340.1750	340.1750	6.5200e-003	6.2400e-003	342.1964
Unrefrigerated Warehouse-No Rail	240701	1.3000e-003	0.0118	9.9100e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	12.8448	12.8448	2.5000e-004	2.4000e-004	12.9211
Total		**0.0357**	**0.3243**	**0.2724**	**1.9400e-003**		**0.0247**	**0.0247**		**0.0247**	**0.0247**	**0.0000**	**353.0197**	**353.0197**	**6.7700e-003**	**6.4800e-003**	**355.1175**

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
Parking Lot	61952	19.7392	8.1000e-004	1.7000e-004	19.8099
Refrigerated Warehouse-No Rail	4.94741e+006	1,576.3508	0.0651	0.0135	1,581.9903
Unrefrigerated Warehouse-No Rail	297635	94.8329	3.9200e-003	8.1000e-004	95.1722
Total		**1,690.9229**	**0.0698**	**0.0144**	**1,696.9723**

Mitigated

	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
Parking Lot	61952	19.7392	8.1000e-004	1.7000e-004	19.8099
Refrigerated Warehouse-No Rail	4.94049e+006	1,574.1472	0.0650	0.0135	1,579.7788
Unrefrigerated Warehouse-No Rail	295227	94.0656	3.8800e-003	8.0000e-004	94.4021
Total		**1,687.9520**	**0.0697**	**0.0144**	**1,693.9907**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0340	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114
Unmitigated	1.0340	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114

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	0.1192					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9143					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114
Total	**1.0340**	**5.0000e-005**	**5.5500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0107**	**0.0107**	**3.0000e-005**	**0.0000**	**0.0114**

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	0.1192					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9143					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0107	0.0107	3.0000e-005	0.0000	0.0114
Total	**1.0340**	**5.0000e-005**	**5.5500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0107**	**0.0107**	**3.0000e-005**	**0.0000**	**0.0114**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	255.0937	1.8710	0.0460	315.5681
Unmitigated	255.0937	1.8710	0.0460	315.5681

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
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	28.5594 / 0	127.5468	0.9355	0.0230	157.7841
Unrefrigerated Warehouse-No Rail	28.5594 / 0	127.5468	0.9355	0.0230	157.7841
Total		**255.0937**	**1.8710**	**0.0460**	**315.5681**

Mitigated

Land Use	Indoor/Outdoor Use (Mgal)	Total CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (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
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	28.5594 / 0	127.5468	0.9355	0.0230	157.7841
Unrefrigerated Warehouse-No Rail	28.5594 / 0	127.5468	0.9355	0.0230	157.7841
Total		**255.0937**	**1.8710**	**0.0460**	**315.5681**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (MT/yr)
Mitigated	47.1304	2.7853	0.0000	116.7637
Unmitigated	47.1304	2.7853	0.0000	116.7637

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	116.09	23.5652	1.3927	0.0000	58.3818
Unrefrigerated Warehouse-No Rail	116.09	23.5652	1.3927	0.0000	58.3818
Total		**47.1304**	**2.7853**	**0.0000**	**116.7637**

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	116.09	23.5652	1.3927	0.0000	58.3818
Unrefrigerated Warehouse-No Rail	116.09	23.5652	1.3927	0.0000	58.3818
Total		**47.1304**	**2.7853**	**0.0000**	**116.7637**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	2	8.00	260	89	0.20	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0463	0.4094	0.3149	4.0000e-004		0.0327	0.0327		0.0301	0.0301	0.0000	36.2736	36.2736	0.0113	0.0000	36.5559
Total	**0.0463**	**0.4094**	**0.3149**	**4.0000e-004**		**0.0327**	**0.0327**		**0.0301**	**0.0301**	**0.0000**	**36.2736**	**36.2736**	**0.0113**	**0.0000**	**36.5559**

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

Center Street Development

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Unrefrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Other Non-Asphalt Surfaces	1.97	Acre	1.97	85,813.20	0
Parking Lot	176.00	Space	1.58	70,400.00	0
Other Asphalt Surfaces	4.15	Acre	4.15	180,774.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Information

Land Use - From Site Plan/Traffic Study

Construction Phase - Construction schedule modified to fit in 2018, as project operational year is 2018 in TIA.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Soil Hauling phase will not involve offf road equipment usage.

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Trip generation rates from Traffic Impact Analysis, August 2017. 24 mile truck trip distance assumed.

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Energy Mitigation - To account for improvement in building standards between 2013 CBC and 2016 CBC.

Operational Off-Road Equipment - Assuming 2 forklifts will be used for operational purposes at the warehouse.

Fleet Mix - From TIA, July 2017.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	300.00	170.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	5/20/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	1/15/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	7/20/2018	2/26/2018
tblConstructionPhase	PhaseEndDate	2/15/2019	12/3/2018
tblConstructionPhase	PhaseEndDate	1/12/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	2/16/2019	7/31/2018
tblConstructionPhase	PhaseStartDate	7/21/2018	2/27/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	1/16/2018
tblConstructionPhase	PhaseStartDate	1/16/2019	10/23/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	1/2/2018
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00

tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	LotAcreage	2.84	2.71
tblLandUse	LotAcreage	2.84	2.71
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblVehicleTrips	CW_TL	16.60	24.00
tblVehicleTrips	CW_TL	16.60	24.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	45.0065	59.6115	38.4922	0.0921	18.2675	2.6353	20.8458	9.9840	2.4245	12.3561	0.0000	9,245.1129	9,245.1129	1.9529	0.0000	9,269.8912
Maximum	**45.0065**	**59.6115**	**38.4922**	**0.0921**	**18.2675**	**2.6353**	**20.8458**	**9.9840**	**2.4245**	**12.3561**	**0.0000**	**9,245.1129**	**9,245.1129**	**1.9529**	**0.0000**	**9,269.8912**

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	45.0065	59.6115	38.4922	0.0921	8.3310	2.6353	10.9093	4.5222	2.4245	6.8942	0.0000	9,245.1129	9,245.1129	1.9529	0.0000	9,269.8912
Maximum	**45.0065**	**59.6115**	**38.4922**	**0.0921**	**8.3310**	**2.6353**	**10.9093**	**4.5222**	**2.4245**	**6.8942**	**0.0000**	**9,245.1129**	**9,245.1129**	**1.9529**	**0.0000**	**9,269.8912**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.39**	**0.00**	**47.67**	**54.71**	**0.00**	**44.20**	**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	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Energy	0.1964	1.7857	1.5000	0.0107		0.1357	0.1357		0.1357	0.1357		2,142.7897	2,142.7897	0.0411	0.0393	2,155.5232
Mobile	1.3451	27.3887	16.6813	0.1062	5.2371	0.1149	5.3520	1.4108	0.1093	1.5201		11,011.2934	11,011.2934	0.5172		11,024.2222
Offroad	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690
Total	**7.5650**	**32.3238**	**20.6481**	**0.1200**	**5.2371**	**0.5021**	**5.7392**	**1.4108**	**0.4764**	**1.8872**		**13,461.7522**	**13,461.7522**	**0.6542**	**0.0393**	**13,489.8147**

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	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Energy	0.1955	1.7769	1.4926	0.0107		0.1350	0.1350		0.1350	0.1350		2,132.2608	2,132.2608	0.0409	0.0391	2,144.9318
Mobile	1.3451	27.3887	16.6813	0.1062	5.2371	0.1149	5.3520	1.4108	0.1093	1.5201		11,011.2934	11,011.2934	0.5172		11,024.2222
Offroad	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690
Total	**7.5640**	**32.3150**	**20.6407**	**0.1199**	**5.2371**	**0.5014**	**5.7385**	**1.4108**	**0.4757**	**1.8865**		**13,451.2234**	**13,451.2234**	**0.6540**	**0.0391**	**13,479.2233**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.01**	**0.03**	**0.04**	**0.04**	**0.00**	**0.13**	**0.01**	**0.00**	**0.14**	**0.04**	**0.00**	**0.08**	**0.08**	**0.03**	**0.48**	**0.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/15/2018	5	10	
2	Grading	Grading	1/16/2018	2/26/2018	5	30	
3	Building Construction	Building Construction	2/27/2018	10/22/2018	5	170	
4	Architectural Coating	Architectural Coating	7/31/2018	10/22/2018	5	60	
5	Paving	Paving	10/23/2018	12/3/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 7.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 370,500; Non-Residential Outdoor: 123,500; Striped Parking Area: 20,219 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	0.1174	0.0808	1.0121	2.1900e-003	0.2012	1.4000e-003	0.2026	0.0534	1.2900e-003	0.0547		217.3372	217.3372	8.0100e-003		217.5374
Total	**0.1174**	**0.0808**	**1.0121**	**2.1900e-003**	**0.2012**	**1.4000e-003**	**0.2026**	**0.0534**	**1.2900e-003**	**0.0547**		**217.3372**	**217.3372**	**8.0100e-003**		**217.5374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.1298**	**2.5769**	**10.7067**	**4.4688**	**2.3708**	**6.8396**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	0.1174	0.0808	1.0121	2.1900e-003	0.2012	1.4000e-003	0.2026	0.0534	1.2900e-003	0.0547		217.3372	217.3372	8.0100e-003		217.5374
Total	**0.1174**	**0.0808**	**1.0121**	**2.1900e-003**	**0.2012**	**1.4000e-003**	**0.2026**	**0.0534**	**1.2900e-003**	**0.0547**		**217.3372**	**217.3372**	**8.0100e-003**		**217.5374**

3.3 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			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**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**		**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	0.0000	0.0000	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	0.1305	0.0897	1.1246	2.4300e-003	0.2236	1.5500e-003	0.2251	0.0593	1.4300e-003	0.0607		241.4857	241.4857	8.9000e-003		241.7082
Total	**0.1305**	**0.0897**	**1.1246**	**2.4300e-003**	**0.2236**	**1.5500e-003**	**0.2251**	**0.0593**	**1.4300e-003**	**0.0607**		**241.4857**	**241.4857**	**8.9000e-003**		**241.7082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**3.9030**	**2.6337**	**6.5367**	**1.6184**	**2.4230**	**4.0415**	**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	0.0000	0.0000	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	0.1305	0.0897	1.1246	2.4300e-003	0.2236	1.5500e-003	0.2251	0.0593	1.4300e-003	0.0607		241.4857	241.4857	8.9000e-003		241.7082
Total	**0.1305**	**0.0897**	**1.1246**	**2.4300e-003**	**0.2236**	**1.5500e-003**	**0.2251**	**0.0593**	**1.4300e-003**	**0.0607**		**241.4857**	**241.4857**	**8.9000e-003**		**241.7082**

3.4 Building Construction - 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					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.3869	11.7665	2.5261	0.0265	0.6149	0.0817	0.6966	0.1771	0.0782	0.2552		2,792.8890	2,792.8890	0.1915		2,797.6756
Worker	1.5984	1.0990	13.7762	0.0298	2.7385	0.0190	2.7575	0.7263	0.0175	0.7438		2,958.2002	2,958.2002	0.1090		2,960.9252
Total	**1.9852**	**12.8655**	**16.3023**	**0.0563**	**3.3534**	**0.1007**	**3.4541**	**0.9033**	**0.0957**	**0.9990**		**5,751.0892**	**5,751.0892**	**0.3005**		**5,758.6007**

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.3869	11.7665	2.5261	0.0265	0.6149	0.0817	0.6966	0.1771	0.0782	0.2552		2,792.8890	2,792.8890	0.1915		2,797.6756
Worker	1.5984	1.0990	13.7762	0.0298	2.7385	0.0190	2.7575	0.7263	0.0175	0.7438		2,958.2002	2,958.2002	0.1090		2,960.9252
Total	**1.9852**	**12.8655**	**16.3023**	**0.0563**	**3.3534**	**0.1007**	**3.4541**	**0.9033**	**0.0957**	**0.9990**		**5,751.0892**	**5,751.0892**	**0.3005**		**5,758.6007**

3.5 Architectural Coating - 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					
Archit. Coating	39.7234					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**40.0221**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.3197	0.2198	2.7552	5.9500e-003	0.5477	3.8000e-003	0.5515	0.1453	3.5100e-003	0.1488		591.6400	591.6400	0.0218		592.1850
Total	**0.3197**	**0.2198**	**2.7552**	**5.9500e-003**	**0.5477**	**3.8000e-003**	**0.5515**	**0.1453**	**3.5100e-003**	**0.1488**		**591.6400**	**591.6400**	**0.0218**		**592.1850**

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	39.7234					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**40.0221**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.3197	0.2198	2.7552	5.9500e-003	0.5477	3.8000e-003	0.5515	0.1453	3.5100e-003	0.1488		591.6400	591.6400	0.0218		592.1850
Total	**0.3197**	**0.2198**	**2.7552**	**5.9500e-003**	**0.5477**	**3.8000e-003**	**0.5515**	**0.1453**	**3.5100e-003**	**0.1488**		**591.6400**	**591.6400**	**0.0218**		**592.1850**

3.6 Paving - 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					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.5004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1441**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

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	0.0979	0.0673	0.8434	1.8200e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		181.1143	181.1143	6.6700e-003		181.2811
Total	**0.0979**	**0.0673**	**0.8434**	**1.8200e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**181.1143**	**181.1143**	**6.6700e-003**		**181.2811**

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.5004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1441**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

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	0.0979	0.0673	0.8434	1.8200e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		181.1143	181.1143	6.6700e-003		181.2811
Total	**0.0979**	**0.0673**	**0.8434**	**1.8200e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**181.1143**	**181.1143**	**6.6700e-003**		**181.2811**

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	1.3451	27.3887	16.6813	0.1062	5.2371	0.1149	5.3520	1.4108	0.1093	1.5201		11,011.2934	11,011.2934	0.5172		11,024.2222
Unmitigated	1.3451	27.3887	16.6813	0.1062	5.2371	0.1149	5.3520	1.4108	0.1093	1.5201		11,011.2934	11,011.2934	0.5172		11,024.2222

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Unrefrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	414.96	414.96	414.96	2,393,352	2,393,352

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 Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1955	1.7769	1.4926	0.0107		0.1350	0.1350		0.1350	0.1350		2,132.2608	2,132.2608	0.0409	0.0391	2,144.9318
NaturalGas Unmitigated	0.1964	1.7857	1.5000	0.0107		0.1357	0.1357		0.1357	0.1357		2,142.7897	2,142.7897	0.0411	0.0393	2,155.5232

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	17520.1	0.1889	1.7177	1.4428	0.0103		0.1305	0.1305		0.1305	0.1305		2,061.1861	2,061.1861	0.0395	0.0378	2,073.4347
Unrefrigerated Warehouse-No Rail	693.63	7.4800e-003	0.0680	0.0571	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003		81.6036	81.6036	1.5600e-003	1.5000e-003	82.0885
Total		**0.1964**	**1.7857**	**1.5000**	**0.0107**		**0.1357**	**0.1357**		**0.1357**	**0.1357**		**2,142.7897**	**2,142.7897**	**0.0411**	**0.0393**	**2,155.5232**

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	17.4648	0.1884	1.7122	1.4383	0.0103		0.1301	0.1301		0.1301	0.1301		2,054.6778	2,054.6778	0.0394	0.0377	2,066.8877
Unrefrigerated Warehouse-No Rail	0.659456	7.1100e-003	0.0647	0.0543	3.9000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003		77.5831	77.5831	1.4900e-003	1.4200e-003	78.0441
Total		**0.1955**	**1.7769**	**1.4926**	**0.0107**		**0.1350**	**0.1350**		**0.1350**	**0.1350**		**2,132.2608**	**2,132.2608**	**0.0409**	**0.0391**	**2,144.9318**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Unmitigated	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.0100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2500e-003	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Total	**5.6672**	**4.2000e-004**	**0.0444**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0939**	**0.0939**	**2.6000e-004**		**0.1004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.0100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2500e-003	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Total	**5.6672**	**4.2000e-004**	**0.0444**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0939**	**0.0939**	**2.6000e-004**		**0.1004**

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
Forklifts	2	8.00	260	89	0.20	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Forklifts	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690
Total	**0.3563**	**3.1490**	**2.4225**	**3.0500e-003**		**0.2513**	**0.2513**		**0.2312**	**0.2312**		**307.5752**	**307.5752**	**0.0958**		**309.9690**

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

Center Street Development

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Unrefrigerated Warehouse-No Rail	123.50	1000sqft	2.71	123,500.00	0
Other Non-Asphalt Surfaces	1.97	Acre	1.97	85,813.20	0
Parking Lot	176.00	Space	1.58	70,400.00	0
Other Asphalt Surfaces	4.15	Acre	4.15	180,774.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Information

Land Use - From Site Plan/Traffic Study

Construction Phase - Construction schedule modified to fit in 2018, as project operational year is 2018 in TIA.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Soil Hauling phase will not involve offf road equipment usage.

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Trip generation rates from Traffic Impact Analysis, August 2017. 24 mile truck trip distance assumed.

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Energy Mitigation - To account for improvement in building standards between 2013 CBC and 2016 CBC.

Operational Off-Road Equipment - Assuming 2 forklifts will be used for operational purposes at the warehouse.

Fleet Mix - From TIA, July 2017.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	300.00	170.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	5/20/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	1/15/2019	10/22/2018
tblConstructionPhase	PhaseEndDate	7/20/2018	2/26/2018
tblConstructionPhase	PhaseEndDate	2/15/2019	12/3/2018
tblConstructionPhase	PhaseEndDate	1/12/2018	1/15/2018
tblConstructionPhase	PhaseStartDate	2/16/2019	7/31/2018
tblConstructionPhase	PhaseStartDate	7/21/2018	2/27/2018
tblConstructionPhase	PhaseStartDate	6/30/2018	1/16/2018
tblConstructionPhase	PhaseStartDate	1/16/2019	10/23/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	1/2/2018
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.23
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.62
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00

tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.09
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	LHD2	5.9060e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MCY	6.3790e-003	0.00
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.06
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MH	1.2510e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00
tblFleetMix	OBUS	1.3150e-003	0.00

tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	SBUS	8.2900e-004	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblFleetMix	UBUS	1.7780e-003	0.00
tblLandUse	LotAcreage	2.84	2.71
tblLandUse	LotAcreage	2.84	2.71
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblVehicleTrips	CW_TL	16.60	24.00
tblVehicleTrips	CW_TL	16.60	24.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	45.0189	59.6163	36.0173	0.0874	18.2675	2.6353	20.8458	9.9840	2.4245	12.3561	0.0000	8,773.4384	8,773.4384	1.9518	0.0000	8,798.3018
Maximum	**45.0189**	**59.6163**	**36.0173**	**0.0874**	**18.2675**	**2.6353**	**20.8458**	**9.9840**	**2.4245**	**12.3561**	**0.0000**	**8,773.4384**	**8,773.4384**	**1.9518**	**0.0000**	**8,798.3018**

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	45.0189	59.6163	36.0173	0.0874	8.3310	2.6353	10.9093	4.5222	2.4245	6.8942	0.0000	8,773.4384	8,773.4384	1.9518	0.0000	8,798.3018
Maximum	**45.0189**	**59.6163**	**36.0173**	**0.0874**	**8.3310**	**2.6353**	**10.9093**	**4.5222**	**2.4245**	**6.8942**	**0.0000**	**8,773.4384**	**8,773.4384**	**1.9518**	**0.0000**	**8,798.3018**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.39**	**0.00**	**47.67**	**54.71**	**0.00**	**44.20**	**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	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Energy	0.1964	1.7857	1.5000	0.0107		0.1357	0.1357		0.1357	0.1357		2,142.7897	2,142.7897	0.0411	0.0393	2,155.5232
Mobile	1.2701	27.6129	14.9429	0.1006	5.2371	0.1166	5.3536	1.4108	0.1109	1.5217		10,441.2894	10,441.2894	0.5427		10,454.8560
Offroad	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690
Total	**7.4900**	**32.5479**	**18.9098**	**0.1144**	**5.2371**	**0.5037**	**5.7408**	**1.4108**	**0.4779**	**1.8888**		**12,891.7482**	**12,891.7482**	**0.6797**	**0.0393**	**12,920.4485**

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	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Energy	0.1955	1.7769	1.4926	0.0107		0.1350	0.1350		0.1350	0.1350		2,132.2608	2,132.2608	0.0409	0.0391	2,144.9318
Mobile	1.2701	27.6129	14.9429	0.1006	5.2371	0.1166	5.3536	1.4108	0.1109	1.5217		10,441.2894	10,441.2894	0.5427		10,454.8560
Offroad	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690
Total	**7.4890**	**32.5392**	**18.9024**	**0.1143**	**5.2371**	**0.5031**	**5.7401**	**1.4108**	**0.4773**	**1.8881**		**12,881.2193**	**12,881.2193**	**0.6795**	**0.0391**	**12,909.8571**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.01**	**0.03**	**0.04**	**0.04**	**0.00**	**0.13**	**0.01**	**0.00**	**0.14**	**0.04**	**0.00**	**0.08**	**0.08**	**0.03**	**0.48**	**0.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2018	1/15/2018	5	10	
2	Grading	Grading	1/16/2018	2/26/2018	5	30	
3	Building Construction	Building Construction	2/27/2018	10/22/2018	5	170	
4	Architectural Coating	Architectural Coating	7/31/2018	10/22/2018	5	60	
5	Paving	Paving	10/23/2018	12/3/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 7.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 370,500; Non-Residential Outdoor: 123,500; Striped Parking Area: 20,219 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20

Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	0.1171	0.0851	0.8351	1.9600e-003	0.2012	1.4000e-003	0.2026	0.0534	1.2900e-003	0.0547		194.9814	194.9814	7.0400e-003		195.1575
Total	**0.1171**	**0.0851**	**0.8351**	**1.9600e-003**	**0.2012**	**1.4000e-003**	**0.2026**	**0.0534**	**1.2900e-003**	**0.0547**		**194.9814**	**194.9814**	**7.0400e-003**		**195.1575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.1298**	**2.5769**	**10.7067**	**4.4688**	**2.3708**	**6.8396**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	0.1171	0.0851	0.8351	1.9600e-003	0.2012	1.4000e-003	0.2026	0.0534	1.2900e-003	0.0547		194.9814	194.9814	7.0400e-003		195.1575
Total	**0.1171**	**0.0851**	**0.8351**	**1.9600e-003**	**0.2012**	**1.4000e-003**	**0.2026**	**0.0534**	**1.2900e-003**	**0.0547**		**194.9814**	**194.9814**	**7.0400e-003**		**195.1575**

3.3 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			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**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**		**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	0.0000	0.0000	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	0.1301	0.0945	0.9279	2.1800e-003	0.2236	1.5500e-003	0.2251	0.0593	1.4300e-003	0.0607		216.6460	216.6460	7.8300e-003		216.8416
Total	**0.1301**	**0.0945**	**0.9279**	**2.1800e-003**	**0.2236**	**1.5500e-003**	**0.2251**	**0.0593**	**1.4300e-003**	**0.0607**		**216.6460**	**216.6460**	**7.8300e-003**		**216.8416**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**3.9030**	**2.6337**	**6.5367**	**1.6184**	**2.4230**	**4.0415**	**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	0.0000	0.0000	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	0.1301	0.0945	0.9279	2.1800e-003	0.2236	1.5500e-003	0.2251	0.0593	1.4300e-003	0.0607		216.6460	216.6460	7.8300e-003		216.8416
Total	**0.1301**	**0.0945**	**0.9279**	**2.1800e-003**	**0.2236**	**1.5500e-003**	**0.2251**	**0.0593**	**1.4300e-003**	**0.0607**		**216.6460**	**216.6460**	**7.8300e-003**		**216.8416**

3.4 Building Construction - 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					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.4050	11.7160	2.8756	0.0255	0.6149	0.0828	0.6976	0.1771	0.0792	0.2562		2,686.3587	2,686.3587	0.2106		2,691.6247
Worker	1.5936	1.1580	11.3668	0.0267	2.7385	0.0190	2.7575	0.7263	0.0175	0.7438		2,653.9133	2,653.9133	0.0959		2,656.3098
Total	**1.9987**	**12.8740**	**14.2423**	**0.0522**	**3.3534**	**0.1018**	**3.4552**	**0.9033**	**0.0967**	**1.0000**		**5,340.2720**	**5,340.2720**	**0.3065**		**5,347.9345**

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.4050	11.7160	2.8756	0.0255	0.6149	0.0828	0.6976	0.1771	0.0792	0.2562		2,686.3587	2,686.3587	0.2106		2,691.6247
Worker	1.5936	1.1580	11.3668	0.0267	2.7385	0.0190	2.7575	0.7263	0.0175	0.7438		2,653.9133	2,653.9133	0.0959		2,656.3098
Total	**1.9987**	**12.8740**	**14.2423**	**0.0522**	**3.3534**	**0.1018**	**3.4552**	**0.9033**	**0.0967**	**1.0000**		**5,340.2720**	**5,340.2720**	**0.3065**		**5,347.9345**

3.5 Architectural Coating - 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					
Archit. Coating	39.7234					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**40.0221**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.3187	0.2316	2.2734	5.3400e-003	0.5477	3.8000e-003	0.5515	0.1453	3.5100e-003	0.1488		530.7827	530.7827	0.0192		531.2620
Total	**0.3187**	**0.2316**	**2.2734**	**5.3400e-003**	**0.5477**	**3.8000e-003**	**0.5515**	**0.1453**	**3.5100e-003**	**0.1488**		**530.7827**	**530.7827**	**0.0192**		**531.2620**

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	39.7234					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**40.0221**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

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	0.3187	0.2316	2.2734	5.3400e-003	0.5477	3.8000e-003	0.5515	0.1453	3.5100e-003	0.1488		530.7827	530.7827	0.0192		531.2620
Total	**0.3187**	**0.2316**	**2.2734**	**5.3400e-003**	**0.5477**	**3.8000e-003**	**0.5515**	**0.1453**	**3.5100e-003**	**0.1488**		**530.7827**	**530.7827**	**0.0192**		**531.2620**

3.6 Paving - 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					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.5004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1441**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

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	0.0976	0.0709	0.6959	1.6300e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		162.4845	162.4845	5.8700e-003		162.6312
Total	**0.0976**	**0.0709**	**0.6959**	**1.6300e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**162.4845**	**162.4845**	**5.8700e-003**		**162.6312**

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	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.5004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1441**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

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	0.0976	0.0709	0.6959	1.6300e-003	0.1677	1.1600e-003	0.1688	0.0445	1.0700e-003	0.0455		162.4845	162.4845	5.8700e-003		162.6312
Total	**0.0976**	**0.0709**	**0.6959**	**1.6300e-003**	**0.1677**	**1.1600e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**162.4845**	**162.4845**	**5.8700e-003**		**162.6312**

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	1.2701	27.6129	14.9429	0.1006	5.2371	0.1166	5.3536	1.4108	0.1109	1.5217		10,441.2894	10,441.2894	0.5427		10,454.8560
Unmitigated	1.2701	27.6129	14.9429	0.1006	5.2371	0.1166	5.3536	1.4108	0.1109	1.5217		10,441.2894	10,441.2894	0.5427		10,454.8560

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Unrefrigerated Warehouse-No Rail	207.48	207.48	207.48	1,196,676	1,196,676
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	414.96	414.96	414.96	2,393,352	2,393,352

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 Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	24.00	8.40	6.90	59.00	0.00	41.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.619000	0.000000	0.000000	0.064500	0.000000	0.086500	0.000000	0.229900	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1955	1.7769	1.4926	0.0107		0.1350	0.1350		0.1350	0.1350		2,132.2608	2,132.2608	0.0409	0.0391	2,144.9318
NaturalGas Unmitigated	0.1964	1.7857	1.5000	0.0107		0.1357	0.1357		0.1357	0.1357		2,142.7897	2,142.7897	0.0411	0.0393	2,155.5232

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	17520.1	0.1889	1.7177	1.4428	0.0103		0.1305	0.1305		0.1305	0.1305		2,061.1861	2,061.1861	0.0395	0.0378	2,073.4347
Unrefrigerated Warehouse-No Rail	693.63	7.4800e-003	0.0680	0.0571	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003		81.6036	81.6036	1.5600e-003	1.5000e-003	82.0885
Total		**0.1964**	**1.7857**	**1.5000**	**0.0107**		**0.1357**	**0.1357**		**0.1357**	**0.1357**		**2,142.7897**	**2,142.7897**	**0.0411**	**0.0393**	**2,155.5232**

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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	17.4648	0.1884	1.7122	1.4383	0.0103		0.1301	0.1301		0.1301	0.1301		2,054.6778	2,054.6778	0.0394	0.0377	2,066.8877
Unrefrigerated Warehouse-No Rail	0.659456	7.1100e-003	0.0647	0.0543	3.9000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003		77.5831	77.5831	1.4900e-003	1.4200e-003	78.0441
Total		**0.1955**	**1.7769**	**1.4926**	**0.0107**		**0.1350**	**0.1350**		**0.1350**	**0.1350**		**2,132.2608**	**2,132.2608**	**0.0409**	**0.0391**	**2,144.9318**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Unmitigated	5.6672	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	5.0100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2500e-003	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Total	**5.6672**	**4.2000e-004**	**0.0444**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0939**	**0.0939**	**2.6000e-004**		**0.1004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.0100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2500e-003	4.2000e-004	0.0444	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0939	0.0939	2.6000e-004		0.1004
Total	**5.6672**	**4.2000e-004**	**0.0444**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0939**	**0.0939**	**2.6000e-004**		**0.1004**

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
Forklifts	2	8.00	260	89	0.20	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Forklifts	0.3563	3.1490	2.4225	3.0500e-003		0.2513	0.2513		0.2312	0.2312		307.5752	307.5752	0.0958		309.9690

Total	**0.3563**	**3.1490**	**2.4225**	**3.0500e-003**		**0.2513**	**0.2513**		**0.2312**	**0.2312**		**307.5752**	**307.5752**	**0.0958**		**309.9690**

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