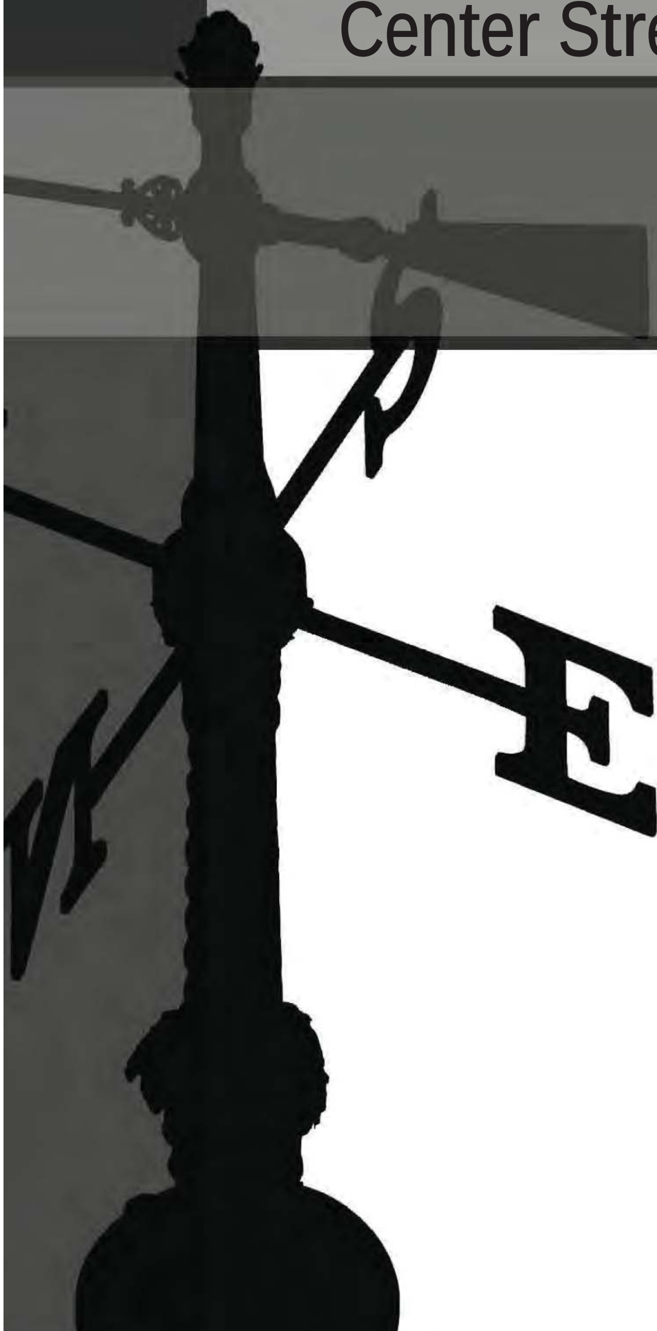
Center Street Commerce Building Air Quality & Climate Change Assessment



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Center Street Commerce Building

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June 2015

City of Riverside

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Construction-related and operational emissions of criteria pollutants were modeled and analyzed for the proposed Center Street Commerce Building project. The building is located south of Center Street and north of Placentia Lane in the City of Riverside. This report also analyzes the project's consistency with the South Coast Air Quality Management District (SCAQMD) 2012 Air Quality Management Plan (AQMP) for the South Coast Air Basin. Cumulative impacts were analyzed using the methodology provided by the 1993 SCAQMD California Environmental Quality Act (CEQA) Air Quality Handbook. Please note that a Health Risk Assessment (HRA) was prepared for this project under separate cover.

Additionally, this report models and analyzes construction- and operation-related emissions of greenhouse gases from the proposed project. This analysis utilizes guidance provided in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper and the *Quantifying Greenhouse Gas Mitigation Measures* handbook. Modeling of emissions utilizes the California Emissions Estimator Model (CalEEMod) v 2013.2.2.

1.1 Project Description

The project includes the construction of a 308,000-square-foot building on 15.63 acres located south of Center Street and north of Placentia Lane in the City of Riverside, California. The building includes 110,591 square feet of landscaping, the potential for up to 282 parking stalls, and 47 loading docks. The project includes use of low-VOC coatings on interiors and exterior surface of 37 grams per liter or less.

1.2 Air Quality

The project will not result in substantial emissions of oxides of nitrogen, volatile organic compounds (with mitigation incorporated), or particulate matter and would not exceed the regional growth assumptions used in the Air Quality Management Plan (AQMP). The project will not individually cause or cumulatively contribute to an air quality standard violation. Emissions of carbon monoxide and localized construction emissions will not substantially impact sensitive receptors in vicinity of the project. The project will not emit substantial amounts of diesel particulate matter due to the operation of heavy-duty trucks on the project site. The project will not expose a substantial number of people to odors.

1.3 Climate Change

Greenhouse gas emissions will not exceed the annual 10,000 metric ton carbon dioxide equivalent threshold established by the South Coast Air Quality Management District and will not conflict with state greenhouse gas emissions strategies.

This report models and analyzes construction- and operation-related emissions of criteria air pollutants and greenhouse gas emissions from the proposed Center Street Commerce Building project totaling 308,000 square feet on 15.63 acres located in City of Riverside, California.

The air quality analysis provided herein utilizes guidance provided in the South Coast Air Quality Management District (SCAQMD) the 1993 California Environmental Quality Act (CEQA) Air Quality handbook as amended and supplemented (http://www.aqmd.gov/ceqa/hdbk.html). Please note that analysis of toxic air contaminants (TAC) is provided under separate cover. Pollutant emissions were modeled by utilizing the following:

- California Emissions Estimator Model (CalEEMod) v 2013.2.2
- EMFAC2014

The climate change analysis provided herein utilizes guidance provided in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper and the *Quantifying Greenhouse Gas Mitigation Measures* handbook. Modeling of greenhouse gas emissions utilizes the California Emissions Estimator Model (CalEEMod) v 2013.2.2.

This report has been prepared utilizing project-specific characteristics where available. In those instances where project-specific data is not available, the analysis has been supplemented by model defaults or other standardized sources of comparable data. In any case where non-project defaults or other data have been used, a "worst-case" scenario was developed to ensure a conservative estimate of emissions.

This report has been prepared for use by the Lead Agency to assess potential project-related air quality impacts in compliance with the State CEQA Statutes and Guidelines, particularly in respect to the air quality issues identified in Appendix G of the State CEQA Guidelines. This report does not make determinations of significance pursuant to CEQA because such determinations are required to be made solely in the purview of the Lead Agency.

This document has been reviewed in accordance with the *Table 7-2, Checklist for an Air Quality Analysis Section* of the SCAQMD Air Quality Handbook for quality control purposes.

This report was prepared by Christopher Brown (Director of Environmental Services) of MIG | Hogle-Ireland under contract by Transitions Properties, LP.

Christopher Brown
Director of Environmental Services

3.1 Climate

The project is located in the City of Riverside. The City of Riverside and the broader Inland Empire are defined by a semi-arid, Mediterranean climate with mild winters and warm summers. Annual rainfall averages 9.86 inches with the rainy season occurring during the winter.[1] The coolest month of the year is December with an average monthly low of 41.3° Fahrenheit (F). The warmest month is August with an average monthly high of 94.4° F. Riverside is located at an elevation of approximately 700 feet to 1,400 feet above mean sea level (AMSL).[2] The project site is located at an approximate elevation of 830 AMSL. Wind generally blows from the west.[3]

3.2 Regional Air Quality

The proposed project is located within the South Coast Air Basin (Basin).[4] The basin includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The San Gabriel, San Bernardino, and San Jacinto Mountains bound the Basin to the north and east that trap ambient air and pollutants within the Los Angeles and Inland Empire valleys below. The South Coast Air Quality Management District (SCAQMD) manages the Basin. Pursuant to the California Clean Air Act (CCAA), SCAQMD is responsible for bringing air quality within the Basin into conformity with federal and State air quality standards by reducing existing emission levels and ensuring that future emission levels meet applicable air quality standards. SCAQMD works with federal, State, and local agencies to reduce pollutant sources through the development of rules and regulations.

Both California and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants (known as *criteria pollutants*). These pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), inhalable particulate matter with a diameter of 10 microns or less (PM_{10}), fine particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), and lead (Pb). The State has also established AAQS for the additional pollutants of visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. Where the State and federal standards differ, State AAQS are more stringent than federal AAQS. Federal and State standards are shown in Table 1 (Ambient Air Quality Standards). A brief description of each criteria pollutant is provided below.

Ozone. Ozone is a pungent, colorless, and highly reactive gas that forms from the atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight. Ozone is most commonly associated with smog. Ozone precursors such as reactive organic gases (ROG) and oxides of nitrogen (NO_X) are released from mobile and stationary sources. Ozone is a respiratory irritant and can cause cardiovascular diseases, eye irritation, and impaired cardiopulmonary function. Ozone can also damage building materials and plant leafs.

Carbon Monoxide. Carbon monoxide is primarily emitted from vehicles due to the incomplete combustion of fuels. Carbon monoxide has wide ranging impacts on human health because it combines with hemoglobin in the body and reduces the amount of oxygen transported in the bloodstream. Carbon monoxide can result in reduced tolerance for exercise, impairment of mental function, impairment of fetal development, headaches, nausea, and death at high levels of exposure.

Nitrogen Dioxide. Nitrogen dioxide and other oxides of nitrogen (NO_X) contribute to the formation of smog and results in the brownish haze associated with it. They are primarily emitted from motor vehicle exhaust but can be omitted from other high-temperature stationary sources. Nitrogen oxides can aggravate respiratory illnesses, reduce visibility, impair plant growth, and form acid rain.

Particulate Matter. Particulate matter is a complex mixture of small-suspended particles and liquid droplets in the air. Particulate matter between ten microns and 2.5 microns is known as PM_{10}, also known as coarse or inhalable particulate matter. PM_{10} is emitted from diverse sources including road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and windstorms. PM_{10} can also be formed secondarily in the atmosphere when NO_2 and SO_2

react with ammonia. Particulate matter less than 2.5 microns in size are called $PM_{2.5}$ or fine particulate matter. $PM_{2.5}$ is primarily emitted from point sources such as power plants, industrial facilities, automobiles, wood-burning fireplaces, and construction sites. Particulate matter is deposited in the lungs and cause permanent lung damage, potentially resulting in lung disease and respiratory symptoms like asthma and bronchitis. Particulate matter has also been linked to cardiovascular problems such as arrhythmia and heart attacks. Particulate matter can also interfere with the body's ability to clear the respiratory tract and can act as a carrier of absorbed toxic substances. Particulate matter causes welfare issues because it scatters light and reduces visibility, causes environmental damage such as increasing the acidity of lakes and streams, and can stain and damage stone, such as that applied in statues and monuments.

Sulfur Dioxide. Sulfur dioxide and other oxides of sulfur (SO_X) are reactive gases emitted from the burning of fossil fuels, primarily from power plants and other industrial facilities.[5] Other less impacting sources include metal extraction activities, locomotives, large ships, and off-road equipment. Human health impacts associated with SO_X emissions include bronchoconstriction and increased asthma symptoms.

Lead. Lead is primarily emitted from metal processing facilities (i.e. secondary lead smelters) and other sources such as manufacturers of batteries, paints, ink, ceramics, and ammunition. Historically, automobiles were the primary sources before lead was phased out of gasoline. The health effects of exposure to lead include gastrointestinal disturbances, anemia, kidney diseases, and potential neuromuscular and neurologic dysfunction. Lead is also classified as a probable human carcinogen.

Table 1
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)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10}) [8]	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($PM_{2.5}$) [8]	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 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 (10mg/m^3)		9 ppm (10 mg/m^3)	-	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/ m^3)		-	-	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	-	
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) -
	3 Hour	-		-	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	-	
	Annual Arithmetic Mean	-		0.030 ppm (for certain areas)[10]	-	
Lead[11,12]	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)[12]	Same as Primary Standard	
	Rolling 3-Month Average[10]	-		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No Federal 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[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: ARB, June 2013

PPM, parts per million
µg/m3, micrograms per cubic meter

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), 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 three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. 4. Any equivalent measurement method which can be shown to the satisfaction of the 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 U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA. 8. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years. 9. To attain the 1-hour national standard, the 3-year average of the 98th percentile of the daily maximum 1-hour daily maximum concentrations at each site must not exceed 100ppb. 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 standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 100ppb is identical to 0.100ppm. 10. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm. 11. 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. 11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved. 12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

3.3 Non-Attainment Status

Air pollution levels are measured at monitoring stations located throughout the Basin. Areas that are in nonattainment with respect to criteria pollutants are required to prepare plans and implement measures that will bring the region into attainment. Table 2 (South Coast Air Basin Attainment Status) summarizes the attainment status in the Basin for the criteria pollutants. The Basin is currently in nonattainment status for ozone and inhalable and fine particulate matter.

Pollution problems in the Basin are caused by emissions within the area and the specific meteorology that promotes pollutant concentrations. Emissions sources vary widely from smaller sources such as individual residential water heaters and short-term grading activities to extensive operational sources including long-term operation of electrical power plants and other intense industrial use. Pollutants in the Basin are blown inward from coastal areas by sea breezes from the Pacific Ocean and are prevented from horizontally dispersing due to the surrounding mountains. This is further complicated by atmospheric temperature inversions that create inversion layers. The inversion layer in Southern California refers to the warm layer of air that lies over the cooler air from the Pacific Ocean. This is strongest in the summer and prevents ozone and other pollutants from dispersing upward. A ground-level surface inversion commonly occurs during winter nights and traps carbon monoxide emitted during the morning rush hour.

Table 2
South Coast Air Basin Attainment Status

Pollutant	Federal	State
O_3 (1-hr)	--	Nonattainment
O_3 (8-hr)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Nonattainment
SO_2	Attainment	Attainment
Pb	Nonattainment	Nonattainment
VRP	--	Unclassified
SO_4	--	Attainment
H_2S	--	Unclassified
Sources: ARB 2014		

3.4 Local Air Quality

The City of Riverside is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The project site is located in Area 23. Air quality in Area 23 is monitored in Riverside. Air monitoring results for station 4144 over the last three years of available data is summarized in Table 3 (2011-2013 Local Air Quality).[6] [7] [8] Table 4 (2011-2013 Air Quality Standards Exceedance) summarizes the number of days for each monitoring year that air quality standards were exceeded. Based on the 2011-2013 air quality monitoring data, ozone pollution did not exceed the State-8-hour standard or the Federal 8-hour standard in 2013. the Metropolitan Riverside County area experiences ozone pollution and has exceeded the State 8-hr maximum concentration for 70 days in 2012 and 92 days in 2011. This is not necessarily due to local production of ozone, but due to how ozone forms and travels over the Basin. Ozone precursors are emitted primarily in the urban centers of the Basin such as Los Angeles. Ozone does not form immediately but rather forms over the day. This combined with prevailing winds blowing ozone precursors inland cause the highest concentrations of ozone in the Basin to occur in Riverside County and mountain regions. The County also experiences particulate matter pollution, with approximately 19 percent of PM_{10} samples in year 2012 exceeding the State standard.

Table 3
2011-2013 Local Air Quality

Monitoring Station	CO		O_3 (PPM)		NO_2 (PPB)		PM_{10} (µg/m³)		$PM_{2.5}$ (µg/m³)		TSP (µg/m³)		Pb (µg/m³)		SO_4 (µg/m³)
	Max 1-hr	Max 8-hr	Max 1-hr	Max 8-hr	Max 1-hr	AAM	Max 24-hr	AAM	Max 24-hr	AAM	Max 24-hr	AAM	Max Month	Max Qtr	Max 24-hr
Metropolitan Riverside County 2															
2013	--	1.6	--	--	57.6	15.8	--	--	53.7	11.28	--	--	0.007	0.006	--
2012	--	1.6	0.126	0.102	61.7	15.5	67	34.5	38.1	13.51	126	65.7	0.008	0.006	7.7
2011	--	1.4	0.128	0.115	63.3	16.6	82	33.7	60.8	13.6	107	62.7	0.007	0.007	5.1

Source: SCAQMD 2011-2013
* specific station data is not provided by SCAQMD; however, all stations are noted as not exceeding the 20 PPM state 1-hour standard
-- pollutant not monitored
PPM, parts per million
µg/m3, micrograms per cubic meter
AAM, annual arithmetic mean

Table 4
2011-2013 Air Quality Standards Exceedance

Monitoring Station	O_3 (PPM)			PM_{10} (µg/m³)		$PM_{2.5}$ (µg/m³)
	Fed* 8-hr	State 1-hr	State 8-hr	Fed 24-hr	State 24-hr	Fed^ 24-hr
Metropolitan Riverside County 2						
2013	--	--	--	--	--	1
2012	47	27	70	0	19	7
2011	67	52	92	0	14	4

Source: SCAQMD 2011-2013
-- pollutant not monitored
* 0.075 ppm
^35 µg/m3

3.5 Sensitive Receptors

Some populations are more susceptible to the effects of air pollution than the population at large; these populations are defined as sensitive receptors. Sensitive receptors include children, the elderly, the sick, and the athletic. Land uses associated with sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors are located north, east, and south of the project. The Ab Brown Sports Complex Park is located directly south of the project site. Residential uses are located north and west of the project site. Exhibit 2 (Radius Map) identifies existing development in the project vicinity based on recent assessor's parcel data.

3.6 Local Transportation

The proposed project is located south of Center Street and north of Placentia Lane. Both roadways are two-lane, undivided roadways.

3.7 Odors

According to the CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed project does not produce odors that could affect a substantial number of people.

3.8 Climate Change

3.8.1 Defining Climate Change

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affects the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface. Elements that indicate that climate change is occurring on Earth include:

- Rising of global surface temperatures by 1.3° Fahrenheit (F) over the last 100 years
- Changes in precipitation patterns
- Melting ice in the Arctic
- Melting glaciers throughout the world
- Rising ocean temperatures
- Acidification of oceans
- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it keeps the planet approximately 60° F warmer than without it. Emissions from human activities since the beginning of the industrial revolution (approximately 150 years) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

Greenhouse Gases

The greenhouse effect is caused by a variety of "greenhouse gases". Greenhouse gases (GHGs) occur naturally and from human activities. Greenhouse gases produced by human activities include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Since the year 1750, it is estimated that the concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased over 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity. The primary GHGs are discussed below.[9]

Carbon Dioxide. CO_2 is emitted and removed from the atmosphere naturally. Animal and plant respiration involves the release of carbon dioxide from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of CO_2 at the sea surface. Carbon dioxide is also released from plants during wildfires. Volcanic eruptions release a small amount of CO_2 from the Earth's crust.

Human activities that affect carbon dioxide in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels is the largest source of carbon dioxide emissions in the United States, accounting for approximately 85 percent of all equivalent emissions. Because of the fossil fuels used, the largest of these sources is electricity generation and transportation. When fossil fuels are burned, the carbon stored in them is released into the atmosphere entirely as CO_2. Emissions from on site industrial activities also emit carbon dioxide such as cement, metal, and chemical production and use of petroleum produced in plastics, solvents, and lubricants.

Methane. Methane (CH_4) is emitted from human activities and natural sources. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and wildfires. Human activities that cause methane releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. It is estimated that 50 percent of global methane emissions are human generated. Wetlands are the primary natural producers of methane in the world because the habitat is conducive to bacteria that produce methane during decomposition of organic material. Methane is produced from landfills as solid waste decomposes. Methane is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use. Decomposition of organic material in manure stocks or in liquid manure management systems also releases methane. Releases from animal digestive processes are the primary source of human-related methane.

Nitrous Oxide. Anthropogenic (human) sources of nitrous oxide include agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. N_2O is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of N_2O is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of fossil fuels (mobile and stationary) is the second leading source of nitrous oxide, although parts of the world where catalytic converters are used (such as California) have significantly lower levels than those areas that do not.

High Global Warming Potential Gases. High global warming potential (GWP) gases (or fluorinated gases) are entirely manmade and are mainly used in industrial processes. HFCs, PFCs, and SF_6 are high GWP gases. These types of gases are used in aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and in the production of hydrochlorofuorocarbon-22 (HCFC-22). High GWP gases are also used as substitutes for ozone-depleting gases like chlorofluorocarbons (CFCs) and halons. Use of high GWP gases as substitutes for ozone-depleting substances is the primary use of these gases in the United States.

Water Vapor. It should be noted that water vapor is also a significant GHG in the atmosphere; however, concentration of water vapor in the air is primarily dependent on air temperature and cannot be influenced by humans.

GHGs behave differently in the atmosphere and contribute to climate change in different ways. Some gases have more potential to reflect infrared heat back towards the earth while some persist in the atmosphere longer than others. To equalize the contribution of GHGs to climate change, the Intergovernmental Panel on Climate Change (IPCC) devised a weighted metric to compare all greenhouse gases to carbon dioxide.[10] The weighting depends on the lifetime of the gas in the atmosphere and its radiative efficiency. As an example, over a time horizon of 100-years, emissions of nitrous oxide will contribute to climate change 298 times more than the same amount of emissions of carbon dioxide while emissions of HFC-23 would contribute 14,800 times more than the same amount of carbon dioxide. These differences define a gas's GWP. Table 5 (Global Warming Potential of Greenhouse Gases) identifies the lifetime and GWP of select GHGs. The lifetime of the GHG represents how many years the GHG will persist in the atmosphere. The GWP of the GHG represents the GHG's relative potential to induce climate change as compared to carbon dioxide.

Carbon Sequestration

Carbon sequestration is the process by which plants absorb CO_2 from the atmosphere and store it in biomass like leaves and grasses. Agricultural lands, forests, and grasslands can all sequester carbon dioxide, or emit it. The key is to determine if the land use is emitting carbon dioxide faster than it is absorbing it. Young, fast-growing trees are particularly good at absorbing more than they release and are known as a *sink*. Agricultural resources often end up being sources of carbon release because of soil management practices. Deforestation contributes to carbon dioxide emissions by removing trees, or carbon sinks, that would otherwise absorb CO_2. Forests are a crucial part of sequestration in some parts of the world, but not much in the United States. Another form of sequestration is geologic sequestration. This is a manmade process that results in the collection and transport of CO_2 from industrial emitters (i.e. power plants) and injecting it into underground reservoirs.

Table 5
Global Warming Potential (GWP) of Greenhouse Gases (GHG)

GHG	Lifetime (yrs)	GWP
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC-14	50,000	7,390
PFC-116	10,000	12,200
Sulfur Hexafluoride	3,200	22,800
Source: IPCC 2007		

3.8.2 Climate Change and California

Specific, anticipated impacts to California have been identified in the 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) through extensive modeling efforts.[11] General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevadas
- Some reduction in precipitation is likely by the middle of the century
- Sea-levels will rise up to an estimated 55 inches
- Extreme events such as heat waves, wildfires, droughts, and floods will increase
- Ecological shifts of habitat and animals are already occurring and will continue to occur

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections. The potential impacts of global climate change in California are detailed below.

Public Health and Welfare

Concerns related to public health and climate change includes higher rates of mortality and morbidity, change in prevalence and spread of disease vectors, decreases in food quality and security, reduced water availability, and increased exposure to pesticides. These concerns are all generally related to increase in ambient outdoor air temperature, particularly in summer.

Higher rates of mortality and morbidity could arise from more frequent heat waves at greater intensities. Health impacts associated with extreme heat events include heat stroke, heat exhaustion, and exacerbation of medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Climate change would result in degradation of air quality promoting the formation of ground-level pollutants, particularly ozone. Degradation of air quality would increase the severity of health impacts from criteria and other air pollutants discussed in Section 4.3 (Air Quality). Temperature increases and increases in carbon dioxide are also expected to increase plant production of pollens, spores, and fungus. Pollens and spores could induce or aggravate allergic rhinitis, asthma, and obstructive pulmonary diseases.

Precipitation projections suggest that California will become drier over the next century due to reduced precipitation and increased evaporation from higher temperatures. These conditions could result in increased occurrences of drought. Surface water reductions will increase the need to pump groundwater, reducing supplies and increasing the potential for land subsidence.

Precipitation changes are also suspected to impact the Sierra snowpack (see “Water Management” herein). Earlier snow melts could coincide with the rainy season and could result in failure of the flood control devices in that region. Flooding can cause property damage and loss of life for those affected. Increased wildfires are also of concern as the State “dries” over time. Wildfires can also cause property damage, loss of life, and injuries to citizens and emergency response services.

Sea-level rises would also threaten human health and welfare. Flood risks will be increased in coastal areas due to strengthened storm surges and greater tidal damage that could result in injury and loss of property and life. Gradual rising of the sea will permanently inundate many coastal areas in the state.

Other concerns related to public health are changes in the range, incidence, and spread of infectious, water-borne, and food-borne diseases. Changes in humidity levels, distribution of surface water, and precipitation changes are all likely to shift or increase the preferred range of disease vectors (i.e. mosquitoes). This could expose more people and animals to potential for vector-borne disease.

Biodiversity and Habitat

Changes in temperature will change the livable ranges of plants and animals throughout the state and cause considerable stress on these species. Species will shift their range if appropriate habitat is available and accessible if they cannot adapt to their new climate. If they do not adapt or shift, they face local extirpation or extinction. As the climate changes, community compositions and interactions will be interrupted and changed. These have substantial implications on the ecosystems in the state. Extreme events will lead to tremendous stress and displacement on affected species. This could make it easier for invasive species to enter new areas, due to their ability to more easily adapt. Precipitation changes would alter stream flow patterns and affect fish populations during their life cycle. Sea level rises could impact fragile wetland and other coastal habitat.

Water Management

Although disagreement among scientists on long-term precipitation patterns in the State has occurred, it is generally accepted by scientists that rising temperatures will impact California’s water supply due to changes in the Sierra Nevada snowpack. Currently, the State’s water infrastructure is designed to both gather and convey water from melting snow and to serve as a flood control device. Snowpack melts gradually through spring warming into early summer, releasing an average of approximately 15 million acre-feet of water. The State’s concern related to climate change is that due to rising temperatures, snowpack melt will begin earlier in the spring and will coincide with the rainy season. The combination of precipitation and snowmelt would overwhelm the current system, requiring tradeoffs between water storage and flood protection to be made. Reduction in reserves from the Sierra Nevada snowpack is troublesome for California and particularly for Southern California. Approximately 75-percent of California's available water supply originates in the northern third of the state while 80 percent of demand occurs in the southern two-thirds. There is also concern is that rising temperatures will result in decreasing volumes from the Colorado River basin. Colorado River water is important to Southern California because it supplies water directly to Metropolitan Water District of Southern California. Water from the Colorado River is also used to recharge groundwater basins in the Coachella Valley.

Agriculture

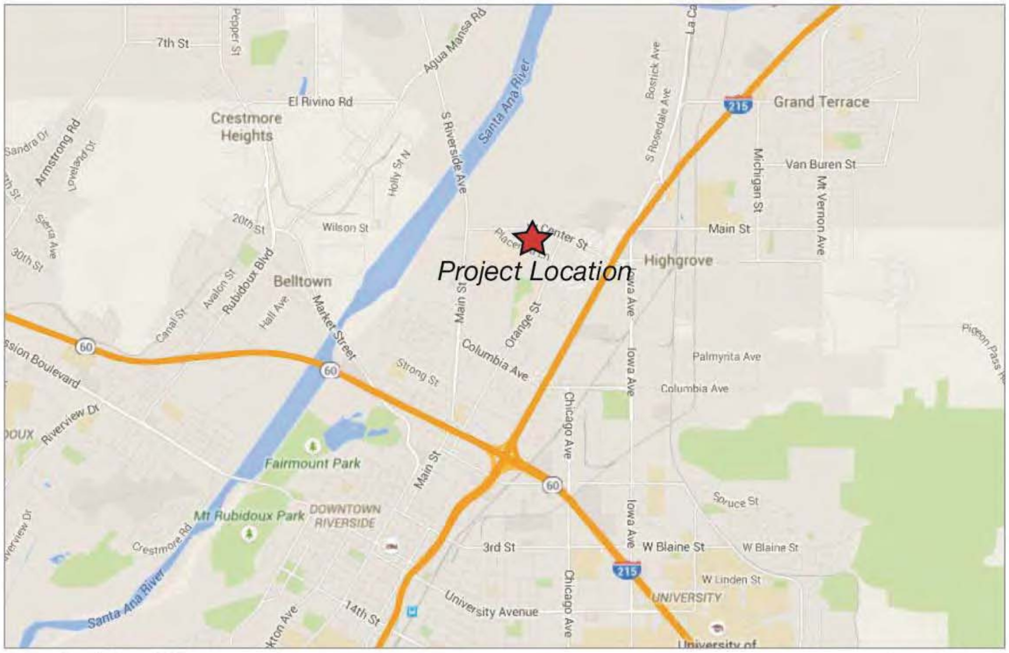
California is the most agriculturally productive state in the US resulting in more than 37 billion dollars in revenue in 2008. California is the nation's leading producer of nearly 80 crops and livestock commodities, supplying more than half of the nation's fruit and vegetables and over 90 percent of the nation's production of almonds, apricots, raisin grapes, olives, pistachios, and walnuts. Production of crops is not limited to the Central Valley but also occurs in Southern California. Strawberries and grapes are grown in San Bernardino and Riverside Counties. Orange County and San Diego County also contribute to strawberry production. Cherries are also grown in Los Angeles and Riverside County. Anticipated impacts to agricultural resources are mixed when compared to the potentially increased temperatures, reduced chill hours, and changes in precipitation associated with climate change. For example, wheat, cotton, maize, sunflower, and rice are anticipated to show declining yields as temperatures rise. Conversely, grapes and almonds would benefit from warming temperatures. Anticipated increases in the number and severity in heat waves would have a negative impact on livestock where heat stress would make livestock more vulnerable to disease, infection and mortality. The projected drying trend and changes in precipitation are a threat to agricultural production in California. Reduced water reliability and changes in weather patterns would impact irrigated farmlands and reduce food security. Furthermore, a drying trend would increase wildfire risk. Overall, agriculture in California is anticipated to suffer due to climate change impacts.

Forestry

Increases in wildfires will substantially impact California's forest resources that are prime targets for wildfires. This can increase public safety risks, property damage, emergency response costs, watershed quality, and habitat fragmentation. Climate change is also predicted to affect the behavior or plant species including seed production, seedling establishment, growth, and vigor due to rising temperatures. Precipitation changes will affect forests due to longer dry periods and moisture deficits and drought conditions that limit seedling and sapling growth. Prolonged drought also weakens trees, making them more susceptible to disease and pest invasion. Furthermore, as trees die due to disease and pest invasion (i.e. the Bark Beetle invasion of the San Bernardino Forest), wildfires can spread more rapidly.

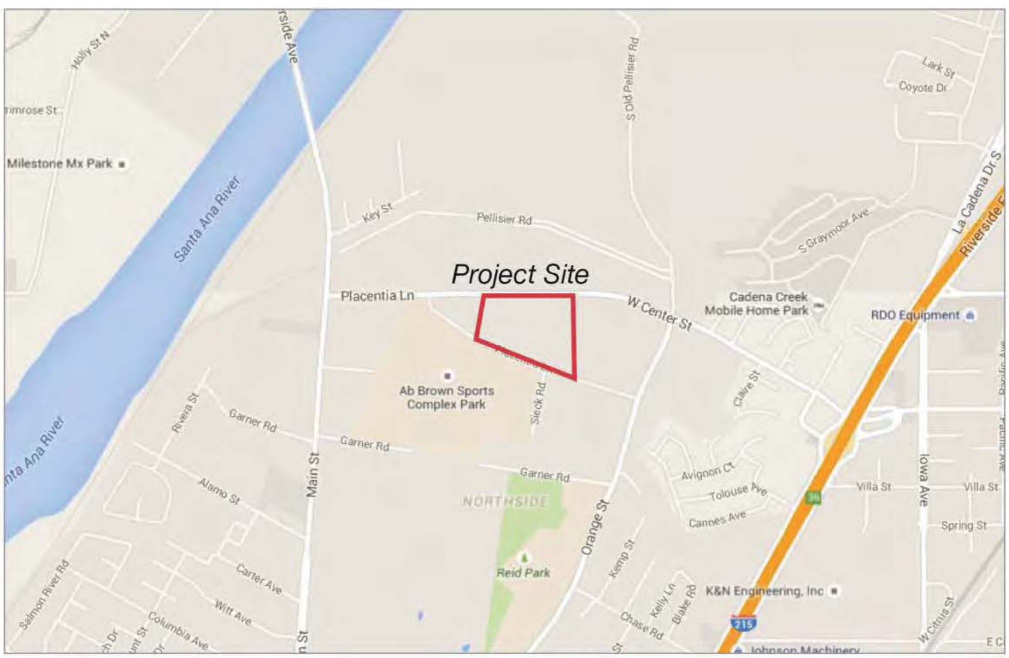
Transportation and Energy Infrastructure

Higher temperatures will require increased cooling, raising energy production demand. Higher temperatures also decrease the efficiency of distributing electricity and could lead to more power outages during peak demand. Climate changes would impact the effectiveness of California's transportation infrastructure as extreme weather events damage, destroy, and impair roadways and railways throughout the state causing governmental costs to increase as well as impacts to human life as accidents increase. Other infrastructure costs and potential impacts to life would increase due to the need to upgrade levees and other flood control devices throughout the state. Infrastructure improvement costs related to climate change adaptation are estimated in the tens of billions of dollars.



Source: Google Maps, 2015

Regional



Source: Google Maps, 2015

Vicinity

Not to Scale

Exhibit 1 Regional and Vicinity Map

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Exhibit 2 Radius Map

Center Street Commerce Building Project
6550 Center Street, Riverside, California

The following summarizes Federal, State, and local regulations related to air quality, pollution control, greenhouse gas emissions.

4.1 Clean Air Act

The Federal Clean Air Act (CAA) defines the Environmental Protection Agency's (EPA) responsibilities for protecting and improving the United States air quality and ozone layer.[12] Key components of the CAA include reducing ambient concentrations of air pollutants that cause health and aesthetic problems, reducing emission of toxic air pollutants, and stopping production and use of chemicals that destroy the ozone.

Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, Carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop State Implementation Plans (SIPs); comprehensive documents that identify how an area will attain NAAQS. Deadlines for attainment were established in the 1990 amendments to the CAA based on the severity of an area's air pollution problem. Failure to meet air quality deadlines can result in sanctions against the State or the EPA taking over enforcement of the CAA in the affected area. SIPs are a compilation of new and previously submitted plans, programs, district rules, and State and Federal regulations. The SCAQMD implements the required provisions of an applicable SIP through its AQMP. Currently, SCAQMD implements the 8-hr Ozone and $PM_{2.5}$ SIP in the 2007 AQMP and the PM_{10} SIP in the 2003 AQMP. The $PM_{2.5}$ SIP is currently being revised by SCAQMD in response to partial disapproval by the EPA. The 2012 Lead SIP for the Los Angeles County portion of SCAB was adopted by the SCAQMD Board on May 4, 2012 and approved by ARB on May 24, 2012 and forwarded to the EPA for approval as a revision to the California SIP.

4.2 California Clean Air Act

The California Clean Air Act (CCAA) of 1988 was enacted to develop plans and strategies for attaining California Ambient Air Quality Standards (CAAQS). The California Air Resources Board (ARB), which is part of the California Environmental Protection Agency (Cal-EPA), develops statewide air quality regulations, including industry-specific limits on criteria, toxic, and nuisance pollutants. The CCAA is more stringent than Federal law in a number of ways including revised standards for PM^{10} and ozone and State for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

4.3 2012 Air Quality Management Plan

The purpose of an Air Quality Management Plan (AQMP) is to bring an air basin into compliance with federal and state air quality standards and is a multi-tiered document that builds on previously adopted AQMPs.[13] The 2003 AQMP was adopted in August 2003 and demonstrated O_3 and PM_{10} for the Basin. It also provides the maintenance plans for CO and NO_2, which the Basin has been in attainment for since 1997 and 1992, respectively. The 2007 AQMP for the Basin was approved by the SCAQMD Board of Directors in June 2007. The 2007 AQMP builds on the 2003 AQMP and is designed to address the federal 8-hour ozone and $PM_{2.5}$ air quality standards. The AQMP identifies short- and long-term control measures designed to reduce stationary, area, and mobile source emissions, organized into four primary components:

1. District Stationary and Mobile Source Control Measures
2. Air Resources Board (ARB) State Strategy
3. Supplement to ARB Control Strategy
4. SCAG Regional Transportation Strategy and Control Measures

The 2012 AQMP was adopted by the SCAQMD board on December 7, 2012. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2012 AQMP includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. The SCAQMD is currently initiating an early development process for preparation of the 2016 AQMP.

4.4 SCAQMD Rule Book

In order to control air pollution in the Basin, SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of businesses, processes, operations, and products to implement the AQMP and the various federal and state air quality requirements. SCAQMD does not adopt rules for mobile sources; those are established by ARB or the United States Environmental Protection Agency (EPA). Rules that will be applicable during construction of the proposed project include Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). Rule 403 prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent opacity in the air). Rule 403 requires the implementation of Best Available Control Measures (BACM) and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres. Rule 1113 establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.

4.5 Executive Order S-3-05

Executive Order S-3-05 was issued by California Governor Arnold Schwarzenegger and established targets for the reduction of greenhouse gas emission at the milestone years of 2010, 2020, and 2050. Statewide GHG emissions must be reduced to 1990 levels by year 2020 and by 80 percent beyond that by year 2050. The Order requires the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate with other State departments to identify strategies and reduction programs to meet the identified targets. A Climate Action Team (CAT) was created and is headed by the Secretary of CalEPA who reports on the progress of the reduction strategies. The latest CAT *Biennial Report to the Governor and Legislature* was completed in April 2010.[14] CAT also works in 11 subgroups to support development and implementation of the Scoping Plan (see "California Global Warming Solutions Act" herein).

4.6 Executive Order B-30-15

Executive Order B-30-15 was issued by California Governor Edmund G. Brown Jr. on April 29, 2015 to establish a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. This is meant as an interim target to ensure the state meets its ultimate goal of 80 percent below 1990 levels by 2050.

4.7 California Global Warming Solutions Act

The California State Legislature adopted the California Global Warming Solutions Act in 2006 (AB32). AB32 establishes the caps on statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and establishes a regulatory timeline to meet the reduction targets. The timeline is as follows:

January 1, 2009	Adopt Scoping Plan
January 1, 2010	Early action measures take effect
January 1, 2011	Adopt GHG reduction measures
January 1, 2012	Reduction measures take effect
December 31, 2020	Deadline for 2020 reduction target

As part of AB32, CARB had to determine what 1990 GHG emissions levels were and projected a business-as-usual (BAU) estimate for 2020 to determine the amount of GHG emissions that will need to be reduced. BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies. 1990 emissions are estimated at 427 million metric tons of carbon dioxide equivalent (MMTCO2E) while 2020 emissions (after accounting for the economic downturn in 2008 and implementation of Pavley 1 vehicle emissions reductions and the State Renewable Portfolio Standard identified in Air Resources Board Scoping Plan below) are estimated at 507 MMTCO2E; therefore, California GHG emissions must be reduced 80 MMTCO2E (507 – 427 = 80) by 2020, a reduction of approximately 16 percent below BAU. Emissions are required to be reduced an additional 80 percent below 1990 levels by 2050.

4.8 Sustainable Communities and Climate Protection Act

In January 2009, California Senate Bill (SB) 375 went into effect known as the Sustainable Communities and Climate Protection Act.[15] The objective of SB375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB375 tasks ARB to set greenhouse gas reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy (APS) may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In the Southern California Association of Governments (SCAG) region (in which the proposed project is located), sub-regions can also elect to prepare their own SCS or APS. In August 2010, ARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the SCAG region were 8-percent by year 2020 and 13-percent by year 2035. The 8-percent year 2020 target was adopted in September 2010 and tentatively adopted the year 2035 until February 2011 to provide additional time for SCAG, ARB, and other stakeholders to account for additional resources (such as state transportation funds) needed to achieve the proposed targets. In February 2011, the SCAG President affirmed the year 2035 reduction target and SCAG Staff updated ARB on additional funding opportunities.

4.9 Air Resources Board Scoping Plan

The ARB Scoping Plan is the comprehensive plan to reach the GHG reduction targets stipulated in AB32. The key elements of the plan are to expand and strengthen energy efficiency programs, achieve a statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners in the Western Climate Initiative (includes seven states in the United States and four territories in Canada), establish transportation-related targets, and establish fees.[16] The Scoping Plan measures are identified in Table 6 (Scoping Plan Measures). Note that the current early discrete actions are incorporated into these measures. ARB estimates that implementation of these measures will reduce GHG emissions in the state by 174 MMTCO2E by 2020; therefore, implementation of the Scoping Plan will meet the 2020 reduction target. In a report prepared on September 23, 2010, ARB indicates that 40 percent of the reduction measures identified in the Scoping Plan have been secured.[17] The cap-and-trade program began on January 1, 2012 after ARB completes a series of activities that deal with the registration process, compliance cycle, and tracking system; however, covered entities will not have an emissions obligation until 2013.[18] ARB is currently working on the low carbon fuel standard where public hearings and workshops are currently being conducted. In August 2011, the Scoping plan was reapproved by the ARB Board with the program's environmental documentation.

The ARB has prepared the First Update to the Scoping Plan (Update) with a draft made available for public review on February 10, 2014. The Update to the Scoping Plan builds upon the 2008 Scoping Plan with new strategies and recommendations. The Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The Update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. It also evaluates how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. A draft Environmental Analysis (EA) was released for a 45-day public review period on March 14, 2014. After considering public comments and Board direction, the final First Update, summary of comments received on the draft EA, and ARB's responses to those comments were released on May 15, 2014. The First Update to the Scoping Plan was approved by the Board on May 22, 2014.

4.10 Water Conservation in Landscaping Act

Section 65591 of the Government Code requires all local jurisdictions to adopt a water efficient landscape ordinance. The ordinance is to address water conservation through appropriate use and grouping of plants based on environmental conditions, water budgeting to maximize irrigation efficiency, storm water retention, and automatic irrigation systems. Failure to adopt a water efficiency ordinance requires a local jurisdiction to enforce the provisions of the State's model water efficiency ordinance. In 2009, the Department of Water Resources (DWR) updated the Model Water Efficient Landscape Ordinance pursuant to amendments to the 1991 Act. These amendments and the new model ordinance went into effect on January 1, 2010. The amended Act is applicable to any new commercial, multi-family, industrial or tract home project containing 2,500 square feet (SF) or more of landscaping. Individual landscape projects of 5,000 SF or more on single-family properties will also be subject to the Act. All landscape plans are required to include calculations verifying conformance with the maximum applied water allowance and must be prepared and stamped by a licensed landscape architect.

4.11 California Green Building Standards

New California Green Building Standards Code (CALGREEN) went into effect on January 1, 2011.[19] The purpose of the new addition to the California Building Code (CBC) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings using concepts to reduce negative impacts or produce positive impacts on the environment. The CALGREEN regulations cover planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality. Many of the new regulations have the effect of reducing greenhouse gas emissions from the operation of new buildings. Table 7 (CALGREEN Requirements) summarizes the previous requirements of the CBC and the new requirements of CALGREEN that went into effect in January 2011. Minor technical revisions and additional requirements went into effect in July 2012. The Code was further updated in 2013, effective January 1, 2014 through 2016.

Table 6
Scoping Plan Measures

Measure	Description
T-1	Pavely I and II – Light Duty Vehicle Greenhouse Gas Standards
T-2	Low Carbon Fuel Standard
T-3	Regional Transportation-Related Greenhouse Gas Targets
T-4	Vehicle Efficiency Measures
T-5	Ship Electrification at Ports
T-6	Good Movement Efficiency Measures
T-7	Heavy-Duty Vehicle Aerodynamic Efficiency
T-8	Medium and Heavy-Duty Vehicle Hybridization
T-9	High Speed Rail
E-1	Energy Efficiency (Electricity Demand Reduction)
E-2	Increase Combined Heat and Power Use
E-3	Renewable Portfolio Standard
E-4	Million Solar Roofs
CR-1	Energy Efficiency (Natural Gas Demand Reduction)
CR-2	Solar Water Heating
GB-1	Green Buildings
W-1	Water Use Efficiency
W-2	Water Recycling
W-3	Water System Energy Efficiency
W-4	Reuse Urban Runoff
W-5	Increase Renewable Energy Production
W-6	Public Good Charge (Water)
I-1	Energy Efficiency for Large Industrial Sources
I-2	Oil and Gas Extraction GHG Reductions
I-3	Oil and Gas Transmission Leak Reductions
I-4	Refinery Flare Recovery Process Improvements
I-5	Removal of Methane Exemption from Existing Refinery Regulations
RW-1	Landfill Methane Control
RW-2	Increase Landfill Methane Capture Efficiency
RW-3	Recycling and Zero Waste
F-1	Sustainable Forest Target
H-1	Motor Vehicle Air Conditioning
H-2	Non-Utilities and Non-Semiconductor SF_6 Limits
H-3	Semiconductor Manufacturing PFC Reductions
H-4	Consumer Products High GWP Limits
H-5	High GWP Mobile Source Reductions
H-6	High GWP Stationary Source Reductions
H-7	High GWP Mitigation Fees
A-1	Large Dairy Methane Capture

Table 7
CALGREEN Requirements

Item		Requirements	
		Previous	CALGREEN
4.1	Stormwater Management	Stormwater management required on projects > than one acre	All projects subject to stormwater management.
	Surface Drainage	Surface water must flow away from building	Drainage patterns must be analyzed
4.2	Energy Efficiency	California Energy Code	Minimum energy efficiency to be established by California Energy Commissions
4.3	Indoor Water Use	HCD maximum flush rates; CEC water use standards for appliances and fixtures	Indoor water use must decrease by at least 20 percent (prescriptive or performance based)
	Multiple Showerheads	Not covered	Multiple showerheads cannot exceed combined flow of the code
	Irrigation Controllers	Not covered	Irrigation controllers must be weather or soil moisture based controllers
4.4	Joint Protection	Plumbing and Mechanical Codes	All openings must be sealed with materials that rodents cannot penetrate
	Construction Waste	Local Ordinances	Establishes minimum 50 percent recycling and waste management plan
	Operation	Plumbing Code for gray water systems	Educational materials and manuals must be provided to building occupants and owners to ensure proper equipment operation
4.5	Fireplaces	Local Ordinances	Gas fireplaces must be direct-vent sealed-combustion type; Wood stoves and pellet stoves must meet USEPA Phase II emissions limits
	Mechanical Equipment	Not covered	All ventilation equipment must be sealed from contamination during construction
	VOCs	Local Ordinances	Establishes statewide limits on VOC emissions from adhesives, paints, sealants, and other coatings
	Capillary Break	No prescriptive method of compliance	Establishes minimum requirements for vapor barriers in slab on grade foundations
	Moisture Content	Current mill moisture levels for wall and floor beams is 15-20 percent	Moisture content must be verified prior to enclosure of wall or floor beams
	Whole House Fans	Not covered	Requires insulated louvers and closing mechanism when fan is off
	Bath Exhaust Fans	Not covered	Requires Energy Star compliance and humidistat control
	HVAC Design	Minimal requirements for heat loss, heat gain, and duct systems	Entire system must be designed in respects to the local climate
7	Installer Qualifications	HVAC installers need not be trained	HVAC installers must be trained or certified
	Inspectors	Training only required for structural materials	All inspectors must be trained

Source: HCD 2010

The project includes the construction of a 308,000-square-foot building on 15.63 acres located south of Center Street and North of Placentia Lane in the City of Riverside, California. The project includes 110,591 square feet of landscaping, the potential for up to 282 parking stalls, and 47 loading docks.

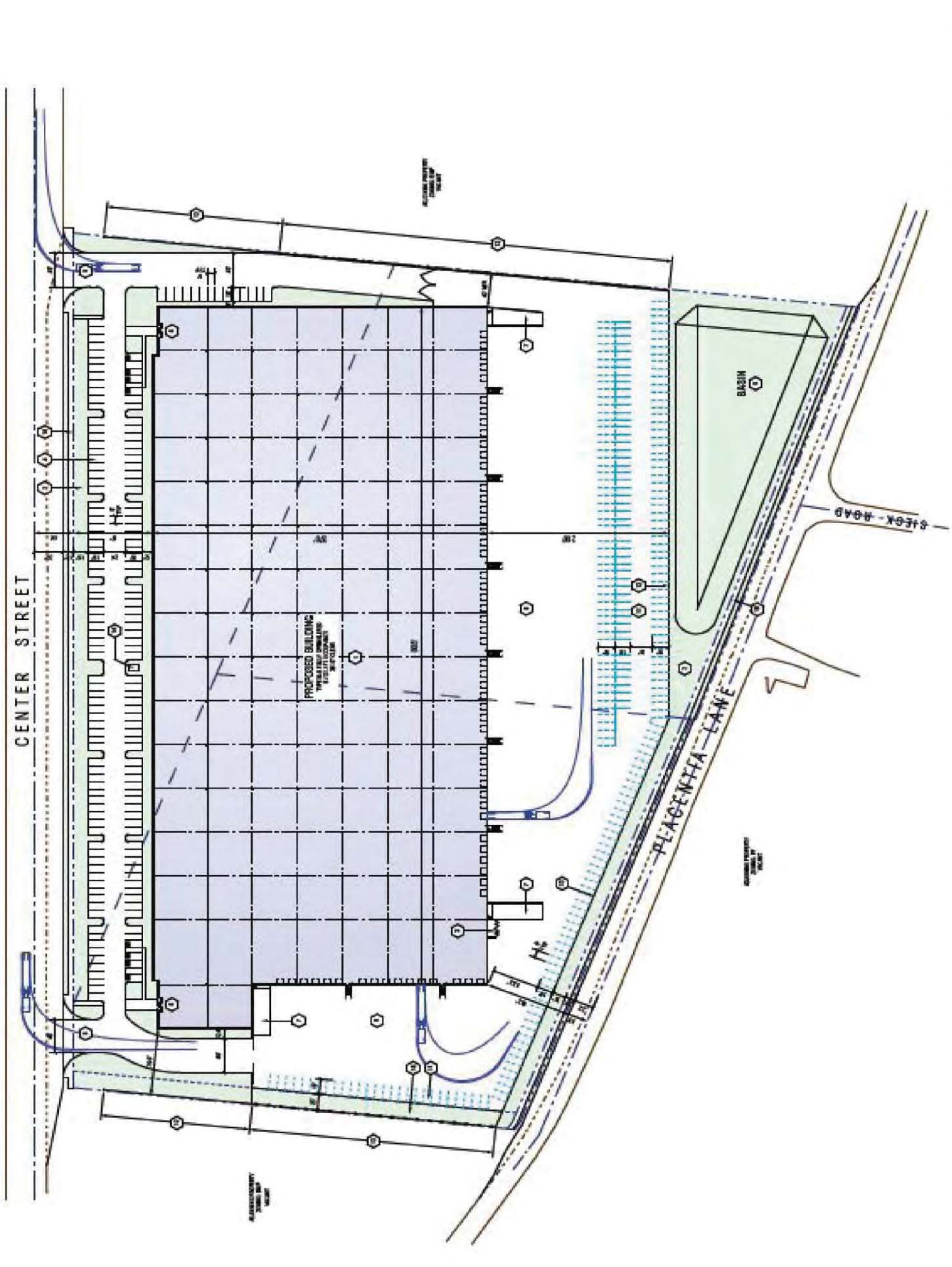

Exhibit 3 Site Plan

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The impact analysis contained herein was prepared utilizing guidance provided in the 1993 SCAQMD California Environmental Quality Act (CEQA) Air Quality Handbook. The thresholds identified in Appendix G of the State CEQA Guidelines, as implemented by the City of Riverside, have been utilized to determine the significance of potential impacts.

6.1 Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines and the local implementation procedures of the City of Riverside, the project could result in potentially significant impacts related to air quality if it:

A. Conflicts with or obstructs implementation of the applicable air quality plan.
B. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.
C. Results in a cumulatively considerable net increase of any criteria pollutant that the region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
D. Exposes sensitive receptors to substantial pollutant concentrations.
E. Create objectionable odors affecting a substantial number of people.

To determine if maximum daily criteria pollutant emissions from construction and operation of the proposed project are significant, the SCAQMD significance thresholds are used. These thresholds are identified in Table 8 (SCAQMD Maximum Daily Emissions Thresholds (lbs/day)).

Table 8
SCAQMD Maximum Daily Emissions Thresholds (lbs/days)

Pollutant	Construction	Operation
NO_X	100	55
VOC/ROG	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Source: SCAQMD 2015		

6.2 AQMP Consistency

A significant impact could occur if the proposed project conflicts with or obstructs the implementation of South Coast Air Basin 2012 Air Quality Management Plan. Conflicts and obstructions that hinder implementation of the AQMP can delay efforts to meet attainment deadlines for criteria pollutants and maintaining existing compliance with applicable air quality standards. Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD CEQA Air Quality Handbook, consistency with the South Coast Air Basin 2012 Air Quality Management Plan (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.[20] Consistency review is presented below:

1. The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by the SCAQMD, as demonstrated in Section 6.3 et seq of this report; therefore, the project could not result in an increase in the frequency or severity of any air quality standards violation and will 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 off-shore drilling facilities; therefore, the proposed project is not defined as *significant*. This project does not include a General Plan Amendment and therefore does not required consistency analysis with the AQMP.

Based on the consistency analysis presented above, the proposed project will not conflict with the AQMP.

6.3 Pollutant Emissions

6.3.1 Construction

Short-term criteria pollutant emissions will occur during demolition, site grading, building construction, paving, and architectural coating activities. Emissions will occur from use of equipment, worker, vendor, and hauling trips, and disturbance of onsite soils (fugitive dust). To determine if construction of the proposed project could result in a significant air quality impact, the California Emissions Estimator Model (CalEEMod) has been utilized. CalEEMod defaults have generally been used as construction inputs into the model (see Appendix A for input values). The methodology for calculating emissions is included in the CalEEMod *User Guide,* freely available at http://www.caleemod.com.

It was estimated that 7,416 square feet of existing, on-site structures will be demolished to accommodate the project. Construction of the building is anticipated to start in early 2016. CalEEMod defaults for construction schedule phase duration and equipment needs were utilized. Based on the results of the model, maximum daily emissions from the construction of the project will result in excessive emissions of volatile organic chemicals (identified as reactive organic gases) associated with interior and exterior coating activities. To compensate for excessive VOC emissions from coating activities, the model includes use of a minimum 37 grams per liter (g/l) VOC content for interior and exterior coatings, as identified in the project description. Use of low-VOC coatings during construction activities will reduce VOC emissions to 72 lbs/day, less than the threshold established by SCAQMD.

Table 9
Daily Construction Emissions (lbs/day)

Source	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer						
2016	7	75	50	<1	21	13
2017	72	37	45	<1	6	3
Winter						
2016	7	75	50	<1	21	13
2017	72	37	46	<1	6	3
Threshold	75	100	550	150	150	55
Substantial?	No	No	No	No	No	No

6.3.2 Operational and Area Sources

Long-term criteria air pollutant emissions will result from the operation of the proposed project. Long-term emissions are categorized as area source emissions, energy demand emissions, and operational emissions. Operational emissions will result from automobile, truck, and other vehicle sources associated with daily trips to and from the project. Area source emissions are the combination of many small emission sources that include use of outdoor landscape maintenance equipment, use of consumer products such as cleaning products, and periodic repainting of the proposed project. Energy demand emissions result from use of electricity and natural gas. Emissions from area sources were estimated using CalEEMod defaults.

The California Emissions Estimator Model (CalEEMod) was utilized to estimate mobile source emissions. Trip generation (1.68 daily trips per 1,000 SF) is based on the trip generation rates provided in the Institute of Transportation Engineers *Trip Generation Manual* (9th Edition).[21] Based on SCAQMD recommendations, an average rate of 0.64 trucks per 1,000 square feet has been applied for purposes of this analysis.[22] Passenger vehicles will consist of 61.80 percent of the fleet mix, light-duty trucks will consist of 6.46 percent of the fleet mix, medium-heavy duty trucks will consist of 8.70 percent of the truck trips, and heavy-heavy duty truck trips consist of 23.04 percent of the fleet mix. Trip lengths have been adjusted based on a study of metropolitan commercial and freight travel conducted by the National Cooperative Highway Research Program. According to observed data collected in the field for the Southern California Association of Governments (SCAG) region, trip lengths for similar uses are estimated at 5.92 miles for light-duty trucks, 13.06 for medium-duty trucks, and 22.40 for heavy-duty trucks. Total vehicle miles were calculated using the average daily trips for each vehicle class and divided by total daily truck trips to get to an average truck distance of 17.41 miles. Assuming an opening year of 2018, the results of the CalEEMod model for summer and winter operation of the project are summarized in Table 10 (Operational Daily Emissions). Based on the results of the model, operational emissions associated with operation the project will not exceed the thresholds established by SCAQMD.

Table 10
Operational Daily Emissions (lbs/day)

Source	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer						
Area Sources	16	<1	<1	0	<1	<1
Energy Demand	<1	<1	<1	<1	<1	<1
Mobile Sources	3	31	39	<1	8	2
Summer Total	*19*	*31*	*38*	*<1*	*8*	*2*
Winter						
Area Sources	16	<1	<1	0	<1	<1
Energy Demand	<1	<1	<1	<1	<1	<1
Mobile Sources	3	32	41	<1	8	2
Winter Total	*19*	*32*	*41*	*<1*	*8*	*2*
Threshold	55	55	550	150	150	55
Substantial?	No	No	No	No	No	No

6.4 Sensitive Receptors

6.4.1 Localized Significance Thresholds

As part of SCAQMD's environmental justice program, attention has recently been focusing more on the localized effects of air quality. Although the region may be in attainment for a particular criteria pollutant, localized emissions from construction activities coupled with ambient pollutant levels can cause localized increases in criteria pollutant that exceed national and/or State air quality standards.

Construction-related criteria pollutant emissions and potentially significant localized impacts were evaluated pursuant to the SCAQMD Final Localized Significance Thresholds Methodology. This methodology provides screening tables for one through five acre project scenarios, depending on the amount of site disturbance during a day using the Fact Sheet for equipment usage in CalEEMod.[23] Daily oxides of nitrogen (NO_X), carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$) emissions will occur during construction of the project, grading of the project site, and paving of facility parking lots and drive aisles. Table 11 (Localized Significance Threshold Analysis) summarize on- and off-site emissions as compared to the local thresholds established for Source Receptor Area (SRA) 23 (Metropolitan Riverside County). Based on the use of four tractors and three dozers during site preparation activities, a 3.5-acre threshold will be used (using linear regression). A 50 meter receptor distance was used to reflect the proximity of residential uses to the sports fields south of the proejct site. Note that particulate matter emissions account for daily watering required by SCAQMD Rule 403 (three times per day for a 55 percent reduction in fugitive dust). Emissions from construction activities will not exceed any localized threshold.

Table 11
Localized Significance Threshold Analysis (lbs/day)

Phase	CO	NO_X	PM_{10}	$PM_{2.5}$
Demolition	35	46	2	2
Site Preparation	41	55	11	7
Grading	49	75	12	7
Building Construction	19	29	2	2
Paving	15	20	1	1
Architectural Coating	2	2	<1	<1
Threshold	1,708	248	28	8
Potentially Substantial?	No	No	No	No

Operation-related LSTs become of concern when there are substantial on-site stationary sources that could impact surrounding receptors. The proposed project does not include such on-site operations; therefore, impacts related to operational LSTs will not occur.

6.4.2 Carbon Monoxide Hotspots

A carbon monoxide (CO) hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. CO hotspots have the potential to violate State and Federal CO standards at intersections, even if the broader Basin is in attainment for Federal and State levels. The California Department of Transportation Project-Level Carbon Monoxide Protocol (Protocol) screening procedures have been utilized to determine if the proposed project could potentially result in a CO hotspot. Based on the recommendations of the Protocol, a screening analysis should be performed for the proposed project to determine if a detailed analysis will be required. The California Department of Transportation notes that because of the age of the assumptions used in the screening procedures and the obsolete nature of the modeling tools utilized to develop the screening procedures in the Protocol, they are no longer accepted. More recent screening procedures based on more current methodologies have been developed. The Sacramento Metropolitan Air Quality Management District (SMAQMD) developed a screening threshold in 2011 which states that any project involving an intersection experiencing 31,600 vehicles per hour or more will require detailed analysis. In addition, the Bay Area Air Quality Management District developed a screening threshold in 2010 which states that any project involving an intersection experiencing 44,000 vehicles per hour would require detailed analysis. The proposed project's operations would not involve an intersection experiencing this level of traffic; therefore, the proposed project passes the screening analysis and impacts are deemed less than significant. Based on the local analysis procedures, the proposed project would not result in a CO hotspot.

6.5 Odors

According to the CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed project is sited within an existing industrial and commercial area. The proposed project does not produce odors that would affect a substantial number of people considering that the proposed project will not result in heavy manufacturing activities.

6.6 Cumulative Impacts

6.6.1 Cumulative Construction Impacts

Cumulative short-term, construction-related emissions from the project will not contribute considerably to any potential cumulative air quality impact because short-term project emissions will be less than significant and other concurrent construction projects in the region will be required to implement standard air quality regulations and mitigation pursuant to State CEQA requirements, just as this project has.

6.6.2 Cumulative Operational Impacts

The SCAQMD CEQA Air Quality Handbook identifies methodologies for analyzing long-term cumulative air quality impacts for criteria pollutants for which the Basin is nonattainment. These methodologies identify three performance standards that can be used to determine if long-term emissions will result in cumulative impacts. Essentially, these methodologies assess growth associated with a land use project and are evaluated for consistency with regional projections. These methodologies are outdated, and are no longer recommended by SCAQMD. SCAQMD allows a project to be analyzed using the projection method such that consistency with the AQMP will indicate that a project will not contribute considerably to cumulative air quality impacts. As discussed in AQMP Consistency, the proposed project is consistent with growth assumptions in the AQMP, and would not exceed any applicable SCAQMD thresholds for short- and long-term emissions. Therefore, the proposed project will not contribute to any potential cumulative air quality impacts.

7.1 Thresholds of Significance

The proposed project could result in potentially significant impacts related to greenhouse gas emissions and global climate change if it would:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

B. Conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of greenhouse gases.

A numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin (Basin) has not been established by the South Coast Air Quality Management District (SCAQMD). As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, a non-zero threshold approach based on Approach 2 of the handbook has been used. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 10,000 metric tons carbon dioxide equivalent (MTCO2E) per year for industrial projects.[24] This threshold is based on the review of 711 CEQA projects. This threshold will be utilized herein to determine if emissions of greenhouse gases from this project will be significant.

7.2 Direct and Indirect Emissions

The proposed project will include activities that emit greenhouse gas emissions over the short- and long-term. While one project could not be said to cause global climate change, individual projects contribute cumulatively to greenhouse gas emissions that result in climate change. A greenhouse gas emissions inventory was prepared for the project using under BAU conditions and is analyzed below.

7.2.1 Short-Term Emissions

The project will result in short-term greenhouse gas emissions from construction and installation activities associated with construction of the proposed project. Greenhouse gas emissions will be released by equipment used for grading, paving, and building construction activities. GHG emissions will also result from worker and vendor trips to and from the project site. Table 12 (Construction Greenhouse Gas Emissions) summarizes the estimated yearly emissions from construction activities. Carbon dioxide emissions from construction equipment and worker/vendor trips were estimated utilizing the California Emissions Estimator Model (CalEEMod) version 2013.2.2 (see Appendix A). Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. Because of this difference, SCAQMD recommends in its draft threshold to amortize construction emissions over a 30-year operational lifetime. This normalizes construction emissions so that they can be grouped with operational emissions in order to generate a precise project GHG inventory. Amortized construction emissions are included in Table 12.

Table 12
Construction Greenhouse Gas Emissions

Construction Year	GHG Emissions (MT/YR)			
	CO_2	CH_4	N_2O	TOTAL*
2016	933	<1	0	936
2017	396	<1	0	397
*AMORTIZED TOTAL^*	*44*	*<1*	*0*	*44*

* MTCO2E
Note: Slight variations may occur due to rounding and variations in modeling software
^ Amortized over 30-years

7.2.2 Long-Term Emissions

Warehousing and distribution activities will result in continuous greenhouse gas emissions from mobile and operational sources. Mobile sources including vehicle trips to and from the project site will result primarily in emissions of CO_2 with minor emissions of CH_4 and N_2O. The most significant GHG emission from natural gas usage will be methane. Electricity usage by the project and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills coupled with CO_2 emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas emissions for the build-out of the proposed project.

To determine long-term emissions, CalEEMod was used. The methodology utilized for each emissions source is based on the CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* handbook.[25] A summary of the project's net long-term greenhouse gas emissions is included in Table 13 (Operational Greenhouse Gas Emissions). Emissions are presented as metric tons of carbon dioxide equivalent (MTCO2E) meaning that all emissions have been weighted based on their Global Warming Potential (GWP) (a metric ton is equal to 1.102 US short tons).

Table 13
Operational Greenhouse Gas Emissions

Source	GHG Emissions (MT/YR)			
	CO_2	CH_4	N_2O	TOTAL*
Area	<1	<1	0	<1
Energy	738	<1	<1	740
Mobile	2,123	<1	0	2,123
Solid Waste	59	3	0	131
Water/Wastewater	598	2	<1	664
TOTAL	*3,517*	*6*	*<1*	*3,659*

* MTCO2E/YR
Note: Slight variations may occur due to rounding

Mobile sources are based on annual vehicle miles traveled (VMT) based on daily trip generation identified in the trip generation memorandum.[26] Trip lengths have been adjusted based on a study of metropolitan commercial and freight travel conducted by the National Cooperative Highway Research Program. According to observed data collected in the field for the Southern California Association of Governments (SCAG) region, trip lengths for similar uses are estimated at 5.92 miles for light-duty trucks, 13.06 for medium-duty trucks, and 22.40 for heavy-duty trucks. Total vehicle miles were calculated using the average daily trips for each vehicle class and divided by total daily truck trips to get to an average truck distance of 17.41 miles. Natural gas usage and electricity usage are based on default demand figures utilized in CalEEMod. Solid waste generation is also based on CalEEMod defaults.

CalEEMod does not include outdoor landscape irrigation demand defaults for this type of project. Estimated irrigation needs for landscaping was calculated at 2,591,811 gallons per year. Landscape irrigation requirements were calculated using the

California Department of Water Resources (DWR) *Water Budget* Workbook that calculates the Maximum Applied Water Allowance (MAWA) for landscaping based on the requirements of the state water conservation in landscaping act.[27] This reflects the maximum allowable amount of water that is permitted to be used annually after consideration of effective precipitation (25 percent of annual rainfall). MAWA is calculated using the following equation:

$$MAWA = (ET_O - Eppt) * 0.62 * [(0.70 * LA) + (0.30 * SLA)]$$

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ET_O = Reference Evapotranspiration for Locale (inches per year)
Eppt = Effective Precipitation (inches per year)
LA = Landscape Area (square feet)
SLA = Special Landscape Area (square feet)

Indoor water demand and wastewater discharges are based on CalEEMod defaults.

7.2.3 Greenhouse Gas Emissions Inventory

Table 14 (Greenhouse Gas Emissions Inventory) summarizes the yearly estimated greenhouse gas emissions from construction and operational sources. The total yearly carbon dioxide equivalent emissions for the proposed project are estimated at 3,703 MTCO2E. This does not exceed the SCAQMD threshold of 10,000 MTCO2E per year.

Table 14
Greenhouse Gas Emissions Inventory

Source	GHG Emissions (MT/YR)			
	CO_2	CH_4	N_2O	TOTAL*
Construction	*44*	*<1*	*0*	*44*
Operation	*3,517*	*6*	*<1*	*3,659*
			Total	

* MTCO2E/YR
Note: Slight variations may occur due to rounding
^ Construction impacts amortized over 30-years

7.3 Greenhouse Gas Emissions Reduction Planning

ARB's *Scoping Plan* identifies strategies to reduce California's greenhouse gas emissions in support of AB32. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the project, such as energy efficiency. Finally, while some measures are not directly applicable, the project would not conflict with their implementation. Reduction measures are grouped into 18 action categories, as follows:

1. California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions. Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California.[28] Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.

3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).
4. **Renewables Portfolio Standards.** Achieve 33 percent renewable energy mix statewide.
5. **Low Carbon Fuel Standard.** Develop and adopt the Low Carbon Fuel Standard.
6. **Regional Transportation-Related Greenhouse Gas Targets.** Develop regional greenhouse gas emissions reduction targets for passenger vehicles.
7. **Vehicle Efficiency Measures.** Implement light-duty vehicle efficiency measures.
8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.
10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- (MD) and heavy-duty (HD) vehicle efficiencies. Aerodynamic efficiency measures for HD trucks pulling trailers 53-feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010.[29] Future, yet to be determined improvements, includes hybridization of MD and HD trucks.
11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. **High Speed Rail.** Support implementation of a high speed rail system.
13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
14. **High Global Warming Potential Gases.** Adopt measures to reduce high warming global potential gases.
15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.
16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 million MTCO2E/YR.
17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.
18. **Agriculture.** In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

Table 15 (Scoping Plan Consistency Summary) summarizes the project's consistency with the State Scoping Plan. As summarized, the project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories through water conservation and recycling.

Table 15
Scoping Plan Consistency Summary

Action	Supporting Measures	Consistency
Cap-and-Trade Program	--	**Not Applicable.** These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect this type of project.
Light-Duty Vehicle Standards	T-1	**Not Applicable.** This is a statewide measure establishing vehicle emissions standards.
Energy Efficiency	E-1 E-2 CR-1 CR-2	**Consistent.** The project will not conflict with any State mandated energy efficiency requirements.
Renewables Portfolio Standard	E-3	**Not Applicable.** Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard	T-2	**Not Applicable.** Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related Greenhouse Gas Targets	T-3	**Consistent.** The project includes features that reduce greenhouse gas emissions, assisting the region in meeting emissions targets.
Vehicle Efficiency Measures	T-4	**Not Applicable.** Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement	T-5 T-6	**Not applicable.** Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are yet to be implemented and will be voluntary, the proposed project would not interfere with their implementation.
Million Solar Roofs Program	E-4	**Not Applicable.** Sets goal for use of solar systems throughout the state. While the project currently does not include solar energy generation, the buildings could support solar panels in the future.
Medium- & Heavy-Duty Vehicles	T-7 T-8	**Consistent.** MD and HD trucks and trailers working from the proposed project will be subject to aerodynamic and hybridization requirements as established by ARB; no feature of the project would interfere with implementation of these requirements and programs.
Industrial Emissions	I-1 I-2 I-3	**Not Applicable.** These measures are applicable to large industrial facilities (> 500,000 MTCOE2/YR) and other intensive uses such as refineries.

Action	Supporting Measures	Consistency
	I-4	
	I-5	
High Speed Rail	T-9	**Not Applicable.** Supports increased mobility choice.
Green Building Strategy	GB-1	**Consistent.** The project includes water and solid waste efficiencies consistent with 2011 CALGREEN requirements.
High Global Warming Potential Gases	H-1	**Not Applicable.** The proposed project is not a substantial source of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
	H-2	
	H-3	
	H-4	
	H-5	
	H-6	
	H-7	
Recycling and Waste	RW-1	**Consistent.** The project is subject to a minimum 50 percent recycling standard and will recycle a minimum of 50 percent of construction debris per State and City requirements.
	RW-2	
	RW-3	
Sustainable Forests	F-1	**Consistent.** The project will increase carbon sequestration by maintaining on-site trees in project landscaping.
Water	W-1	**Consistent.** The project includes use of recycled water and low-flow fixtures.
	W-2	
	W-3	
	W-4	
	W-5	
	W-6	
Agriculture	A-1	**Not Applicable.** The project is not an agricultural use.

8 Mitigation Measures

None required.

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4 South Coast Air Quality Management District. CEQA Air Quality Handbook. 1993

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6 South Coast Air Quality Management District. Air Quality. 2009

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11 California Natural Resources Agency. 2009 California Climate Adaptation Strategy.

12 United States Environmental Protection Agency. Clean Air Act. www.epa.gov/air/caa/ [August 2014]

13 South Coast Air Quality Management District. Air Quality Management Plan. 2012

14 California Climate Action Team. Biennial Report. April 2010

15 Southern California Association of Governments. Senate Bill 375 Fact Sheet. http://scag.ca.gov/Documents/SCAG_SB375_Factsheet.pdf [September 2014]

16 California Air Resources Board. Climate Change Scoping Plan. December 2008

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18 California Air Resources Board. Cap-and-Trade. http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm [September 14, 2011]

19 California Building Standards Commission. California Code of Regulations Title 24. California Green Building Standards Code. 2010

20 South Coast Air Quality Management District. CEQA Air Quality Handbook. 1993

21 Institute of Transportation Engineers. Trip Generation Manual. 9th ed. September 2012

22 Southcoast Air Quality Management District. *Warehouse Truck Trip Study Data Results and Usage.* July 25, 2014

23 South Coast Air Quality Management District. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds.

24 South Coast Air Quality Management District. CEQA Significance Thresholds Working Group. Meeting # 15, Main Presentation. September 28, 2010

25 California Air Pollution Control Officers Association. Quantifying Greenhouse Gas Emissions. August 2010

26 Kunzman Associates, Inc. Trip Generation Memorandum. October 3, 2014

27 California Department of Water Resources. Water Budget Workbook. www.water.ca.gov/wateruseefficiency/docs/WaterBudget.xls [October 2014]

28 California Air Resources Board. California GHG Emissions – Forecast (2002-2020). October 2010

29 California Air Resources Board. Scoping Plan Measures Implementation Timeline. October 2010

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Center Street Warehouse

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	308.00	1000sqft	7.07	308,000.00	0
Other Non-Asphalt Surfaces	101.59	1000sqft	2.33	101,591.00	0
Parking Lot	6.23	Acre	6.23	271,378.80	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 10 **Operational Year** 2018

Utility Company Riverside Public Utilities

CO2 Intensity (lb/MWhr) 1325.65 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Demolition -

Vehicle Trips - Trip Rate Per ITE
Trip % Per SCAQMD Recommendation
Trip Length NCHRP Analysis

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Water And Wastewater - Include Landscape Water Demand

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00

tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	17.41
tblVehicleTrips	CNW_TTP	41.00	38.00
tblVehicleTrips	CW_TTP	59.00	62.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.68
tblVehicleTrips	SU_TR	2.59	1.68
tblVehicleTrips	WD_TR	2.59	1.68
tblWater	OutdoorWaterUseRate	0.00	2,591,811.00

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					
2016	0.7319	6.0180	6.3385	0.0109	0.6172	0.3094	0.9266	0.2104	0.2887	0.4992	0.0000	933.9305	933.9305	0.1203	0.0000	936.4575
2017	5.1232	2.0690	2.4978	4.7900e-003	0.1973	0.1096	0.3070	0.0531	0.1027	0.1558	0.0000	396.4230	396.4230	0.0442	0.0000	397.3502
Total	**5.8551**	**8.0870**	**8.8363**	**0.0157**	**0.8146**	**0.4190**	**1.2336**	**0.2635**	**0.3914**	**0.6549**	**0.0000**	**1,330.3535**	**1,330.3535**	**0.1645**	**0.0000**	**1,333.8078**

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					
2016	0.7319	6.0180	6.3385	0.0109	0.6172	0.3094	0.9266	0.2104	0.2887	0.4992	0.0000	933.9300	933.9300	0.1203	0.0000	936.4571
2017	5.1232	2.0690	2.4978	4.7900e-003	0.1973	0.1096	0.3070	0.0531	0.1027	0.1558	0.0000	396.4229	396.4229	0.0442	0.0000	397.3501
Total	**5.8551**	**8.0870**	**8.8363**	**0.0157**	**0.8146**	**0.4190**	**1.2336**	**0.2635**	**0.3914**	**0.6549**	**0.0000**	**1,330.3529**	**1,330.3529**	**0.1645**	**0.0000**	**1,333.8071**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	2.9453	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109
Energy	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	738.0824	738.0824	0.0161	3.8300e-003	739.6056
Mobile	0.5393	5.9251	7.3224	0.0258	1.2545	0.0970	1.3515	0.3399	0.0893	0.4292	0.0000	2,122.7304	2,122.7304	0.0359	0.0000	2,123.4849
Waste						0.0000	0.0000		0.0000	0.0000	58.7699	0.0000	58.7699	3.4732	0.0000	131.7072
Water						0.0000	0.0000		0.0000	0.0000	22.5964	574.9771	597.5735	2.3335	0.0574	664.3708
Total	**3.4881**	**5.9575**	**7.3549**	**0.0260**	**1.2545**	**0.0995**	**1.3540**	**0.3399**	**0.0918**	**0.4316**	**81.3664**	**3,435.8001**	**3,517.1664**	**5.8587**	**0.0612**	**3,659.1793**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9453	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109
Energy	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	738.0824	738.0824	0.0161	3.8300e-003	739.6056
Mobile	0.5393	5.9251	7.3224	0.0258	1.2545	0.0970	1.3515	0.3399	0.0893	0.4292	0.0000	2,122.7304	2,122.7304	0.0359	0.0000	2,123.4849
Waste						0.0000	0.0000		0.0000	0.0000	58.7699	0.0000	58.7699	3.4732	0.0000	131.7072
Water						0.0000	0.0000		0.0000	0.0000	22.5964	574.9771	597.5735	2.3330	0.0573	664.3347
Total	**3.4881**	**5.9575**	**7.3549**	**0.0260**	**1.2545**	**0.0995**	**1.3540**	**0.3399**	**0.0918**	**0.4316**	**81.3664**	**3,435.8001**	**3,517.1664**	**5.8582**	**0.0612**	**3,659.1433**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/11/2016	5	10	
3	Grading	Grading	2/12/2016	3/24/2016	5	30	
4	Building Construction	Building Construction	3/25/2016	5/18/2017	5	300	
5	Paving	Paving	5/19/2017	6/15/2017	5	20	
6	Architectural Coating	Architectural Coating	6/16/2017	7/13/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 626,599; Non-Residential Outdoor: 208,866 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	733.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
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	286.00	112.00	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
Architectural Coating	1	57.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

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	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0974	37.0974	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**		**0.0229**	**0.0229**		**0.0214**	**0.0214**	**0.0000**	**37.0974**	**37.0974**	**0.0101**	**0.0000**	**37.3092**

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	6.5700e-003	0.1069	0.0803	2.7000e-004	6.2800e-003	1.5700e-003	7.8500e-003	1.7200e-003	1.4400e-003	3.1700e-003	0.0000	24.7136	24.7136	1.8000e-004	0.0000	24.7174
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	8.8000e-004	9.1900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5419	1.5419	8.0000e-005	0.0000	1.5436
Total	**7.1700e-003**	**0.1078**	**0.0895**	**2.9000e-004**	**7.9300e-003**	**1.5800e-003**	**9.5100e-003**	**2.1600e-003**	**1.4500e-003**	**3.6200e-003**	**0.0000**	**26.2555**	**26.2555**	**2.6000e-004**	**0.0000**	**26.2610**

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	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0973	37.0973	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**		**0.0229**	**0.0229**		**0.0214**	**0.0214**	**0.0000**	**37.0973**	**37.0973**	**0.0101**	**0.0000**	**37.3092**

Mitigated Construction Off-Site

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					
Hauling	6.5700e-003	0.1069	0.0803	2.7000e-004	6.2800e-003	1.5700e-003	7.8500e-003	1.7200e-003	1.4400e-003	3.1700e-003	0.0000	24.7136	24.7136	1.8000e-004	0.0000	24.7174
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	8.8000e-004	9.1900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5419	1.5419	8.0000e-005	0.0000	1.5436
Total	**7.1700e-003**	**0.1078**	**0.0895**	**2.9000e-004**	**7.9300e-003**	**1.5800e-003**	**9.5100e-003**	**2.1600e-003**	**1.4500e-003**	**3.6200e-003**	**0.0000**	**26.2555**	**26.2555**	**2.6000e-004**	**0.0000**	**26.2610**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

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					
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	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

Unmitigated Construction Off-Site

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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	5.3000e-004	5.5100e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9251	0.9251	5.0000e-005	0.0000	0.9262
Total	**3.6000e-004**	**5.3000e-004**	**5.5100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9251**	**0.9251**	**5.0000e-005**	**0.0000**	**0.9262**

Mitigated Construction On-Site

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					
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	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	5.3000e-004	5.5100e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9251	0.9251	5.0000e-005	0.0000	0.9262
Total	**3.6000e-004**	**5.3000e-004**	**5.5100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9251**	**0.9251**	**5.0000e-005**	**0.0000**	**0.9262**

3.4 Grading - 2016

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	0.0972	1.1222	0.7371	9.3000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	87.2936	87.2936	0.0263	0.0000	87.8465
Total	**0.0972**	**1.1222**	**0.7371**	**9.3000e-004**	**0.1301**	**0.0538**	**0.1839**	**0.0540**	**0.0495**	**0.1034**	**0.0000**	**87.2936**	**87.2936**	**0.0263**	**0.0000**	**87.8465**

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	1.2000e-003	1.7700e-003	0.0184	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.0837	3.0837	1.7000e-004	0.0000	3.0872
Total	**1.2000e-003**	**1.7700e-003**	**0.0184**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.0837**	**3.0837**	**1.7000e-004**	**0.0000**	**3.0872**

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0972	1.1222	0.7371	9.3000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	87.2935	87.2935	0.0263	0.0000	87.8464
Total	**0.0972**	**1.1222**	**0.7371**	**9.3000e-004**	**0.1301**	**0.0538**	**0.1839**	**0.0540**	**0.0495**	**0.1034**	**0.0000**	**87.2935**	**87.2935**	**0.0263**	**0.0000**	**87.8464**

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	1.2000e-003	1.7700e-003	0.0184	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.0837	3.0837	1.7000e-004	0.0000	3.0872
Total	**1.2000e-003**	**1.7700e-003**	**0.0184**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.0837**	**3.0837**	**1.7000e-004**	**0.0000**	**3.0872**

3.5 Building Construction - 2016

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	0.3423	2.8649	1.8599	2.6900e-003		0.1977	0.1977		0.1858	0.1858	0.0000	243.3644	243.3644	0.0604	0.0000	244.6319
Total	**0.3423**	**2.8649**	**1.8599**	**2.6900e-003**		**0.1977**	**0.1977**		**0.1858**	**0.1858**	**0.0000**	**243.3644**	**243.3644**	**0.0604**	**0.0000**	**244.6319**

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	0.1002	1.0219	1.3118	2.4400e-003	0.0693	0.0159	0.0852	0.0198	0.0147	0.0344	0.0000	222.0237	222.0237	1.6200e-003	0.0000	222.0576
Worker	0.1153	0.1692	1.7605	3.8800e-003	0.3154	2.6900e-003	0.3180	0.0838	2.4700e-003	0.0862	0.0000	295.4487	295.4487	0.0159	0.0000	295.7826
Total	**0.2154**	**1.1911**	**3.0723**	**6.3200e-003**	**0.3846**	**0.0186**	**0.4032**	**0.1035**	**0.0171**	**0.1207**	**0.0000**	**517.4723**	**517.4723**	**0.0175**	**0.0000**	**517.8403**

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	0.3423	2.8649	1.8599	2.6900e-003		0.1977	0.1977		0.1858	0.1858	0.0000	243.3641	243.3641	0.0604	0.0000	244.6316
Total	**0.3423**	**2.8649**	**1.8599**	**2.6900e-003**		**0.1977**	**0.1977**		**0.1858**	**0.1858**	**0.0000**	**243.3641**	**243.3641**	**0.0604**	**0.0000**	**244.6316**

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	0.1002	1.0219	1.3118	2.4400e-003	0.0693	0.0159	0.0852	0.0198	0.0147	0.0344	0.0000	222.0237	222.0237	1.6200e-003	0.0000	222.0576
Worker	0.1153	0.1692	1.7605	3.8800e-003	0.3154	2.6900e-003	0.3180	0.0838	2.4700e-003	0.0862	0.0000	295.4487	295.4487	0.0159	0.0000	295.7826
Total	**0.2154**	**1.1911**	**3.0723**	**6.3200e-003**	**0.3846**	**0.0186**	**0.4032**	**0.1035**	**0.0171**	**0.1207**	**0.0000**	**517.4723**	**517.4723**	**0.0175**	**0.0000**	**517.8403**

3.5 Building Construction - 2017

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	0.1536	1.3071	0.8974	1.3300e-003		0.0882	0.0882		0.0828	0.0828	0.0000	118.5422	118.5422	0.0292	0.0000	119.1548
Total	**0.1536**	**1.3071**	**0.8974**	**1.3300e-003**		**0.0882**	**0.0882**		**0.0828**	**0.0828**	**0.0000**	**118.5422**	**118.5422**	**0.0292**	**0.0000**	**119.1548**

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	0.0451	0.4580	0.6123	1.2000e-003	0.0341	7.0100e-003	0.0411	9.7400e-003	6.4400e-003	0.0162	0.0000	107.5845	107.5845	7.7000e-004	0.0000	107.6007
Worker	0.0509	0.0753	0.7824	1.9100e-003	0.1553	1.2700e-003	0.1566	0.0413	1.1700e-003	0.0424	0.0000	139.9330	139.9330	7.2300e-003	0.0000	140.0848
Total	**0.0960**	**0.5333**	**1.3947**	**3.1100e-003**	**0.1894**	**8.2800e-003**	**0.1977**	**0.0510**	**7.6100e-003**	**0.0586**	**0.0000**	**247.5175**	**247.5175**	**8.0000e-003**	**0.0000**	**247.6855**

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	0.1536	1.3071	0.8974	1.3300e-003		0.0882	0.0882		0.0828	0.0828	0.0000	118.5420	118.5420	0.0292	0.0000	119.1547
Total	**0.1536**	**1.3071**	**0.8974**	**1.3300e-003**		**0.0882**	**0.0882**		**0.0828**	**0.0828**	**0.0000**	**118.5420**	**118.5420**	**0.0292**	**0.0000**	**119.1547**

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	0.0451	0.4580	0.6123	1.2000e-003	0.0341	7.0100e-003	0.0411	9.7400e-003	6.4400e-003	0.0162	0.0000	107.5845	107.5845	7.7000e-004	0.0000	107.6007
Worker	0.0509	0.0753	0.7824	1.9100e-003	0.1553	1.2700e-003	0.1566	0.0413	1.1700e-003	0.0424	0.0000	139.9330	139.9330	7.2300e-003	0.0000	140.0848
Total	**0.0960**	**0.5333**	**1.3947**	**3.1100e-003**	**0.1894**	**8.2800e-003**	**0.1977**	**0.0510**	**7.6100e-003**	**0.0586**	**0.0000**	**247.5175**	**247.5175**	**8.0000e-003**	**0.0000**	**247.6855**

3.6 Paving - 2017

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	0.0191	0.2030	0.1473	2.2000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8266
Paving	8.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0272**	**0.2030**	**0.1473**	**2.2000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8266**

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	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**5.4000e-004**	**8.0000e-004**	**8.2900e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4827**	**1.4827**	**8.0000e-005**	**0.0000**	**1.4843**

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	0.0191	0.2030	0.1473	2.2000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	20.6934	20.6934	6.3400e-003	0.0000	20.8265
Paving	8.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0272**	**0.2030**	**0.1473**	**2.2000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**20.6934**	**20.6934**	**6.3400e-003**	**0.0000**	**20.8265**

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	5.4000e-004	8.0000e-004	8.2900e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4827	1.4827	8.0000e-005	0.0000	1.4843
Total	**5.4000e-004**	**8.0000e-004**	**8.2900e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4827**	**1.4827**	**8.0000e-005**	**0.0000**	**1.4843**

3.7 Architectural Coating - 2017

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	4.8405					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3200e-003	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589
Total	**4.8438**	**0.0219**	**0.0187**	**3.0000e-005**		**1.7300e-003**	**1.7300e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.5533**	**2.5533**	**2.7000e-004**	**0.0000**	**2.5589**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0500e-003	3.0300e-003	0.0315	8.0000e-005	6.2500e-003	5.0000e-005	6.3000e-003	1.6600e-003	5.0000e-005	1.7100e-003	0.0000	5.6341	5.6341	2.9000e-004	0.0000	5.6402
Total	**2.0500e-003**	**3.0300e-003**	**0.0315**	**8.0000e-005**	**6.2500e-003**	**5.0000e-005**	**6.3000e-003**	**1.6600e-003**	**5.0000e-005**	**1.7100e-003**	**0.0000**	**5.6341**	**5.6341**	**2.9000e-004**	**0.0000**	**5.6402**

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	4.8405					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3200e-003	0.0219	0.0187	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.5533	2.5533	2.7000e-004	0.0000	2.5589
Total	**4.8438**	**0.0219**	**0.0187**	**3.0000e-005**		**1.7300e-003**	**1.7300e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.5533**	**2.5533**	**2.7000e-004**	**0.0000**	**2.5589**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0500e-003	3.0300e-003	0.0315	8.0000e-005	6.2500e-003	5.0000e-005	6.3000e-003	1.6600e-003	5.0000e-005	1.7100e-003	0.0000	5.6341	5.6341	2.9000e-004	0.0000	5.6402
Total	**2.0500e-003**	**3.0300e-003**	**0.0315**	**8.0000e-005**	**6.2500e-003**	**5.0000e-005**	**6.3000e-003**	**1.6600e-003**	**5.0000e-005**	**1.7100e-003**	**0.0000**	**5.6341**	**5.6341**	**2.9000e-004**	**0.0000**	**5.6402**

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	0.5393	5.9251	7.3224	0.0258	1.2545	0.0970	1.3515	0.3399	0.0893	0.4292	0.0000	2,122.7304	2,122.7304	0.0359	0.0000	2,123.4849
Unmitigated	0.5393	5.9251	7.3224	0.0258	1.2545	0.0970	1.3515	0.3399	0.0893	0.4292	0.0000	2,122.7304	2,122.7304	0.0359	0.0000	2,123.4849

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		
Unrefrigerated Warehouse-No Rail	517.44	517.44	517.44	3,184,553	3,184,553
Total	517.44	517.44	517.44	3,184,553	3,184,553

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
Unrefrigerated Warehouse-No Rail	16.60	0.00	17.41	62.00	0.00	38.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.618000	0.000000	0.000000	0.000000	0.064600	0.000000	0.087000	0.230400	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	702.9092	702.9092	0.0154	3.1800e-003	704.2184
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	702.9092	702.9092	0.0154	3.1800e-003	704.2184
NaturalGas Mitigated	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1732	35.1732	6.7000e-004	6.4000e-004	35.3872
NaturalGas Unmitigated	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1732	35.1732	6.7000e-004	6.4000e-004	35.3872

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 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
Unrefrigerated Warehouse-No Rail	659120	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1732	35.1732	6.7000e-004	6.4000e-004	35.3872
Total		**3.5500e-003**	**0.0323**	**0.0271**	**1.9000e-004**		**2.4600e-003**	**2.4600e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**35.1732**	**35.1732**	**6.7000e-004**	**6.4000e-004**	**35.3872**

Mitigated

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					
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
Unrefrigerated Warehouse-No Rail	659120	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1732	35.1732	6.7000e-004	6.4000e-004	35.3872
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
Total		**3.5500e-003**	**0.0323**	**0.0271**	**1.9000e-004**		**2.4600e-003**	**2.4600e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**35.1732**	**35.1732**	**6.7000e-004**	**6.4000e-004**	**35.3872**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	238813	143.5996	3.1400e-003	6.5000e-004	143.8670
Unrefrigerated Warehouse-No Rail	930160	559.3096	0.0122	2.5300e-003	560.3513
Total		**702.9092**	**0.0154**	**3.1800e-003**	**704.2184**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	238813	143.5996	3.1400e-003	6.5000e-004	143.8670
Unrefrigerated Warehouse-No Rail	930160	559.3096	0.0122	2.5300e-003	560.3513
Total		**702.9092**	**0.0154**	**3.1800e-003**	**704.2184**

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	2.9453	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109
Unmitigated	2.9453	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109

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	0.4841					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4607					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109
Total	**2.9452**	**5.0000e-005**	**5.3800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0109**

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	0.4841					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4607					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.3800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0109
Total	**2.9452**	**5.0000e-005**	**5.3800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0103**	**0.0103**	**3.0000e-005**	**0.0000**	**0.0109**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	597.5735	2.3330	0.0573	664.3347
Unmitigated	597.5735	2.3335	0.0574	664.3708

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
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
Unrefrigerated Warehouse-No Rail	71.225 / 2.59181	597.5735	2.3335	0.0574	664.3708
Total		**597.5735**	**2.3335**	**0.0574**	**664.3708**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
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
Unrefrigerated Warehouse-No Rail	71.225 / 2.59181	597.5735	2.3330	0.0573	664.3347
Total		**597.5735**	**2.3330**	**0.0573**	**664.3347**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	58.7699	3.4732	0.0000	131.7072
Unmitigated	58.7699	3.4732	0.0000	131.7072

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	289.52	58.7699	3.4732	0.0000	131.7072
Total		**58.7699**	**3.4732**	**0.0000**	**131.7072**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	289.52	58.7699	3.4732	0.0000	131.7072
Total		**58.7699**	**3.4732**	**0.0000**	**131.7072**

9.0 Operational Offroad

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

10.0 Vegetation

Center Street Warehouse

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	308.00	1000sqft	7.07	308,000.00	0
Other Non-Asphalt Surfaces	101.59	1000sqft	2.33	101,591.00	0
Parking Lot	6.23	Acre	6.23	271,378.80	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 10 **Operational Year** 2018

Utility Company Riverside Public Utilities

CO2 Intensity (lb/MWhr) 1325.65 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Demolition -

Vehicle Trips - Trip Rate Per ITE
Trip % Per SCAQMD Recommendation
Trip Length NCHRP Analysis

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Water And Wastewater - Include Landscape Water Demand

Architectural Coating - Use of Low-VOC Paints

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	37.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	37.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD1	0.04	0.06

tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	17.41
tblVehicleTrips	CNW_TTP	41.00	38.00
tblVehicleTrips	CW_TTP	59.00	62.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.68
tblVehicleTrips	SU_TR	2.59	1.68
tblVehicleTrips	WD_TR	2.59	1.68
tblWater	OutdoorWaterUseRate	0.00	2,591,811.00

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					
2016	6.5627	74.9179	50.4347	0.0917	18.2675	3.5861	21.2078	9.9840	3.2992	12.6892	0.0000	8,515.3096	8,515.3096	1.9472	0.0000	8,556.2004
2017	72.1847	36.6069	45.4250	0.0917	3.8970	1.9479	5.8448	1.0472	1.8263	2.8736	0.0000	8,316.0820	8,316.0820	0.8276	0.0000	8,333.4620
Total	**78.7474**	**111.5248**	**95.8597**	**0.1833**	**22.1644**	**5.5340**	**27.0527**	**11.0313**	**5.1255**	**15.5627**	**0.0000**	**16,831.3916**	**16,831.3916**	**2.7748**	**0.0000**	**16,889.6624**

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					
2016	6.5627	74.9179	50.4347	0.0917	18.2675	3.5861	21.2078	9.9840	3.2992	12.6892	0.0000	8,515.3096	8,515.3096	1.9472	0.0000	8,556.2004
2017	72.1847	36.6069	45.4250	0.0917	3.8970	1.9479	5.8448	1.0472	1.8263	2.8736	0.0000	8,316.0820	8,316.0820	0.8276	0.0000	8,333.4620
Total	**78.7474**	**111.5248**	**95.8597**	**0.1833**	**22.1644**	**5.5340**	**27.0527**	**11.0313**	**5.1255**	**15.5627**	**0.0000**	**16,831.3916**	**16,831.3916**	**2.7748**	**0.0000**	**16,889.6624**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Energy	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Mobile	2.9114	30.8680	37.8492	0.1445	7.0155	0.5331	7.5485	1.8976	0.4905	2.3881		13,051.3339	13,051.3339	0.2175		13,055.9003
Total	**19.0705**	**31.0454**	**38.0409**	**0.1455**	**7.0155**	**0.5467**	**7.5621**	**1.8976**	**0.5041**	**2.4017**		**13,263.8729**	**13,263.8729**	**0.2218**	**3.8900e-003**	**13,269.7375**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Energy	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Mobile	2.9114	30.8680	37.8492	0.1445	7.0155	0.5331	7.5485	1.8976	0.4905	2.3881		13,051.3339	13,051.3339	0.2175		13,055.9003
Total	**19.0705**	**31.0454**	**38.0409**	**0.1455**	**7.0155**	**0.5467**	**7.5621**	**1.8976**	**0.5041**	**2.4017**		**13,263.8729**	**13,263.8729**	**0.2218**	**3.8900e-003**	**13,269.7375**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/11/2016	5	10	
3	Grading	Grading	2/12/2016	3/24/2016	5	30	
4	Building Construction	Building Construction	3/25/2016	5/18/2017	5	300	
5	Paving	Paving	5/19/2017	6/15/2017	5	20	
6	Architectural Coating	Architectural Coating	6/16/2017	7/13/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 626,599; Non-Residential Outdoor: 208,866 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	733.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
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	286.00	112.00	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
Architectural Coating	1	57.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

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	0.6317	10.1435	7.1313	0.0271	0.6385	0.1569	0.7954	0.1748	0.1443	0.3192		2,726.9299	2,726.9299	0.0196		2,727.3403
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	0.0624	0.0781	0.9730	2.1200e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		178.4374	178.4374	9.1500e-003		178.6295
Total	**0.6941**	**10.2216**	**8.1043**	**0.0292**	**0.8061**	**0.1583**	**0.9644**	**0.2193**	**0.1456**	**0.3649**		**2,905.3672**	**2,905.3672**	**0.0287**		**2,905.9698**

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

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	0.6317	10.1435	7.1313	0.0271	0.6385	0.1569	0.7954	0.1748	0.1443	0.3192		2,726.9299	2,726.9299	0.0196		2,727.3403
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	0.0624	0.0781	0.9730	2.1200e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		178.4374	178.4374	9.1500e-003		178.6295
Total	**0.6941**	**10.2216**	**8.1043**	**0.0292**	**0.8061**	**0.1583**	**0.9644**	**0.2193**	**0.1456**	**0.3649**		**2,905.3672**	**2,905.3672**	**0.0287**		**2,905.9698**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

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
	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

Unmitigated Construction Off-Site

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
	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	0.0749	0.0937	1.1675	2.5500e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		214.1249	214.1249	0.0110		214.3554
Total	**0.0749**	**0.0937**	**1.1675**	**2.5500e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**214.1249**	**214.1249**	**0.0110**		**214.3554**

Mitigated Construction On-Site

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
	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

Mitigated Construction Off-Site

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
	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	0.0749	0.0937	1.1675	2.5500e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		214.1249	214.1249	0.0110		214.3554
Total	**0.0749**	**0.0937**	**1.1675**	**2.5500e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**214.1249**	**214.1249**	**0.0110**		**214.3554**

3.4 Grading - 2016

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	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

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	0.0833	0.1041	1.2973	2.8300e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		237.9165	237.9165	0.0122		238.1726
Total	**0.0833**	**0.1041**	**1.2973**	**2.8300e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**237.9165**	**237.9165**	**0.0122**		**238.1726**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

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	0.0833	0.1041	1.2973	2.8300e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		237.9165	237.9165	0.0122		238.1726
Total	**0.0833**	**0.1041**	**1.2973**	**2.8300e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**237.9165**	**237.9165**	**0.0122**		**238.1726**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

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	0.9356	9.7268	11.1715	0.0244	0.7000	0.1579	0.8579	0.1993	0.1452	0.3446		2,443.8170	2,443.8170	0.0175		2,444.1852
Worker	1.1906	1.4891	18.5509	0.0405	3.1968	0.0267	3.2235	0.8478	0.0246	0.8724		3,402.2062	3,402.2062	0.1744		3,405.8688
Total	**2.1262**	**11.2158**	**29.7225**	**0.0649**	**3.8968**	**0.1847**	**4.0814**	**1.0472**	**0.1698**	**1.2170**		**5,846.0232**	**5,846.0232**	**0.1919**		**5,850.0540**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

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	0.9356	9.7268	11.1715	0.0244	0.7000	0.1579	0.8579	0.1993	0.1452	0.3446		2,443.8170	2,443.8170	0.0175		2,444.1852
Worker	1.1906	1.4891	18.5509	0.0405	3.1968	0.0267	3.2235	0.8478	0.0246	0.8724		3,402.2062	3,402.2062	0.1744		3,405.8688
Total	**2.1262**	**11.2158**	**29.7225**	**0.0649**	**3.8968**	**0.1847**	**4.0814**	**1.0472**	**0.1698**	**1.2170**		**5,846.0232**	**5,846.0232**	**0.1919**		**5,850.0540**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

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	0.8576	8.8566	10.5067	0.0244	0.7002	0.1409	0.8411	0.1994	0.1296	0.3291		2,404.2722	2,404.2722	0.0170		2,404.6282
Worker	1.0704	1.3447	16.7892	0.0405	3.1968	0.0257	3.2225	0.8478	0.0237	0.8715		3,272.0046	3,272.0046	0.1610		3,275.3848
Total	**1.9280**	**10.2013**	**27.2959**	**0.0648**	**3.8970**	**0.1667**	**4.0636**	**1.0472**	**0.1534**	**1.2006**		**5,676.2767**	**5,676.2767**	**0.1779**		**5,680.0130**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

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	0.8576	8.8566	10.5067	0.0244	0.7002	0.1409	0.8411	0.1994	0.1296	0.3291		2,404.2722	2,404.2722	0.0170		2,404.6282
Worker	1.0704	1.3447	16.7892	0.0405	3.1968	0.0257	3.2225	0.8478	0.0237	0.8715		3,272.0046	3,272.0046	0.1610		3,275.3848
Total	**1.9280**	**10.2013**	**27.2959**	**0.0648**	**3.8970**	**0.1667**	**4.0636**	**1.0472**	**0.1534**	**1.2006**		**5,676.2767**	**5,676.2767**	**0.1779**		**5,680.0130**

3.6 Paving - 2017

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.8161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7235**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

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	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.0561**	**0.0705**	**0.8806**	**2.1200e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**171.6086**	**171.6086**	**8.4400e-003**		**171.7859**

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.8161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7235**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**	**0.0000**	**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

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	0.0561	0.0705	0.8806	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.6086	171.6086	8.4400e-003		171.7859
Total	**0.0561**	**0.0705**	**0.8806**	**2.1200e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**171.6086**	**171.6086**	**8.4400e-003**		**171.7859**

3.7 Architectural Coating - 2017

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	71.6390					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**71.9714**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.2133	0.2680	3.3461	8.0700e-003	0.6371	5.1200e-003	0.6423	0.1690	4.7300e-003	0.1737		652.1128	652.1128	0.0321		652.7865
Total	**0.2133**	**0.2680**	**3.3461**	**8.0700e-003**	**0.6371**	**5.1200e-003**	**0.6423**	**0.1690**	**4.7300e-003**	**0.1737**		**652.1128**	**652.1128**	**0.0321**		**652.7865**

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	71.6390					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**71.9714**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.2133	0.2680	3.3461	8.0700e-003	0.6371	5.1200e-003	0.6423	0.1690	4.7300e-003	0.1737		652.1128	652.1128	0.0321		652.7865
Total	**0.2133**	**0.2680**	**3.3461**	**8.0700e-003**	**0.6371**	**5.1200e-003**	**0.6423**	**0.1690**	**4.7300e-003**	**0.1737**		**652.1128**	**652.1128**	**0.0321**		**652.7865**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9114	30.8680	37.8492	0.1445	7.0155	0.5331	7.5485	1.8976	0.4905	2.3881		13,051.3339	13,051.3339	0.2175		13,055.9003
Unmitigated	2.9114	30.8680	37.8492	0.1445	7.0155	0.5331	7.5485	1.8976	0.4905	2.3881		13,051.3339	13,051.3339	0.2175		13,055.9003

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		
Unrefrigerated Warehouse-No Rail	517.44	517.44	517.44	3,184,553	3,184,553
Total	517.44	517.44	517.44	3,184,553	3,184,553

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
Unrefrigerated Warehouse-No Rail	16.60	0.00	17.41	62.00	0.00	38.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.618000	0.000000	0.000000	0.000000	0.064600	0.000000	0.087000	0.230400	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
NaturalGas Unmitigated	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410

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 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
Unrefrigerated Warehouse-No Rail	1805.81	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Total		**0.0195**	**0.1770**	**0.1487**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**		**212.4480**	**212.4480**	**4.0700e-003**	**3.8900e-003**	**213.7410**

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					
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
Unrefrigerated Warehouse-No Rail	1.80581	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
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
Total		**0.0195**	**0.1770**	**0.1487**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**		**212.4480**	**212.4480**	**4.0700e-003**	**3.8900e-003**	**213.7410**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Unmitigated	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963

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	2.6523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4832					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1100e-003	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Total	**16.1396**	**4.0000e-004**	**0.0430**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0910**	**0.0910**	**2.5000e-004**		**0.0963**

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	2.6523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4832					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1100e-003	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Total	**16.1396**	**4.0000e-004**	**0.0430**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0910**	**0.0910**	**2.5000e-004**		**0.0963**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Center Street Warehouse

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	308.00	1000sqft	7.07	308,000.00	0
Other Non-Asphalt Surfaces	101.59	1000sqft	2.33	101,591.00	0
Parking Lot	6.23	Acre	6.23	271,378.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2018
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Demolition -

Vehicle Trips - Trip Rate Per ITE
Trip % Per SCAQMD Recommendation
Trip Length NCHRP Analysis

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Vechicle Emission Factors - Fleet Mix Per SCAQMD Recommendation

Water And Wastewater - Include Landscape Water Demand

Architectural Coating - Use of Low-VOC Paints

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	37.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	37.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	HHD	0.03	0.23
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDA	0.51	0.62
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD1	0.04	0.06

tblVehicleEF	LHD1	0.04	0.06
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	LHD2	6.6470e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MCY	4.3620e-003	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MDV	0.14	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MH	2.1170e-003	0.00
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	OBUS	1.9400e-003	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	SBUS	5.8800e-004	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleEF	UBUS	2.5020e-003	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	17.41
tblVehicleTrips	CNW_TTP	41.00	38.00
tblVehicleTrips	CW_TTP	59.00	62.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.68
tblVehicleTrips	SU_TR	2.59	1.68
tblVehicleTrips	WD_TR	2.59	1.68
tblWater	OutdoorWaterUseRate	0.00	2,591,811.00

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					
2016	6.5646	74.9281	50.3334	0.0890	18.2675	3.5861	21.2078	9.9840	3.2992	12.6892	0.0000	8,283.5123	8,283.5123	1.9472	0.0000	8,324.4032
2017	72.1889	36.9574	46.2804	0.0889	3.8970	1.9493	5.8462	1.0472	1.8276	2.8748	0.0000	8,092.2198	8,092.2198	0.8282	0.0000	8,109.6109
Total	**78.7535**	**111.8855**	**96.6138**	**0.1779**	**22.1644**	**5.5354**	**27.0540**	**11.0313**	**5.1268**	**15.5640**	**0.0000**	**16,375.7322**	**16,375.7322**	**2.7753**	**0.0000**	**16,434.0141**

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					
2016	6.5646	74.9281	50.3334	0.0890	18.2675	3.5861	21.2078	9.9840	3.2992	12.6892	0.0000	8,283.5123	8,283.5123	1.9472	0.0000	8,324.4032
2017	72.1889	36.9574	46.2804	0.0889	3.8970	1.9493	5.8462	1.0472	1.8276	2.8748	0.0000	8,092.2198	8,092.2198	0.8282	0.0000	8,109.6109
Total	**78.7535**	**111.8855**	**96.6138**	**0.1779**	**22.1644**	**5.5354**	**27.0540**	**11.0313**	**5.1268**	**15.5640**	**0.0000**	**16,375.7322**	**16,375.7322**	**2.7753**	**0.0000**	**16,434.0141**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio- CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Energy	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Mobile	3.0246	32.0118	40.5422	0.1413	7.0155	0.5347	7.5502	1.8976	0.4920	2.3896		12,803.3647	12,803.3647	0.2184		12,807.9519
Total	**19.1837**	**32.1892**	**40.7339**	**0.1423**	**7.0155**	**0.5483**	**7.5638**	**1.8976**	**0.5056**	**2.4032**		**13,015.9038**	**13,015.9038**	**0.2228**	**3.8900e-003**	**13,021.7891**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Energy	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Mobile	3.0246	32.0118	40.5422	0.1413	7.0155	0.5347	7.5502	1.8976	0.4920	2.3896		12,803.3647	12,803.3647	0.2184		12,807.9519
Total	**19.1837**	**32.1892**	**40.7339**	**0.1423**	**7.0155**	**0.5483**	**7.5638**	**1.8976**	**0.5056**	**2.4032**		**13,015.9038**	**13,015.9038**	**0.2228**	**3.8900e-003**	**13,021.7891**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/11/2016	5	10	
3	Grading	Grading	2/12/2016	3/24/2016	5	30	
4	Building Construction	Building Construction	3/25/2016	5/18/2017	5	300	
5	Paving	Paving	5/19/2017	6/15/2017	5	20	
6	Architectural Coating	Architectural Coating	6/16/2017	7/13/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 626,599; Non-Residential Outdoor: 208,866 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	733.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
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	286.00	112.00	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
Architectural Coating	1	57.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

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	0.6671	10.5109	8.1707	0.0270	0.6385	0.1573	0.7957	0.1748	0.1447	0.3195		2,720.4537	2,720.4537	0.0198		2,720.8697
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	0.0638	0.0858	0.8970	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3543	167.3543	9.1500e-003		167.5464
Total	**0.7309**	**10.5966**	**9.0677**	**0.0290**	**0.8061**	**0.1587**	**0.9648**	**0.2193**	**0.1460**	**0.3652**		**2,887.8080**	**2,887.8080**	**0.0290**		**2,888.4160**

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

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	0.6671	10.5109	8.1707	0.0270	0.6385	0.1573	0.7957	0.1748	0.1447	0.3195		2,720.4537	2,720.4537	0.0198		2,720.8697
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	0.0638	0.0858	0.8970	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3543	167.3543	9.1500e-003		167.5464
Total	**0.7309**	**10.5966**	**9.0677**	**0.0290**	**0.8061**	**0.1587**	**0.9648**	**0.2193**	**0.1460**	**0.3652**		**2,887.8080**	**2,887.8080**	**0.0290**		**2,888.4160**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

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
	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

Unmitigated Construction Off-Site

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
	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	0.0766	0.1029	1.0764	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8251	200.8251	0.0110		201.0556
Total	**0.0766**	**0.1029**	**1.0764**	**2.3900e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**200.8251**	**200.8251**	**0.0110**		**201.0556**

Mitigated Construction On-Site

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
	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

Mitigated Construction Off-Site

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
	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	0.0766	0.1029	1.0764	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8251	200.8251	0.0110		201.0556
Total	**0.0766**	**0.1029**	**1.0764**	**2.3900e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**200.8251**	**200.8251**	**0.0110**		**201.0556**

3.4 Grading - 2016

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	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

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	0.0851	0.1144	1.1960	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1390	223.1390	0.0122		223.3952
Total	**0.0851**	**0.1144**	**1.1960**	**2.6500e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**223.1390**	**223.1390**	**0.0122**		**223.3952**

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

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	0.0851	0.1144	1.1960	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1390	223.1390	0.0122		223.3952
Total	**0.0851**	**0.1144**	**1.1960**	**2.6500e-003**	**0.2236**	**1.8700e-003**	**0.2254**	**0.0593**	**1.7200e-003**	**0.0610**		**223.1390**	**223.1390**	**0.0122**		**223.3952**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0255	9.9724	13.4090	0.0242	0.7000	0.1596	0.8595	0.1993	0.1467	0.3461		2,423.3378	2,423.3378	0.0181		2,423.7169
Worker	1.2172	1.6356	17.1029	0.0380	3.1968	0.0267	3.2235	0.8478	0.0246	0.8724		3,190.8882	3,190.8882	0.1744		3,194.5508
Total	**2.2427**	**11.6081**	**30.5118**	**0.0622**	**3.8968**	**0.1863**	**4.0831**	**1.0472**	**0.1713**	**1.2185**		**5,614.2259**	**5,614.2259**	**0.1925**		**5,618.2677**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0255	9.9724	13.4090	0.0242	0.7000	0.1596	0.8595	0.1993	0.1467	0.3461		2,423.3378	2,423.3378	0.0181		2,423.7169
Worker	1.2172	1.6356	17.1029	0.0380	3.1968	0.0267	3.2235	0.8478	0.0246	0.8724		3,190.8882	3,190.8882	0.1744		3,194.5508
Total	**2.2427**	**11.6081**	**30.5118**	**0.0622**	**3.8968**	**0.1863**	**4.0831**	**1.0472**	**0.1713**	**1.2185**		**5,614.2259**	**5,614.2259**	**0.1925**		**5,618.2677**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

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	0.9367	9.0751	12.7296	0.0242	0.7002	0.1423	0.8425	0.1994	0.1309	0.3303		2,384.0753	2,384.0753	0.0175		2,384.4425
Worker	1.0918	1.4767	15.4217	0.0379	3.1968	0.0257	3.2225	0.8478	0.0237	0.8715		3,068.3392	3,068.3392	0.1610		3,071.7194
Total	**2.0285**	**10.5518**	**28.1513**	**0.0621**	**3.8970**	**0.1680**	**4.0650**	**1.0472**	**0.1546**	**1.2019**		**5,452.4145**	**5,452.4145**	**0.1784**		**5,456.1619**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

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	0.9367	9.0751	12.7296	0.0242	0.7002	0.1423	0.8425	0.1994	0.1309	0.3303		2,384.0753	2,384.0753	0.0175		2,384.4425
Worker	1.0918	1.4767	15.4217	0.0379	3.1968	0.0257	3.2225	0.8478	0.0237	0.8715		3,068.3392	3,068.3392	0.1610		3,071.7194
Total	**2.0285**	**10.5518**	**28.1513**	**0.0621**	**3.8970**	**0.1680**	**4.0650**	**1.0472**	**0.1546**	**1.2019**		**5,452.4145**	**5,452.4145**	**0.1784**		**5,456.1619**

3.6 Paving - 2017

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.8161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7235**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

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	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.0573**	**0.0775**	**0.8088**	**1.9900e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**160.9269**	**160.9269**	**8.4400e-003**		**161.1042**

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.8161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7235**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**	**0.0000**	**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

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	0.0573	0.0775	0.8088	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9269	160.9269	8.4400e-003		161.1042
Total	**0.0573**	**0.0775**	**0.8088**	**1.9900e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**160.9269**	**160.9269**	**8.4400e-003**		**161.1042**

3.7 Architectural Coating - 2017

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	71.6390					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**71.9714**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.2176	0.2943	3.0736	7.5600e-003	0.6371	5.1200e-003	0.6423	0.1690	4.7300e-003	0.1737		611.5221	611.5221	0.0321		612.1958
Total	**0.2176**	**0.2943**	**3.0736**	**7.5600e-003**	**0.6371**	**5.1200e-003**	**0.6423**	**0.1690**	**4.7300e-003**	**0.1737**		**611.5221**	**611.5221**	**0.0321**		**612.1958**

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	71.6390					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**71.9714**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.2176	0.2943	3.0736	7.5600e-003	0.6371	5.1200e-003	0.6423	0.1690	4.7300e-003	0.1737		611.5221	611.5221	0.0321		612.1958
Total	**0.2176**	**0.2943**	**3.0736**	**7.5600e-003**	**0.6371**	**5.1200e-003**	**0.6423**	**0.1690**	**4.7300e-003**	**0.1737**		**611.5221**	**611.5221**	**0.0321**		**612.1958**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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
	lb/day										lb/day					
Mitigated	3.0246	32.0118	40.5422	0.1413	7.0155	0.5347	7.5502	1.8976	0.4920	2.3896		12,803.3647	12,803.3647	0.2184		12,807.9519
Unmitigated	3.0246	32.0118	40.5422	0.1413	7.0155	0.5347	7.5502	1.8976	0.4920	2.3896		12,803.3647	12,803.3647	0.2184		12,807.9519

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		
Unrefrigerated Warehouse-No Rail	517.44	517.44	517.44	3,184,553	3,184,553
Total	517.44	517.44	517.44	3,184,553	3,184,553

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
Unrefrigerated Warehouse-No Rail	16.60	0.00	17.41	62.00	0.00	38.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.618000	0.000000	0.000000	0.000000	0.064600	0.000000	0.087000	0.230400	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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
	lb/day										lb/day					
NaturalGas Mitigated	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
NaturalGas Unmitigated	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410

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 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
Unrefrigerated Warehouse-No Rail	1805.81	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
Total		**0.0195**	**0.1770**	**0.1487**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**		**212.4480**	**212.4480**	**4.0700e-003**	**3.8900e-003**	**213.7410**

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					
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
Unrefrigerated Warehouse-No Rail	1.80581	0.0195	0.1770	0.1487	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.4480	212.4480	4.0700e-003	3.8900e-003	213.7410
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
Total		**0.0195**	**0.1770**	**0.1487**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**		**212.4480**	**212.4480**	**4.0700e-003**	**3.8900e-003**	**213.7410**

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	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Unmitigated	16.1396	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963

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	2.6523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4832					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1100e-003	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Total	**16.1396**	**4.0000e-004**	**0.0430**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0910**	**0.0910**	**2.5000e-004**		**0.0963**

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	2.6523					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4832					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1100e-003	4.0000e-004	0.0430	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0910	0.0910	2.5000e-004		0.0963
Total	**16.1396**	**4.0000e-004**	**0.0430**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0910**	**0.0910**	**2.5000e-004**		**0.0963**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Attachment B:
Final Hydrology Study

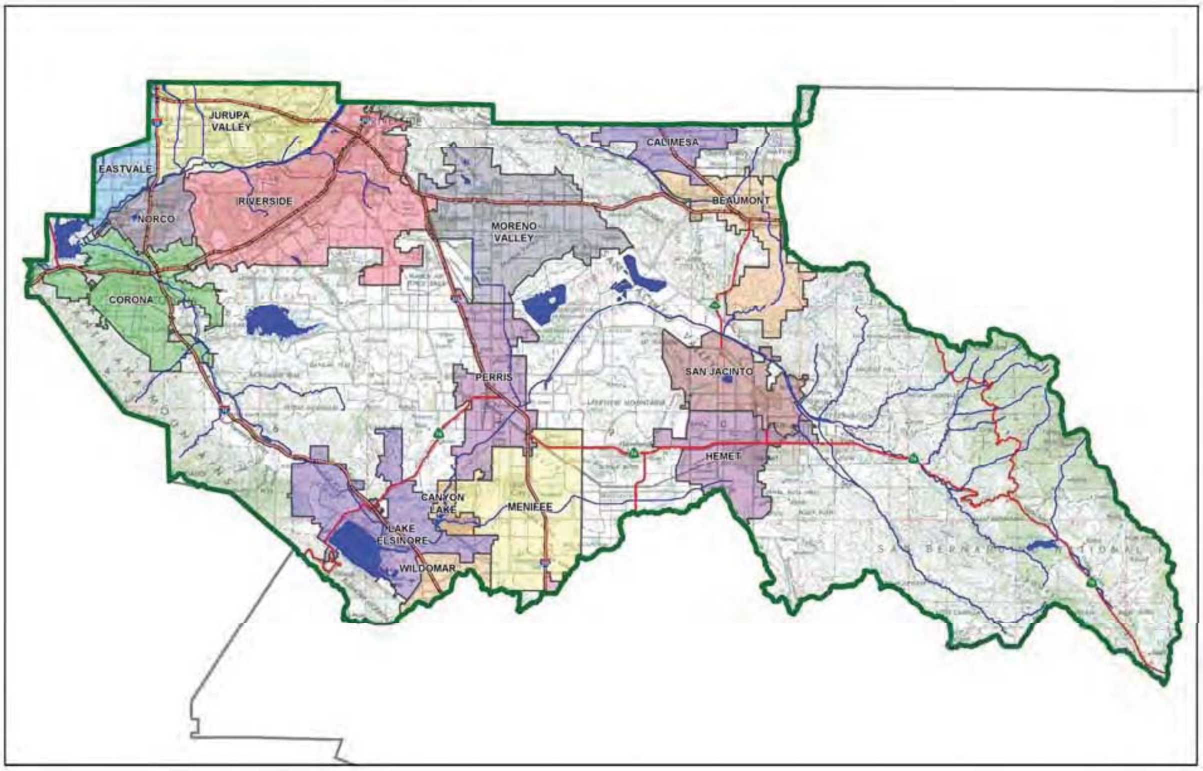
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: Center Street Industrial Block

Public Works No: ________

Design Review/Case No: P14-1033



Contact Information:

Prepared for: Transition Properties
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1500 Iowa Avenue, Suite 210
Riverside, CA 92507
Attn: Andrew Woodard, PE

☒ **Preliminary**
☐ **Final**

Original Date Prepared: October 9, 2014

Revision Date(s): N/A

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for Transition Properties by Psomas. for the Center Street Industrial Block project.

This WQMP is intended to comply with the requirements of the City of Riverside for design review of the proposed 308,000 SF industrial complex, Planning Case No. P14-1033 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under the City of Riverside Water Quality Ordinance (Municipal Code Section 14.12.315).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	Date
Andrew Woodard, PE	Project Engineer
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure:

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List of Tables

List of Appendices

Section A: Project and Site Information

This project is a proposal to build a new industrial building and adjoining parking lot on APNs 246-070-002, 017, 246-040-026, and 027. Stormwater from the site will be treated by an infiltration basin at the Southeast corner of the site.

PROJECT INFORMATION	
Type of Project:	Commercial warehouse
Planning Area:	Ward 1, City of Riverside, County of Riverside
Community Name:	Northside
Development Name:	Center Street Industrial Block
PROJECT LOCATION	
Latitude & Longitude (DMS): 34° 01' 07"N, 117° 21' 18"W	
Project Watershed and Sub-Watershed: Santa Ana; Santa Ana River, Reach 3	
APN(s): 246-070-002, 017, 246-040-026, and 027	
Map Book and Page No.: Book 1, Page 20 of Maps, Riverside County Records	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Industrial Warehouse
Proposed or Potential SIC Code(s)	4225
Area of Impervious Project Footprint (SF)	582,839 SF
Total Area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	582,839 SF
Does the project consist of offsite road improvements?	☒ Y ☐ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the project limits (SF)	0 SF
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	N/A
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	N/A
What is the Water Quality Design Storm Depth for the project?	0.65 in

A.1 Maps and Site Plans

Appendix 1 includes a map of the local vicinity and existing site. In addition, WQMP Site Plan, located in Appendix 1, includes the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling

A.2 Receiving Waters

In order of upstream to downstream, the receiving waters the project site is tributary to are as follows:

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Lake Evans (801.27)	**None**	**REC1, REC2, WARM, COLD, WILD**	**Not a water body classified as RARE**
Santa Ana River, Reach 3 (801.21)	**Pathogens**	**AGR, GWR, REC1, REC2, WILD, WARM, RARE**	**2.5 Miles**
Prado Basin Management Zone (801.11)	None	REC1, REC2, WARM, WILD, RARE	19 Miles
Santa Ana River, Reach 2 (801.11)	None	AGR, GWR, REC1, REC2, WILD, WARM, RARE	21 Miles
Santa Ana River, Reach 1 (801.11)	None	REC1, REC2, WILD, WARM	Not a water body classified as RARE
Tidal Prism of Santa Ana River (to within 1000' of Victoria Street) and Newport Slough (801.11)	None	REC1, REC2, COMM, WILD, RARE, MAR	45 Miles
Pacific Ocean Nearshore Zone (801.11)	None	IND, NAV, REC1, REC2, COMM, WILD, RARE, SPWN, MAR, SHEL	49 Miles
Pacific Ocean Offshore Zone (---)	None	IND, NAV, REC1, REC2, COMM, WILD, RARE, SPWN, MAR	52 Miles

Note: Proximate receiving waters are identified in bold.

See Receiving Waters Diagram in Appendix 1

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*		
City of Riverside Conditional Use Permit	☐ Y	☒ N
City of Riverside Design Review	☒ Y	☐ N
City of Riverside Building Permit	☒ Y	☐ N
City of Riverside Grading Permit	☒ Y	☐ N
City of Riverside Construction Permit	☒ Y	☐ N

Section B: Optimize Site Utilization (LID Principles)

Site Optimization

Does the project identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, this site strives to keep the drainage proceeding to the south westerly corner of the site, which is where the historical flows have always gone. In addition, there are historic tributary flows that are entering this site from the north westerly corner of the site in a concentrated manner. The existing drainage pattern included ponding on Center Street. The proposed site will included a 20 foot wide drainage easement to carry the offsite flows through the site and outlet into Placentia Lane.

Does the project identify and protect existing vegetation? If so, how? If not, why?

No, the existing site is in a rural area and what little vegetation that is place does not lend itself to the development standards. New landscaping is proposed and will be integrated into the proposed parking lot and street adjacent landscaped areas.

Does the project identify and preserve natural infiltration capacity? If so, how? If not, why?

Yes, the current infiltration capacity is comprised of the existing soils natural infiltration ability. The proposed site layout includes an infiltration basin that will serve to mimic and exceed the existing infiltration capacity.

Does the project identify and minimize impervious area? If so, how? If not, why?

Yes, landscaped areas are distributed equally throughout the parking lot and the south easterly corner of the site will serve as a landscaped infiltration basin.

Does the project identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Yes, the proposed building will have roof drains that are directed over proposed landscaped areas before being routed to the landscaped infiltration basin.

Section C: Delineate Drainage Management Areas (DMAs)

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)	Area (Sq. Ft.)	DMA Type
1-A	Concrete	5917	D
1-B	Landscape	51098	D
1-C	Roofs	303591	D
1-D	Asphalt	194632	D
1-E	Landscaped Infiltration Basin	20210	D
2-B	Natural Soil (C)	11745	A
3-A	Concrete	5355	D
3-B	Landscape	4308	D
3-D	Roofs	22992	D
3-E	Infiltration Trench	803	D
4-A	Concrete	7419	D
4-B	Landscape	9418	D
4-D	Roofs	30720	D
4-E	Infiltration Trench	925	D
5-F	Landscape	11647	A

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
2-B	11745	Natural Channel with Depressed Overflow Outlet	N/A
3-F	11647	Ornamental Landscape	Per approved Landscape Architects Plan

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	**Post-project surface type**	**Area (square feet)** **[A]**	**Storm Depth (inches)** **[B]**	**DMA Name / ID**	**[C] from Table C.4 =** **[C]**	**Required Retention Depth (inches)** **[D]**
1-E	Landscaped Infiltration Basin	20210	0.65	1-Total	455337.1	15.3
3-E	Infiltration Trench	803	0.65	3-Total	25761.5	21.5

Self-Retaining Area				Type 'C' DMAs that are draining to the Self-Retaining Area		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]
4-E	Infiltration Trench	925	0.65	4-Total	35060.2	25.3

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet) [A]	Post-project surface type	Runoff factor [B]	Product [C] = [A] x [B]	DMA name /ID	Area (square feet) [D]	Ratio [C]/[D]
1-A	5917	Concrete	0.89	5278	1-E	20210	22.5:1*
1-B	51098	Landscape	0.11	5644.2			
1-C	303591	Roofs	0.89	270803.2			
1-D	194632	Asphalt	0.89	173611.7			
Total	**555238**	---	---	**455337.1**			
3-A	5355	Concrete	0.89	4776.7	3-E	803	32:1*
3-B	4308	Landscape	0.11	475.9			
3-D	22992	Asphalt	0.89	20508.9			
3-Total	**32655**	---	---	**25761.5**			

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet) [A]	Post-project surface type	Runoff factor [B]	Product [C] = [A] x [B]	DMA name /ID	Area (square feet) [D]	Ratio [C]/[D]
4-A	7419	Concrete	0.89	6617.7	4-E	925	37.9:1*
4-B	9418	Landscape	0.11	1040.3			
4-D	30720	Asphalt	0.89	27402.2			
4-Total	**47557**	---	---	**35060.2**			

*Does not meet 2:1 Criteria, Area will drain to Type 'D' BMP.

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
1-E	1-All
3-E	2-All
4-E	3-All

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (ref: Chapter 2.4.4 of the WQMP Guidance Document)? ☐ Y ☒ N

Geotechnical Report

A Geotechnical Report is required by the City of Riverside to confirm present and past site characteristics that may affect the use of Infiltration BMPs, see Appendix 3.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?		X
If Yes, list affected DMAs:		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

D.2 Harvest and Use Assessment

The following conditions apply*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐ Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verified with the City of Riverside).

☐ The Design Capture Volume will be addressed using Infiltration Only BMPs. (Harvest and Use BMPs are still encouraged, but are not required as the Design Capture Volume will be infiltrated or evapotranspired).

☒ None of the above.

Harvest and Use BMPs need not be assessed for the site.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

For the project, the following applies:

☐ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5.

☒ None of the above.

D.4 Feasibility Assessment Summaries

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
1-A	☒	☐	☐	☐	☐
1-B	☒	☐	☐	☐	☐
1-C	☒	☐	☐	☐	☐
1-D	☒	☐	☐	☐	☐
1-E	☒	☐	☐	☐	☐
2-B	☒	☐	☐	☐	☐

D.5 LID BMP Sizing

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DMA 1*		
	[A]		[B]	[C]	[A] x [C]			
1-A	5917	Concrete	*1*	*0.89*	5278	*Design Storm Depth (in)*	*Design Capture Volume,* **V_{BMP}** *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1-B	51098	Landscape	*0.1*	*0.11*	5644.2			
1-C	303591	Roofs	*1*	*0.89*	270803.2			
1-D	194632	Asphalt	*1*	*0.89*	173611.7			
1-E	20210	Landscaped Infiltration Basin	*0.1*	*0.11*	*2232.4*			
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D]x[E]}{12}$	[G]
	575448				457569.5	0.65	24785	101050

[B], [C] are obtained from Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

Table D.4 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DMA 2*		
	[A]		[B]	[C]	[A] x [C]			
2-B	*11745*	Natural Soil (C)	*0.3*	*0.23*	*2644.6*	*Design Storm Depth (in)*	*Design Capture Volume,* **V_{BMP}** *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D]x[E]}{12}$	[G]
	11745				2644.5	0.65	143.2	2500

[B], [C] are obtained from Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

Table D.5 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DMA 3*		
	[A]		[B]	[C]	[A] x [C]			
3-A	5355	Concrete	*1*	*0.89*	4776.7	*Design Storm Depth (in)*	*Design Capture Volume,* **V_{BMP}** *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
3-B	4308	Landscape	*0.1*	*0.11*	475.9			
3-D	22992	Asphalt	*1*	*0.89*	20508.9			
3-E	803	Infiltration Trench	*0.1*	*0.11*	*88.7*			
	$A_T = \Sigma[A]$				$\Sigma= [D]$	[E]	$[F] = \frac{[D]x[E]}{12}$	[G]
	33458				25850.2	0.65	1400.2	1767

[B], [C] are obtained from Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

Table D.6 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*DMA 4*		
	[A]		[B]	[C]	[A] x [C]			
4-A	7419	Concrete	*1*	*0.89*	6617.7	*Design Storm Depth (in)*	*Design Capture Volume,* **V_{BMP}** *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
4-B	9418	Landscape	*0.1*	*0.11*	1040.3			
4-D	30720	Asphalt	*1*	*0.89*	27402.2			
4-E	925	Infiltration Trench	*0.1*	*0.11*	*102.2*			
	$A_T = \Sigma[A]$				$\Sigma= [D]$	[E]	$[F] = \frac{[D]x[E]}{12}$	[G]
	48482				35162.4	0.65	1904.6	2035

[B], [C] are obtained from Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A of the WQMP Guidance Document
[G] is obtained from LID BMP design procedure sheet, placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to confirmation of LID waiver approval by the Regional Board). For the project, the following applies:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Regional Board and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

The project does not create a Hydrologic Condition of Concern, meeting the criteria for HCOC Exemption as shown below:

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

Results included in Table F.1 below and hydrologic analysis included in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	22.5	13	-42.2
Flow (CFS)	6.14	16.5	168.7
Volume (Cubic Feet)	12044	18728*	55.5

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

*Post-condition volume is less than the design capture volume of the infiltration basin.

HCOC EXEMPTION 3: All downstream conveyance channels that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on Hydromodification Sensitivity Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

F.2 HCOC Mitigation

As an alternative to the HCOC Exemption Criteria above, HCOC criteria is considered mitigated if the project meets one of the following conditions, as indicated:

☐ a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

☐ b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

☐ c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

☒ d. None of the above.

Note: The HCOC mitigation is not applicable due to the project meeting the HCOC exemption criteria.

Section G: Source Control BMPs

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
D2. Landscape/ Outdoor Pesticide Use	-Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. -Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest-resistant plants, especially adjacent to hardscape.	-Maintain landscaping using minimum or no pesticides. See applicable operational BMPs in "What you should know for Landscape and Gardening" at http://rcflood.org/stormwater
G. Refuse areas	-Refuse area shall have a sign posted stating "Do not dump hazardous materials here" or similar.	- Sweep refuse area regularly to prevent accumulation of litter and debris.
M. Loading Docks	-Loading area shall have a roof overhang or door skirts (cowling) at each bay that enclose the end of the trailer.	-Move loaded and unloaded items indoors as soon as possible.
P. Plazas, sidewalks, and parking lots.		-Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer, not to a storm drain.

Section H: Construction Plan Checklist

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Plan Sheet Number(s)	Latitude / Longitude
1-E	Infiltration Basin		34°01’01.0”N 117°21’13.0”W
2-B	Unlined Channel		34° 1'04.5"N 117°21'24.0"W
3-E	Infiltration Trench		34° 1'06"N 117°21'22.0"W
4-E	Infiltration Trench		34° 1'06"N 117°21'13.0"W

Section I: Operation, Maintenance and Funding

As required by the City of Riverside, the following Operation, Maintenance and Funding details are provided as summarized:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred.
3. An outline of general maintenance requirements for the Stormwater BMPs selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance.

See Appendix 9 for a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on site, and an agreement assigning responsibility for maintenance and providing for inspections and certification.

Maintenance Mechanism: **<u>Covenant & Agreement</u>**

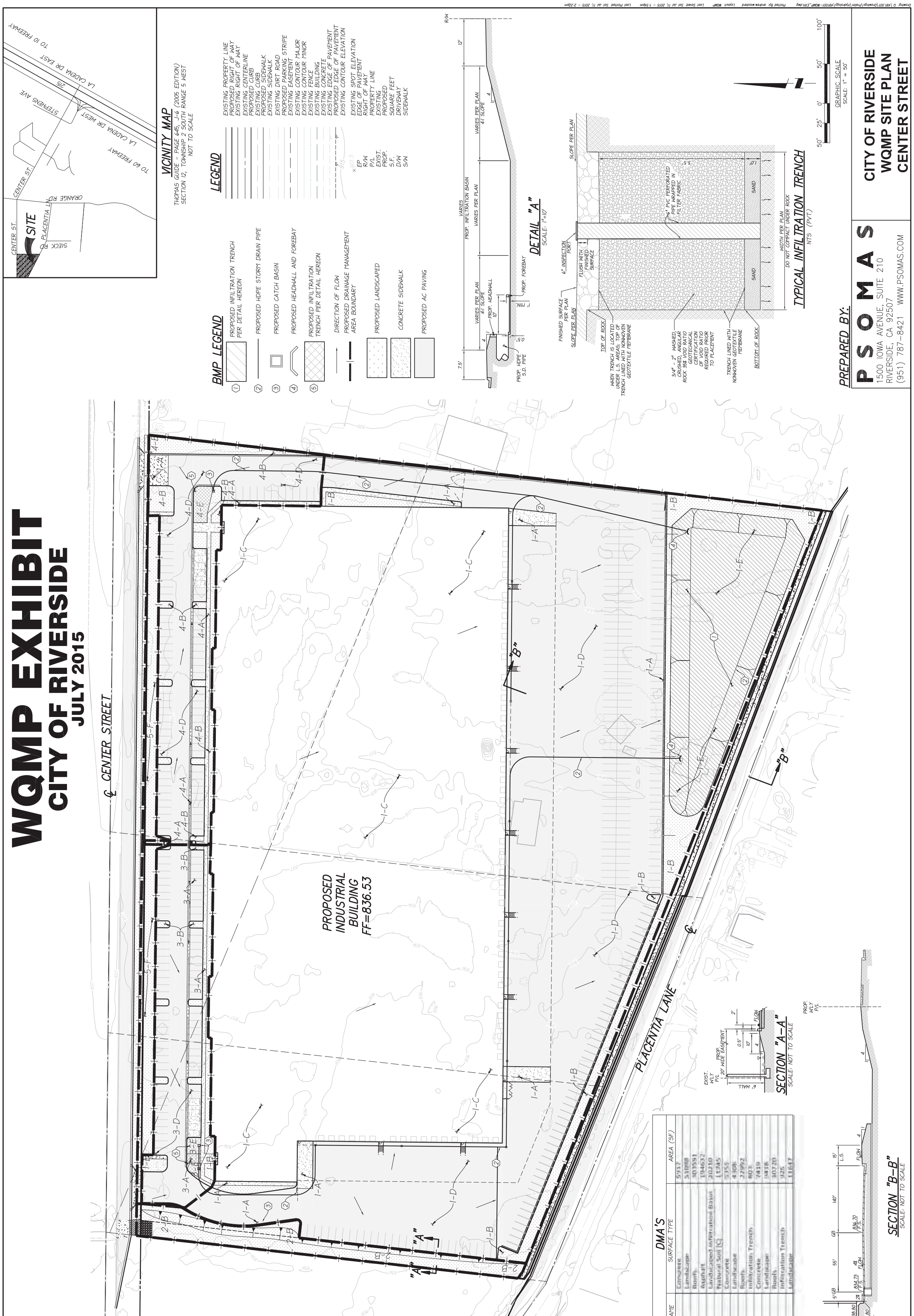
Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N **<u>Property Owner is Responsible</u>**

Operation and Maintenance Plan and Maintenance Mechanism are included in Appendix 9. Educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP are included in Appendix 10.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map


WQMP EXHIBIT
CITY OF RIVERSIDE
JULY 2015
CENTER STREET
PLACENTIA LANE
PROPOSED INDUSTRIAL BUILDING FF=836.53
CITY OF RIVERSIDE
WQMP SITE PLAN
CENTER STREET
PREPARED BY:
PSOMAS
1500 IOWA AVENUE, SUITE 210
RIVERSIDE, CA 92507
(951) 787-8421 WWW.PSOMAS.COM


CENTER ST. INDUSTRIAL BLOCK
POST-DEVELOPMENT HYDROLOGY KEY MAP
CITY OF RIVERSIDE
GRAPHIC SCALE
SCALE: 1" = 150
150 75 0' 150 300
LEGEND
DRAINAGE AREA DESIGNATION
DIRECTION OF FLOW
PREPARED BY:
PSOMAS
1500 IOWA AVENUE, SUITE 210
RIVERSIDE, CA 92507
(951) 787-8421 WWW.PSOMAS.COM
CITY OF RIVERSIDE
CENTER ST. INDUSTRIAL BLOCK
POST-DEVELOPMENT
HYDROLOGY KEY MAP
CENTER STREET
PLACENTIA LANE

CENTER ST. INDUSTRIAL BLOCK
PRE-DEVELOPMENT HYDROLOGY KEY MAP
CITY OF RIVERSIDE

150 75 0' 150 300

GRAPHIC SCALE
SCALE: 1" = 150

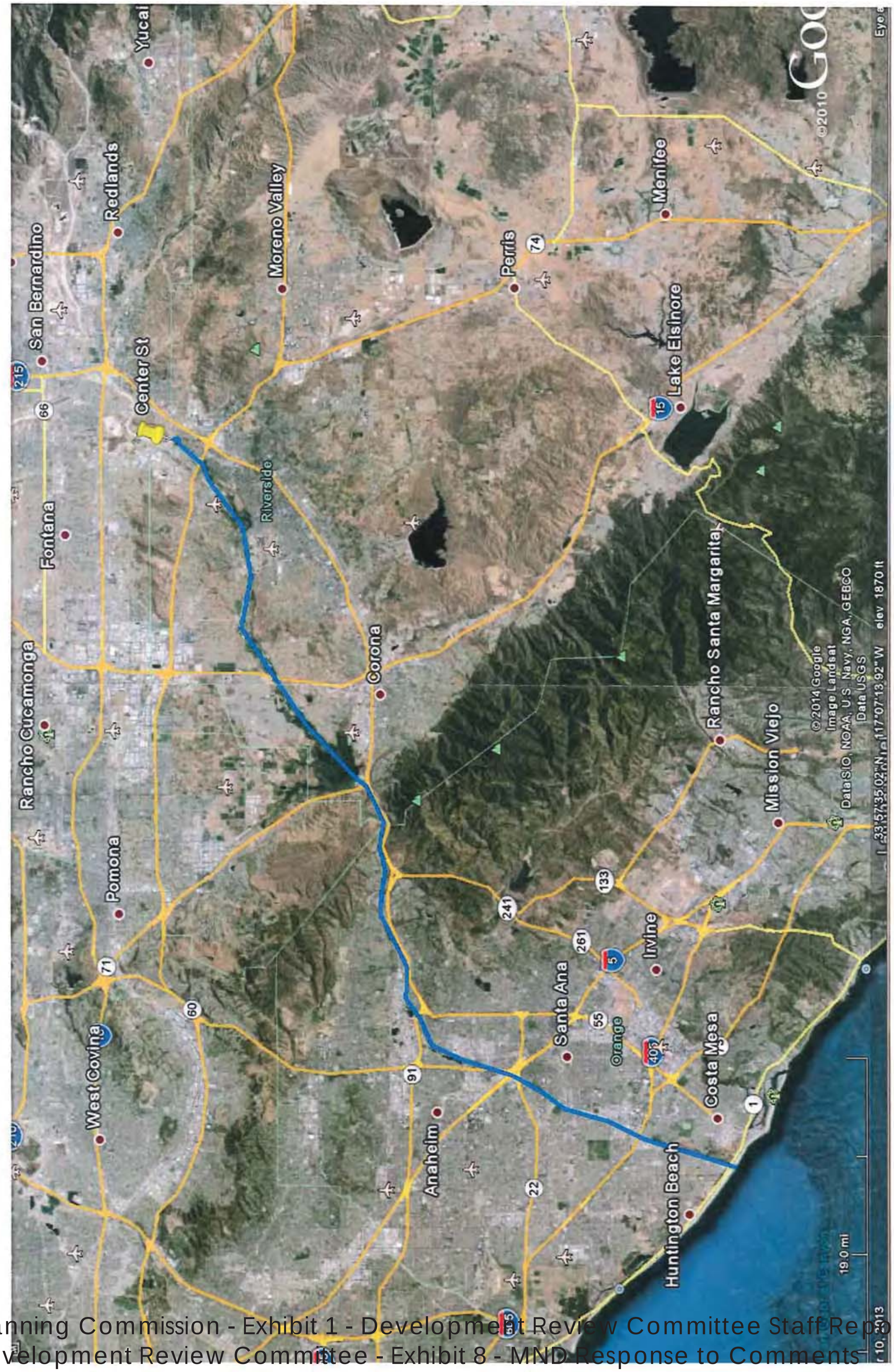
LEGEND

DRAINAGE AREA DESIGNATION
DIRECTION OF FLOW

PREPARED BY:
PSOMAS
1500 IOWA AVENUE, SUITE 210
RIVERSIDE, CA 92507
(951) 787-8421 WWW.PSOMAS.COM

CITY OF RIVERSIDE
CENTER ST. INDUSTRIAL BLOCK
PRE-DEVELOPMENT
HYDROLOGY KEY MAP

Drawing: G:\491.001\Drawings\Prelim\Hydrology\491001-PRE_DEV_HYD.dwg Plotted By: andrew.woodard Layout: 11x17 L Last Saved: Tue Nov 25, 2014 - 11:19am Last Plotted: Thu Dec 04, 2014 - 10:40am

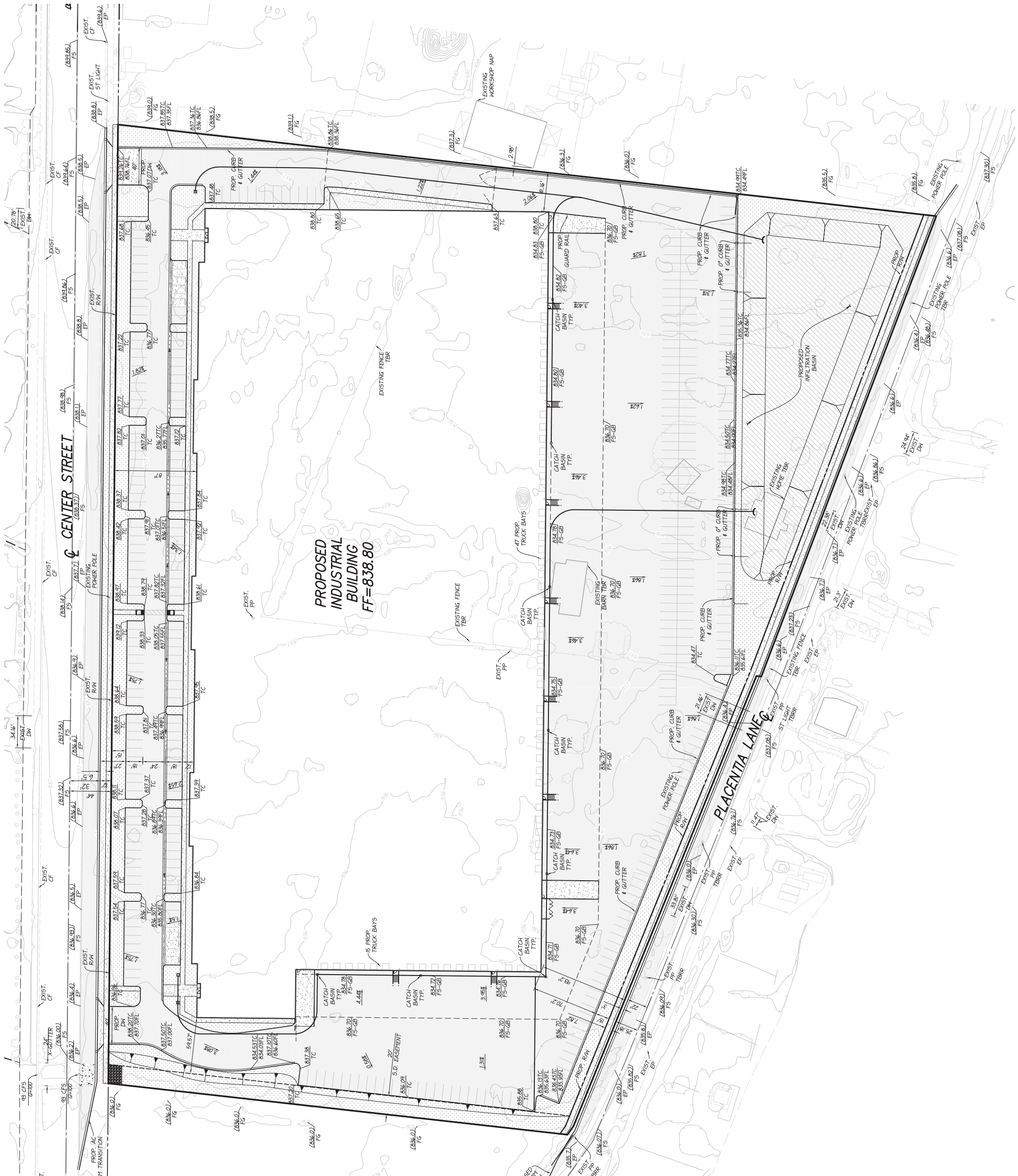


Planning Commission - Exhibit 1 - Development Review Committee Staff Report
Development Review Committee - Exhibit 8 - MND Response to Comments

Appendix 2: Construction Plans

Grading and Drainage Plans

Planning Commission - Exhibit 1 - Development Review Committee Staff Report
Development Review Committee - Exhibit 8 - MND Response to Comments



Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

N/A

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

N/A

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: Psomas
Date: 7/9/2015
Designed by: AW
Case No: P14-1033
Company Project Number/Name: 491.001

BMP Identification

BMP NAME / ID: 1-E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.65 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
1-A	5917	Concrete or Asphalt	1	0.89	5278			
1-B	51098	Ornamental Landscaping	0.1	0.11	5644.2			
1-C	303591	Roofs	1	0.89	270803.2			
1-D	194632	Concrete or Asphalt	1	0.89	173611.7			
1-E	20210	Ornamental Landscaping	0.1	0.11	2232.4			
	575448	*Total*			457569.5	0.65	24785	101050

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name: Psomas | Date: 7/9/2015

Designed by: AW | Case No: P14-1033

Company Project Number/Name: 491.001

BMP Identification

BMP NAME / ID: 2-E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.65 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
2-B	*11745*	*Natural (C Soil)*	*0.3*	*0.23*	*2644.6*			
	11745	***Total***			**2644.6**	**0.65**	***143.2***	***2500***

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries
Calculated Cells

(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)

Company Name: Psomas — Date: 7/9/2015
Designed by: AW — Case No: P14-1033
Company Project Number/Name: 491.001

BMP Identification

BMP NAME / ID: 3-E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E — D_{85}= 0.65 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
3-A	5355	Concrete or Asphalt	1	0.89	4776.7			
3-B	4308	Ornamental Landscaping	0.1	0.11	475.9			
3-D	22992	Concrete or Asphalt	1	0.89	20508.9			
3-E	803	Ornamental Landscaping	0.1	0.11	88.7			
	33458	**Total**			**25850.2**	**0.65**	**1400.2**	**1767**

Notes:

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	7/9/2015
Designed by	AW	Case No	P14-1033
Company Project Number/Name	491.001		

BMP Identification

BMP NAME / ID 4-E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth,
from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.65 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
4-A	7419	Concrete or Asphalt	1	0.89	6617.7			
4-B	9418	Ornamental Landscaping	0.1	0.11	1040.3			
4-D	30720	Concrete or Asphalt	1	0.89	27402.2			
4-E	925	Ornamental Landscaping	0.1	0.11	102.2			
	48482	**Total**			**35162.4**	**0.65**	**1904.6**	**2035**

Notes:

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID	Legend:	Required Entries
	1-E		Calculated Cells

Company Name:	Psomas	Date:	7/10/2015
Designed by:	ACW	County/City Case No.:	P14-1033

Design Volume

a) Tributary area (BMP subarea)	A_T =	13.2	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	24,709	ft^3

Maximum Depth

a) Infiltration rate	I =	10	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	12	
c) Calculate D_1 $\quad D_1 = \frac{\text{I (in/hr) x 72 hrs}}{\text{12 (in/ft) x FS}}$	D_1 =	5.0	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		31	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		100	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	20.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	5.0	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	6	:1
b) Proposed basin depth (excluding freeboard)	d_B =	5	ft
c) Minimum bottom surface area of basin (A_S= V_{BMP}/d_B)	A_S =	4942	ft^2
d) Proposed Design Surface Area	A_D =	20210	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	124	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	124	ft^2
d) Full height notch-type weir	Width (W) =	10.0	in

Notes:

Infiltration Trench - Design Procedure	BMP ID	Legend:	Required Entries
	3-E		Calculated Cells

Company Name:	Psomas	Date:	7/9/2015
Designed by:	AW	County/City Case No.:	P14-1033

Design Volume

Enter the area tributary to this feature, Max = 10 acres — A_t= 1 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook — V_{BMP}= 1,400 ft^3

Calculate Maximium Depth of the Reservoir Layer

Enter Infiltration rate — I = 10.0 in/hr

Enter Factor of Safety, FS (unitless) — FS = 5

Obtain from Table 1, Appendix A: "Infiltration Testing" of this BMP Handbook

n = 40 %

Calculate D_1.

$$D_1 = \frac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times (n/100) \times FS}$$

D_1 = 30.00 ft

Enter depth to historic high groundwater mark (measured from finished grade) — 31 ft

Enter depth to top of bedrock or impermeable layer (measured from finished grade) — 100 ft

D_2 is the smaller of:

Depth to groundwater - 11 ft; & Depth to impermeable layer - 6 ft — D_2 = 20.0 ft

D_{MAX} is the smaller value of D_1 and D_2, must be less than or equal to 8 feet. — D_{MAX}= 8.0 ft

Trench Sizing

Enter proposed reservoir layer depth D_R, must be $\leq D_{MAX}$ — D_R = 5.50 ft

Calculate the design depth of water, d_W

Design $d_W = (D_R) \times (n/100)$ — Design d_W= 2.20 ft

Minimum Surface Area, A_S — $A_S = \frac{V_{BMP}}{d_W}$ — A_S = 636 ft^2

Proposed Design Surface Area — A_D = 803 ft^2

Minimum Width = D_R + 1 foot pea gravel — 6.50 ft

Sediment Control Provided? (Use pulldown) — Yes

Geotechnical report attached? (Use pulldown) — Yes

If the trench has been designed correctly, there should be no error messages on the spreadsheet.

Infiltration Trench - Design Procedure	BMP ID	Legend:	Required Entries
	4-E		Calculated Cells

Company Name:	Psomas	Date:	7/9/2015
Designed by:	AW	County/City Case No.:	P14-1033

Design Volume

Enter the area tributary to this feature, Max = 10 acres — A_t= 1 acres

Enter V_{BMP} determined from Section 2.1 of this Handbook — V_{BMP}= 1,905 ft^3

Calculate Maximium Depth of the Reservoir Layer

Enter Infiltration rate — I = 10.0 in/hr

Enter Factor of Safety, FS (unitless) — FS = 5

Obtain from Table 1, Appendix A: "Infiltration Testing" of this BMP Handbook

n = 40 %

Calculate D_1.

$$D_1 = \frac{I \text{ (in/hr)} \times 72 \text{ hrs}}{12 \text{ (in/ft)} \times (n/100) \times FS}$$

D_1 = 30.00 ft

Enter depth to historic high groundwater mark (measured from finished grade) — 31 ft

Enter depth to top of bedrock or impermeable layer (measured from finished grade) — 100 ft

D_2 is the smaller of:

Depth to groundwater - 11 ft; & Depth to impermeable layer - 6 ft — D_2 = 20.0 ft

D_{MAX} is the smaller value of D_1 and D_2, must be less than or equal to 8 feet. — D_{MAX}= 8.0 ft

Trench Sizing

Enter proposed reservoir layer depth D_R, must be $\leq D_{MAX}$ — D_R = 5.50 ft

Calculate the design depth of water, d_W

$$\text{Design } d_W = (D_R) \times (n/100)$$

Design d_W= 2.20 ft

Minimum Surface Area, A_S

$$A_S = \frac{V_{BMP}}{d_W}$$

A_S = 866 ft^2

Proposed Design Surface Area — A_D = 925 ft^2

Minimum Width = D_R + 1 foot pea gravel — 6.50 ft

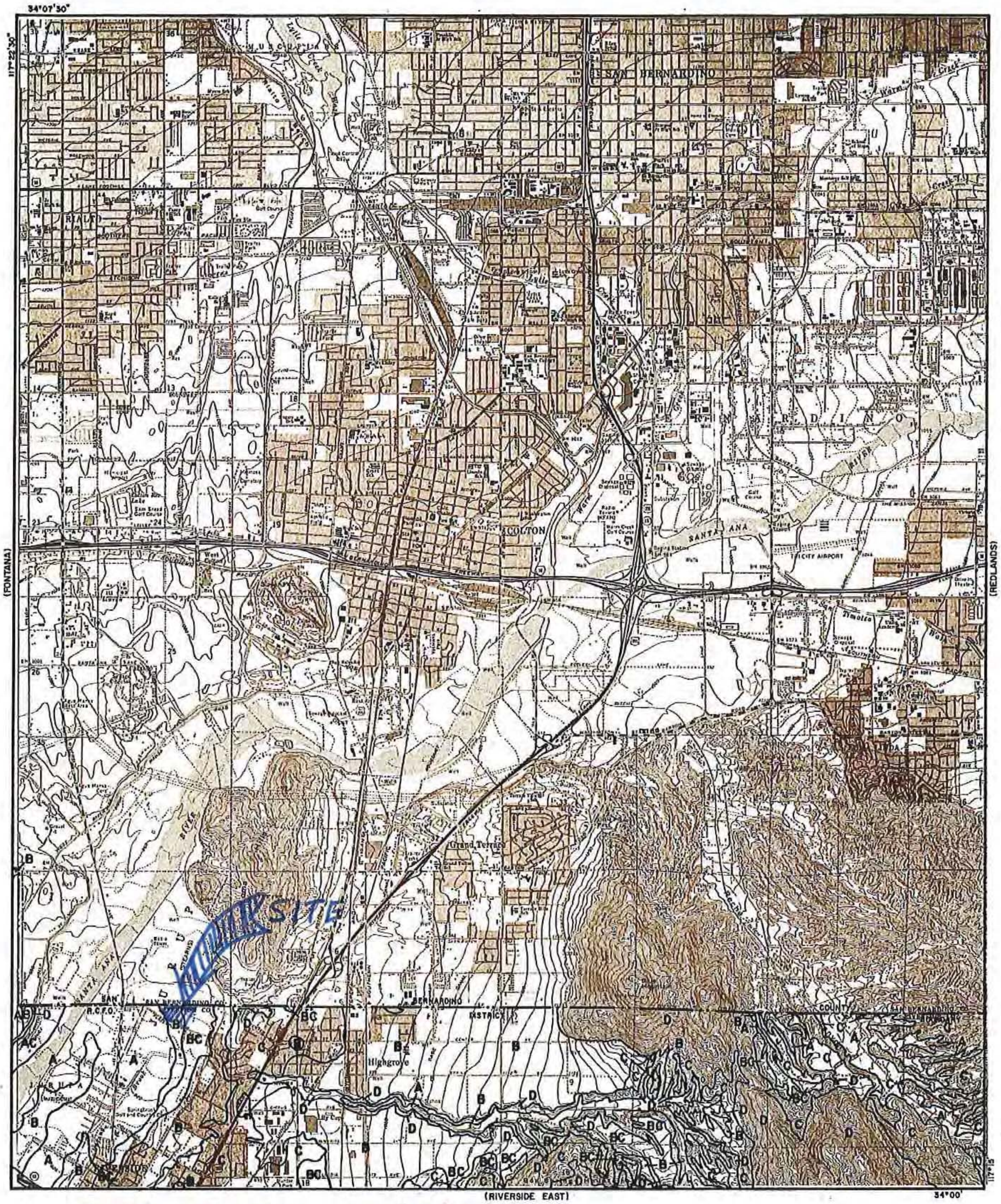
Sediment Control Provided? (Use pulldown)

Geotechnical report attached? (Use pulldown)

If the trench has been designed correctly, there should be no error messages on the spreadsheet.

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

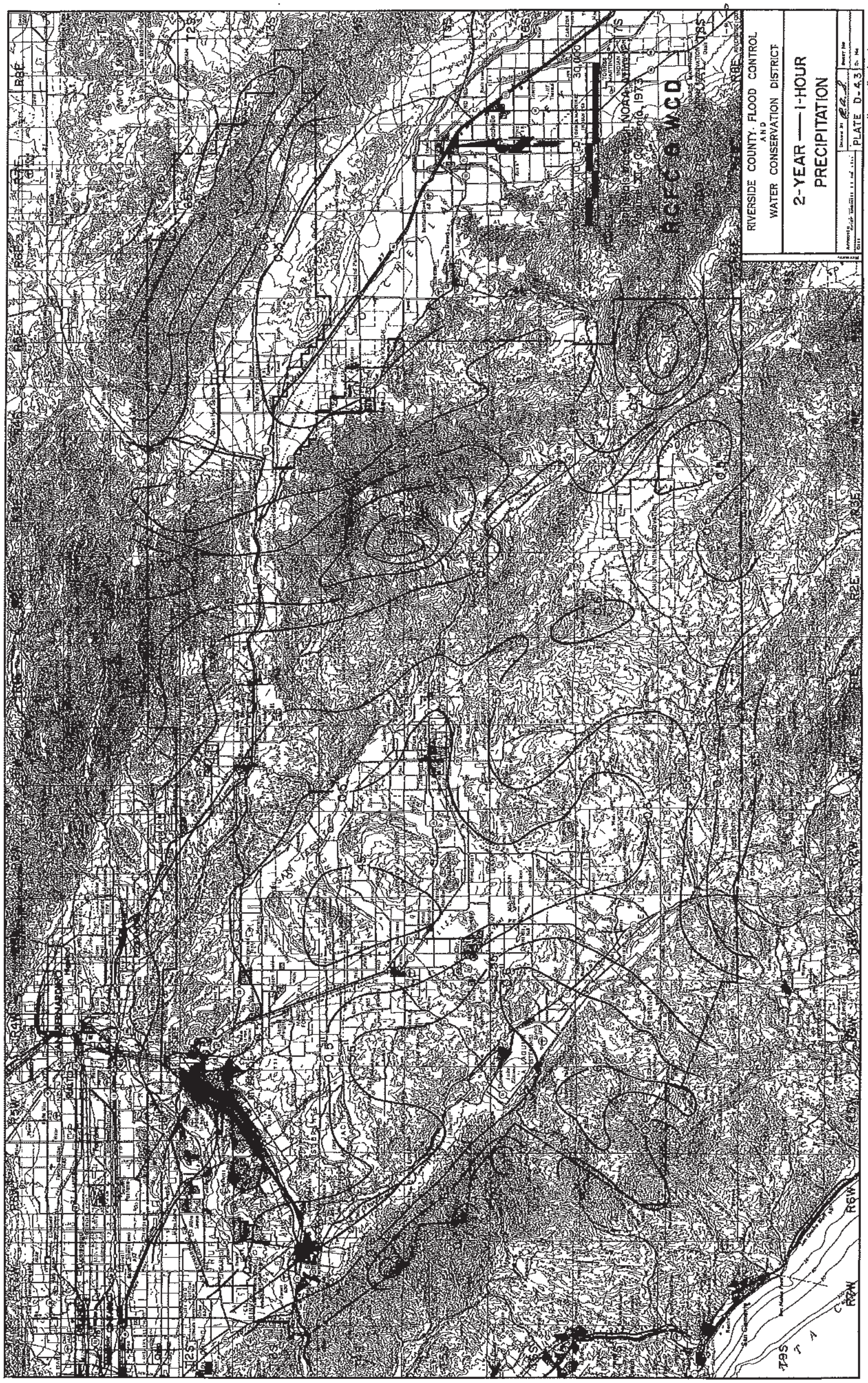
RCFC & WCD

HYDROLOGY MANUAL

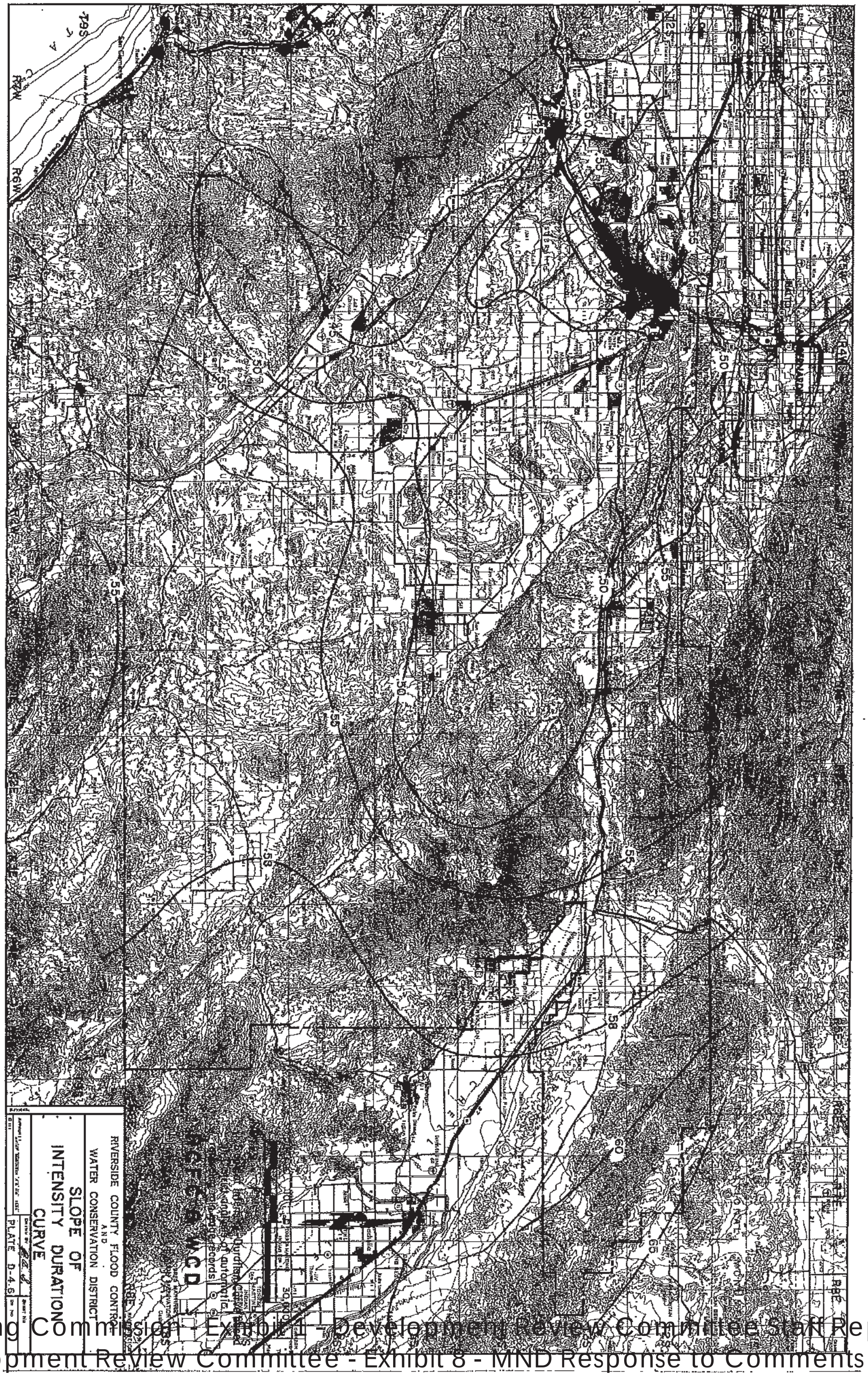
0 FEET 5000

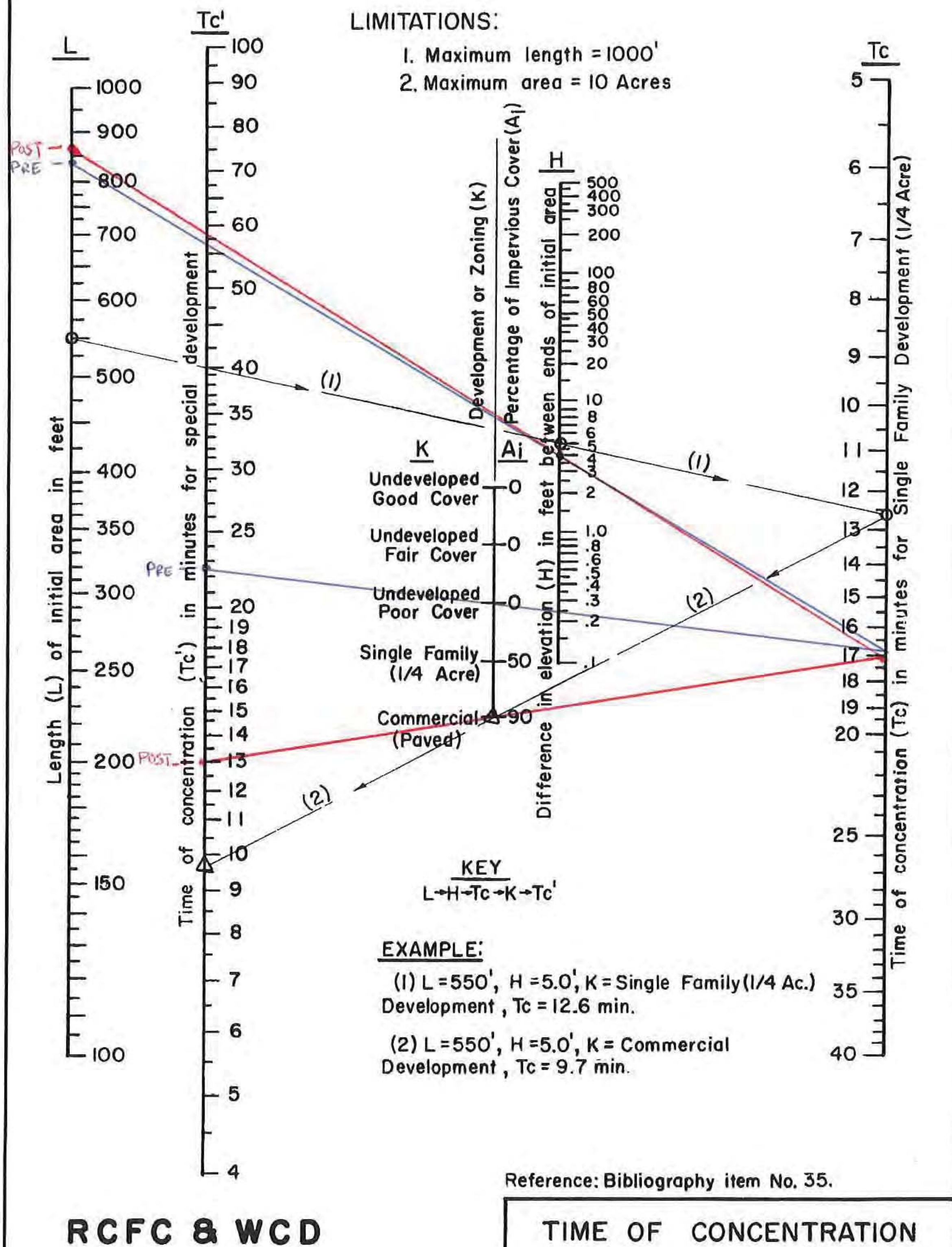
HYDROLOGIC SOILS GROUP MAP FOR SAN BERNARDINO-SOUTH

PLATE C-1.04



Planning Commission - Exhibit 1 - Development Review Committee Staff Report
Development Review Committee - Exhibit 8 - MND Response to Comments


RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
SLOPE OF
INTENSITY DURATION
CURVE
PLATE D-4.6

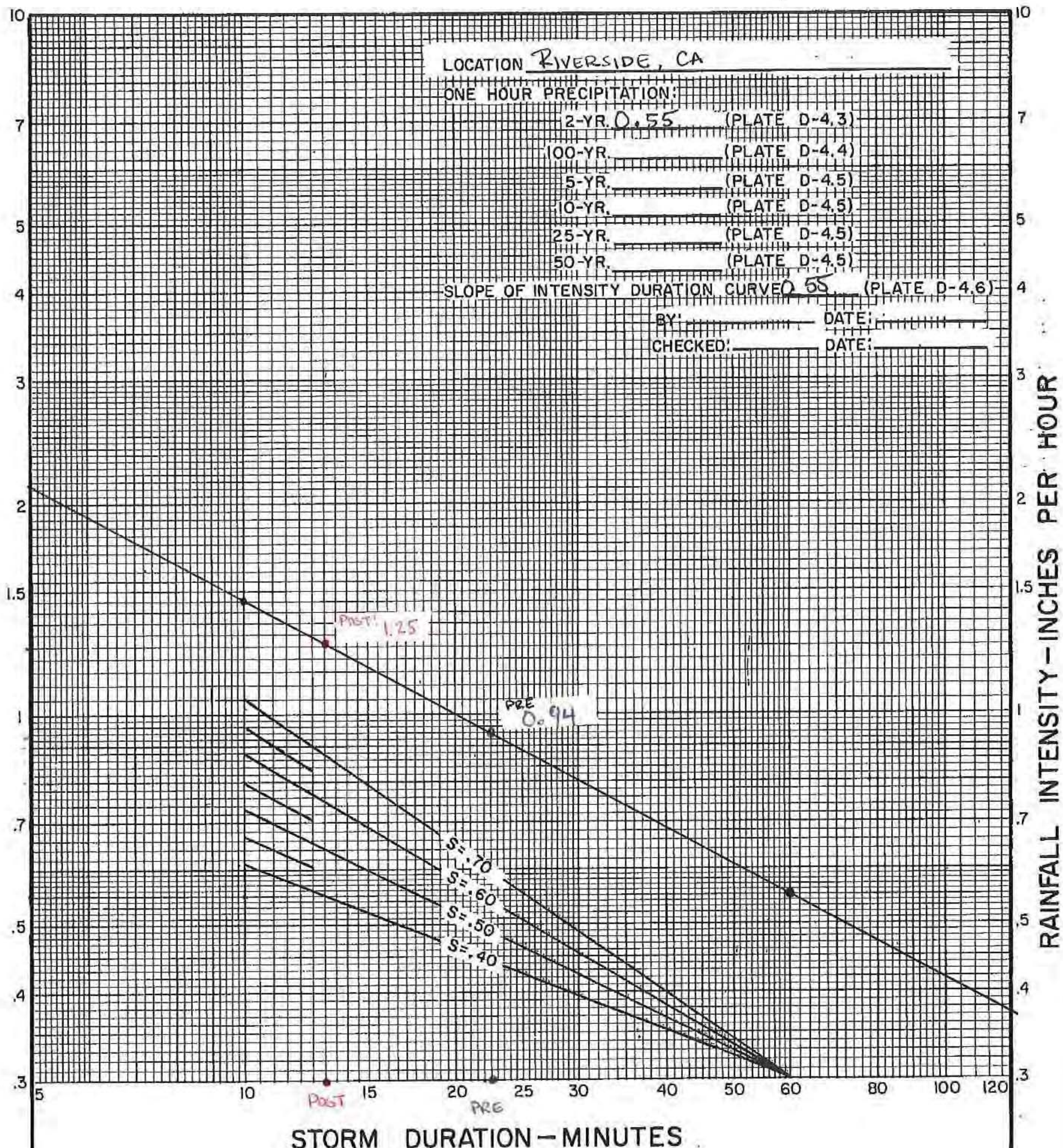


RCFC & WCD

HYDROLOGY MANUAL

TIME OF CONCENTRATION FOR INITIAL SUBAREA

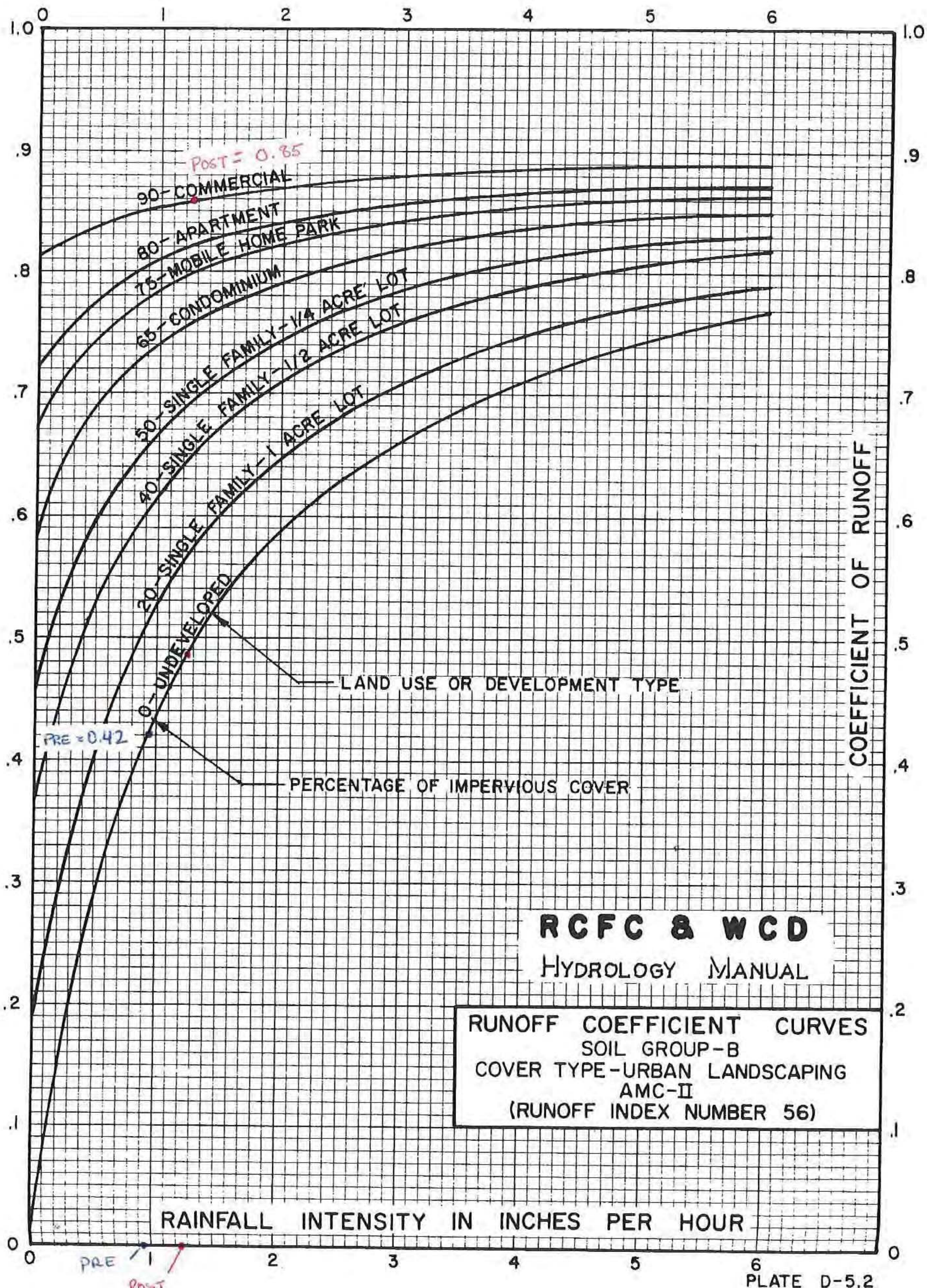
PLATE D-3



RCFC & WCD
HYDROLOGY MANUAL

INTENSITY – DURATION CURVES CALCULATION SHEET

PLATE D-4.7



POST = 0.85
90-COMMERCIAL
80-APARTMENT
75-MOBILE HOME PARK
65-CONDOMINIUM
50-SINGLE FAMILY-1/4 ACRE LOT
40-SINGLE FAMILY-1/2 ACRE LOT
20-SINGLE FAMILY-1 ACRE LOT
0-UNDEVELOPED
LAND USE OR DEVELOPMENT TYPE
PRE = 0.42
PERCENTAGE OF IMPERVIOUS COVER
COEFFICIENT OF RUNOFF
RCFC & WCD
HYDROLOGY MANUAL
RUNOFF COEFFICIENT CURVES
SOIL GROUP-B
COVER TYPE-URBAN LANDSCAPING
AMC-II
(RUNOFF INDEX NUMBER 56)
RAINFALL INTENSITY IN INCHES PER HOUR
PRE
POST
PLATE D-5.2

RCFC & WCD Hydrology Manual

RATIONAL METHOD CALCULATION FORM

Sheet No. ___ of ___ Sheets

PROJECT ______________________

FREQUENCY 2Yr · 1Hr

Calculated by __________ DATE ___

Checked by __________ DATE ___

DRAINAGE AREA	Soil & Development	A Acres	I In/hr.	C	ΔQ CFS	Σ Q CFS	SLOPE	SECTION	V FPS	L FT.	T MIN.	Σ T	REMARKS
PRE	UNDEVELOPED	15.55	0.94	0.42	6.14					840	22.5		
POST	COMMERCIAL	15.55	1.25	0.85	16.52					960	13		

PLATE D-2

WO 454.001

HYDROGRAPH FOR SMALL AREAS

Tc= 22.5

2 Year Pre

Q=C*I*A   C= 0.42   I= 0.94   A= 15.55 | 6.13914

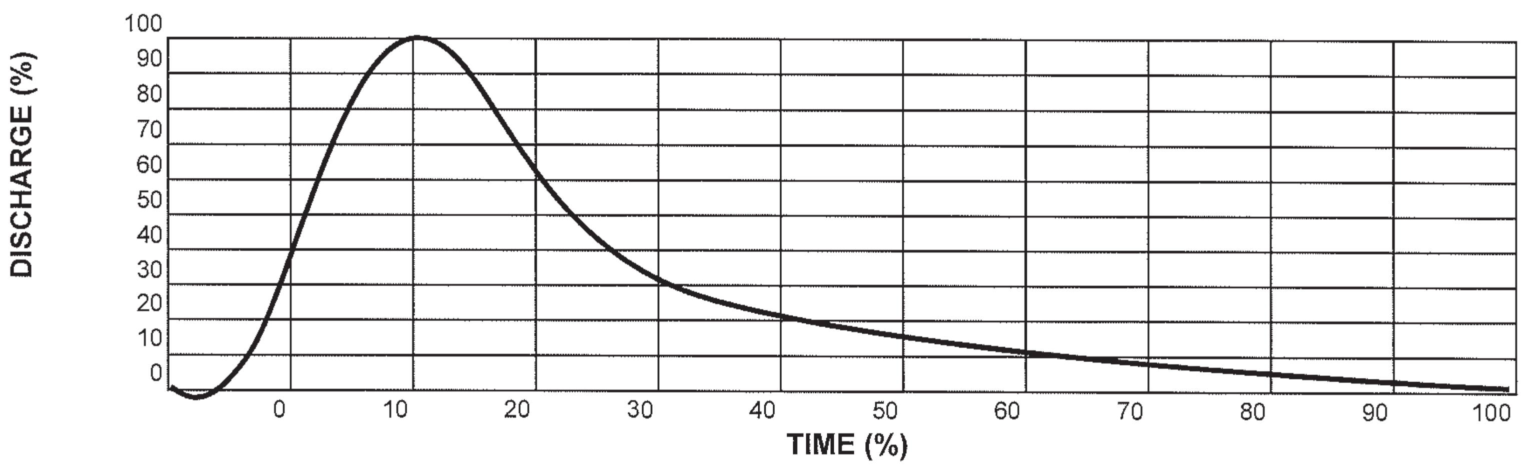
Total Time=Tc*5*60   Tc= 22.5 x 5 x 60 = 6750

Scale Factor= 1 sq. cm = Q/10 x Time/20

0.613914 x 337.5 = 207.196 CF/Sq CM

207.196 x 58.13 = 12044 CF

58.13 is a constant to convert area under the curve to cubic feet



HYDROGRAPH FOR SMALL AREAS

WO 454.001

Tc= 13

2 Year Post

Q=C*I*A C= 0.85 I= 1.25 A= 15.55 | 16.52188

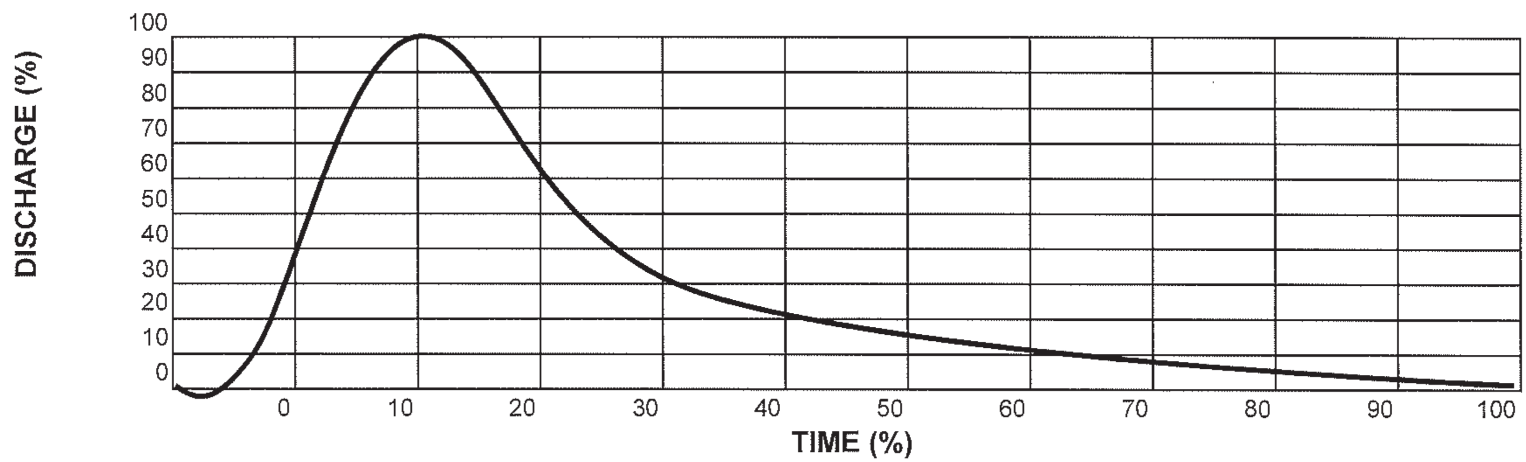
Total Time=Tc*5*60 Tc= 13 x 5 x 60 = 3900

Scale Factor= 1 sq. cm = Q/10 x Time/20

1.652188 x 195 = 322.1766 CF/Sq CM

322.1766 x 58.13 = 18728 CF

58.13 is a constant to convert area under the curve to cubic feet



Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Educational Materials included with this WQMP are the following:

1. "A citizen's guide to understanding Stormwater" from EPA 833-B-00-002.
2. Stormwater pollution what you should know for "Outdoor Cleaning Activities and Non-point Source Discharges" from CRFC
3. "Tips for a healthy pet and healthier environment" from CRFC.
4. CASQA Handouts

SD-10 Site Design & Landscape Planning

SD-11 Roof Runoff Controls

SD-12 Efficient Irrigation

SD-13 Storm Drain Signage

SC-10 Non-Stormwater Discharges

SC-41 Building and Grounds Maintenance

SC-43 Parking/Storage Area Maintenance

SC-44 Drainage System Maintenance

TC-11 Infiltration Basin

March 1, 2018

Rafael Guzman, Director
Community and Economic Development Department
City of Riverside
3900 Main Street
Riverside, California 92522

APPEAL OF DEVELOPMENTAL REVIEW COMMITTEE DECISION ON FEB. 21, 2018:
CENTER STREET COMMERCE CENTER PROJECT
PLANNING CASE P14-1033 & P14-1034

Dear Mr. Guzman:

We hereby appeal the Feb. 21, 2018 decision of the Developmental Review Committee to approve Planning Case P14-1033 (DR) and P14-1034 (LLA), CEQA determination and Mitigated Negative Declaration to the Planning Commission of the City of Riverside.

Our reasons are as follows, including but not limited to violations of:

1. State CEQA laws;
2. Ralph M. Brown Act;
3. State and local laws regarding actual and potential historical sites and landmarks;
4. Riverside City Charter, Municipal Code, Good Neighborhood Policy, and other local laws;
5. Riverside General Plan 2025 Northside Land Use Policy and Design Guidelines.

Other concerns include, but not limited to the following:

- The fact that a project of this size--a 308,000 sq.-ft. building on a 15-acre site located in the open-space recreational area of a long-established residential neighborhood that is not suitable for most types of development, including industrial--should trigger a requirement for a full Environmental Impact Report and a Public Hearing before a duly-authorized governing body.
- The project site is also located in the study area of the Northside Specific Plan which was undertaken not only to comply with State law, but to provide local residents and businesses with a land use policy that is beneficial to their neighborhood. To approve this project before finalizing the NSP is a conflict of interest.
- Numerous errors, flaws, deficiencies, omissions, insufficiencies and unsupported claims in the August 2016 and November 2017 Initial CEQA Study and Draft MND.

We attach our filing fee of $2,529 to this letter.

Respectfully yours,

Karen A. Renfro

Karen Renfro, on behalf of,
Springbrook Heritage Alliance
3064 Lime Street
Riverside, California 92501
(951)787-0617

RECEIVED
MAR 02 2018
Community & Economic
Development Department

k.a.renfro7@gmail.com
info@springbrookheritagealliance.org

Pete Wohlgemuth
686 Forest Park Drive
Riverside, California 92501
(951)961-7511

Sala Ponnech
3878 Pine Street
Riverside, California 92501
(951)809-4110
ponnech@att.net

---------- Forwarded message ----------
From: "**Ed Von Nordeck**" <vonnordeck-ed@sbcglobal.net>
Date: Sun, Mar 11, 2018 at 3:38 AM -0700
Subject: [External] Northside Warehouses
To: "Gardner, Mike" <MGardner@riversideca.gov>

Seems a bad deal for Riverside all around. I just do not see Warehouses being of value for its employment numbers and I wonder if it has an advantage for the tax base. Seems other use would offer better tax value for the long term.

Do not need the trucks on Center or Main Street !

Ed Von Nordeck
P O Box 2768
Riverside CA 92516-2768

From: Sharon [mailto:skasner@sbcglobal.net]
Sent: Wednesday, March 21, 2018 9:28 PM
To: Andrade, Frances <FANDRADE@riversideca.gov>
Cc: Guzman, Rafael <RGuzman@riversideca.gov>; Gardner, Mike <MGardner@riversideca.gov>; Conder, Chuck <CConder@riversideca.gov>
Subject: [External] Planning Cases #14-1033 and 14-1034

March 21, 2018

Chairman Maartin Rossouw
Riverside Planning Commission

Re: Planning Cases #P14-1033 and P14-1034

Dear Planning Commission Chairman and Members,

I am writing in opposition to Planning Cases #P14-1033 and P14-1034. We need to postpone consideration of this proposal to build a huge warehouse at the convergence of Center Street and Placentia Lane until the Northside Specific Plan is completed.

Why would we want anyone to build a concrete warehouse and huge parking lot for semi-trucks on the land just feet away from multiple water wells? We must protect our water table and Santa Ana River.

If this warehouse moves forward, our hopes for revitalization of the Northside are threatened, the environment will be impacted and we will be left with pockets of houses separated by industrial buildings. Not the vision of the Northside I want to see.

The developer states he does not have a tenant, therefore, he does not have to disclose truck traffic, noise pollution, air pollution, water usage, public cost of wear and tear on roads, types of items to be housed in said building (hazardous chemicals?), or if refrigerated units on truck trailers (which run 24 hours) will be docked at the site. These are all covered by the "declared negative mitigating factors". It appears he is just ducking the Environment Impact Review requirements. Also, since the building is planned to be three stories high, there could be up to 924,000 square feet of usable space. Are the requirements the same for a building of 308,000 sq ft and one with 924,000 sq ft?

If he has no tenant, why would he invest a large amount of money to build an empty warehouse? Are the citizens to be saddled with a monster warehouse because the developer has skirted his duty to meet all standards?

A full Environment Impact Review is essential before considering this planning case; taking into consideration:

- A full Vibroacoustic study must be required to determine what impact the hundreds of semi-trucks will have on the foundation of the historic Trujillo Adobe. Please see the linked report at the end of this letter.
- The status of the soil compaction; it appears to be silt and sand built up from previous floods and liquefaction concerns need to be considered.

- Unknown plans for water runoff from the roof and paved areas with unknown deposits from trucks and cars; will it go into the Santa Ana River? The City of Riverside agreed to abide by the NPDES (National Pollution Discharge Elimination System).
- Noise and air pollution from truck exhaust; especially refrigerated truck trailers parked at the site - they need to run 24 hours a day.
- No provisions are made for the wear and tear of heavy truck traffic on our streets.
- There are 110 Residences on Versailles Place, Mont Martre Avenue, Cliffhill Place and Claire Street; how will they ingress and egress onto Center Street with the increased volume of traffic?

Attached is a September 2014, " ***Annotated Bibliography - Vibroacoustic Studies for the National Parks Service Resource Impact Assessment. Summary of selected content: This collective body of literature reflects more than 30 years of studies on the effects of vibration on cultural and natural resources in various settings, including National Parks units and National Historic Landmarks. The cultural resources include historic buildings, bridges, Indian ruins, petroglyphs, and other archaeological sites. Historic buildings can include adobe structures....."***

According to this report, traffic should be no closer to the Adobe foundation than 98.42 feet for automobiles and 213.25 feet for heavy traffic (trucks). There is no way these requirements will be met. This is cited on page 5 of the below-linked report.

There is a stop sign in front of the historic Trujillo Adobe, all traffic (including trucks!) must stop and accelerate again at that point. The weight of each vehicle will shift back and forth causing a rolling effect; this is different from constant speed vibrations.

Along with the impact of ground vibrations, we need to know the impact of air movement, truck exhaust particles being expelled into the air and sound wave effects on the buildings.

Please take these serious considerations into account and do not allow this project to move forward.

Sincerely,
Sharon Trujillo-Kasner

Our families arrived in 1842 to protect this land - one hundred and seventy-six years later - we are still here and still trying to protect it! This is rare precious untouched land. Once it is gone, it is gone forever

https://web.archive.org/web/20170218161645/www.nps.gov/subjects/sound/upload/Vibration_AnnotatedBiblio_Sept2014-2.pdf

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Oakland, Ca 94607

www.lozeaudrury.com
richard@lozeaudrury.com

March 6, 2018

VIA E-MAIL and US MAIL

Robert Kain, Stan Stosel, Judy G. Teunissen, Omar M. Zaki, Maartin J. Rossouw,
Richard R. Rubio, Sean H. Mill, Richard L. Kirby, Kerry Parker
City of Riverside Planning Commission
3900 Main St. 3rd Floor
Riverside, CA 92522

Email: fandrade@riversideca.gov

Re: Notice of Support for Center Street Project ("Project")

Honorable Members of the Planning Commission:

Laborers International Union of North America, Local Union No. 1184 ("LIUNA") has voiced concerns on the Mitigated Negative Declaration prepared for the Center Street Project ("Project"), proposed by Transition Properties, L.P. ("Transition").

LIUNA is pleased to announce that they have reached an agreement with Transition to resolve LIUNA's concerns. Pursuant to our agreement, Transition has agreed to implement measures to protect the environment.

In consideration of these measures, LIUNA is pleased to support the Project. LIUNA believes that the construction and operation of the Project will benefit the City. Thank you for your attention to this matter.

Sincerely,

Richard Drury
Counsel for LIUNA Local 1184

3878 Pine Street
Riverside, CA 92501

March 22, 2018

Martin Rossouw, Chairman
Riverside Planning Commission
City of Riverside
3900 Main Street
Riverside, CA 92522

Re: Center Street Commerce Center
P14-1033 and P14-1034
Initial Study and Mitigated Negative Declaration

Dear Mr. Rossouw:

I would like to submit the attached comments for consideration by the Commission at the April 5th hearing concerning this matter. I think I have included all the documents referred to in the comments except the IS/MND itself, which is too large to print out.

Yours truly,

Sala Ponnech

Sala Ponnech
ponnech@att.net

COMMENTS REGARDING THE APPEAL TO CITY OF RIVERSIDE PLANNING COMMISSION
Center Street Commerce Building, P14-1033 and P14-1034
By Sala Ponnech
March 21, 2018

There are two types of arguments against this project. The first, and most important to me, is the fact that there are more beneficial uses for the site and the surrounding property. The second argument is technical, involving the need for better assessment of the environmental impacts of this project. There is a fair argument over the Mitigated Negative Declaration issued by the Development Review Committee. I want to discuss these technical matters; however, I do not believe an Environmental Impact Report will cure the project's shortcomings. It is the wrong type of development for an environmentally and culturally sensitive area.

Emissions

I have attached Attorney Richard Drury's letter (cited below as Drury), which is also contained in the Development Review Committee Memorandum, December 14, 2017, Exhibit 8 on page 48 (citations below will refer to the Memorandum simply as "DRC Memo"). Mr. Drury makes a powerful argument against the DRC's conclusions about air quality impacts. His letter is based on a report from an environmental consultant, Soil Air and Water Protection Enterprise (SWAPE), which was included in the letter as Appendix A. SWAPE's Comments on the Center Street Commerce Building Project (cited below as SWAPE) was not included in Exhibit 8 although Mr. Drury submitted it along with his letter. I obtained a copy from him and have attached it to this letter.

Mr. Drury criticizes the Mitigated Negative Declaration ("MND") for using manufacturing rather than warehousing as the measure of impact on air quality. The proper standard would be refrigerated warehousing without rail spurs (Drury, page 3, paragraph 2). The developer claims that both parameters yield emission results that are not significant (DRC, Exhibit 8, page 60, paragraph 2). The table "Daily Operational Emissions (lbs./day): Unrefrigerated Warehouse Use" (attached) appears to be the same as the one on page 35 (attached) of the Center Street Commerce Building Air Quality & Climate Change Assessment written by MIG/Hogle-Ireland and included in Exhibit 8 of the MND. However, I could not find the source of the second table, "Daily Operational Emissions (lbs./day): Manufacturing Use" (DRC, Exhibit 8, page 61 and attached).

SWAPE's comments explain *why* it finds the MND's emissions modeling inadequate. Plugging in values associated with manufacturing causes the California Emissions Estimator Model to underestimate emissions from the facility's operation (SWAPE, page 2, para. 4). It is no less "speculative" to claim that the building will house manufacturing than it is to claim that it will be a refrigerated warehouse, which SWAPE considers the correct model (SWAPE, page 3, para. 2).

SWAPE also takes issue with the MND's fleet mix estimate, which has too low a percentage of medium-heavy duty and heavy-heavy duty trucks. The Fontana study used in the MND to calculate truck trips was deficient (SWAPE, pages 4 and 5). SWAPE points out that SCAQMD recommends a truck fleet mix of 40% for high cube warehouses absent detailed data from a tenant (SWAPE, page 5, para. 5).

Other studies support SWAPE's argument. The CalEEMod Users' Guide suggest a 50% mix of medium-heavy heavy duty and heavy-heavy duty trucks for "hauling" enterprises as a default measurement. (See the attached page 15 of the 2013 Guide. The 2017 edition contains the same information but could not be printed out.) The Institute of Transportation Engineers' report summarizes averages for cars, trucks and 5+ axle trucks as a percentage of total daily vehicles. Overall for California, trucks comprise 32.4% of the fleets. (see attached page 23 of ITE's High-Cube Warehouse Vehicle Trip Generation Analysis). SWAPE's mix of MHD and HHDT (36.94% of fleet) is right in the middle.

SWAPE also criticizes the city's use of a default 16.6-mile truck trip figure and argues the City should have used the 40 miles recommended by SCAQMD (SWAPE, page 6).

It looks like the experts disagree!

Health Risks Assessment

Mr. Drury points out that the MNDs own tables show a cancer risk 300% over what CEQA says is significant, therefore the developer can't conclude there is no significant impact (Drury, pages 7 and 8). In response to this point, the developer claims that the receptor locations will be demolished before construction. (DRC, Exhibit 8, page 61). Furthermore, nobody will be around the site long enough to suffer the 70-year residential lifetime exposure level. However, I wonder about the effects of such emissions when combined with emissions from the future development scenarios in the proposed Specific Plan, one of which is industrial (see attached Northside Specific Plan Draft vision & Goals, Concept A, page 3).

Deferred Mitigation

Mr. Drury cites CEQA to the effect that deferring development of mitigation measures until after approval of the projects is against the law (Drury, page 10, para. 7) His specific example is bat habitat. The developer's response is that there is a plan to delay disturbing the project area until construction plans are approved. If bats are observed, other measures will be taken to protect them, and these have been specified (DRC, Exhibit 7, Conditions of Approval Item 5, MMBio2 and MMBio3). However, the bats' habitat will be destroyed, without any effort at mitigation.

Cultural Resources

Although the developer is to hire a project archaeologist at least 30 days before applying for a grading permit, and that archaeologist is to develop a monitoring plan, I wonder if this process complies with CEQA or remains deferred mitigation (DRC, Exhibit 7, Conditions of Approval Item 6). Aside from that, it is not enough to develop plans for what will happen if artifacts or burials are discovered during construction. Burials are especially problematic; bone fragments can go unnoticed by the construction personnel if they do not look obviously human. Based on my long-ago training in osteology (both human and animal), it takes a long time to learn to identify bones. The same would apply to materials that are no obviously artifacts, such as bits of basketry, chipping waste, slivers of pottery or streaks of red ochre that may mean a burial is just below the surface. The letter from the Pechanga Tribe identifies archaeological sites "in the vicinity" of the project (DRC, Exhibit 8, page 67, paragraph 2) and stresses the cultural sensitivity of the larger area (DRC, Exhibit 8, page 69, paragraph 1).

Archaeologist Mark Robinson remarked that areas disturbed only by farming are more likely than the I-215 corridor in north Riverside and Colton (location of his survey) to have intact soils at three or four feet below the surface that would contain cultural resources (State of California, Dept. of Transportation. I-215 Bi-County HOV Lane Gap Closure Project, Appendix 4: Archaeological Survey Report. Mark Robinson, ICF Jones & Stokes. April 2005, rev. 10/08). The site for the Center Street Commercial Building, and much of the surrounding area, fits his description.

Under the circumstances, archaeological survey and test excavation is needed before the project is approved, whatever CEQA requires.

Cumulative Effects of the project

Mr. Drury cites CEQA to the effect that CEQA's requirement to analyze cumulative impacts applies to the effects of future projects (Drury, page 11, para. 2).

Riverside's Northside is the subject of a Specific Plan Study (NSP). One of the three concepts envisions more light industrial land use in the Pellissier Ranch area north of Center Street (Northside Specific Plan Draft Vision & Goals Concept A, page 3, attached). It is certainly foreseeable that at least some of it would used for warehousing. The developer claims CEQA allows an impact analysis to be made using a projection method: if the project analysis complies with local, regional and other planning programs developed to address environmental issues, there is no cumulative impact (DRC, Exhibit 8, page 64, paragraph 1). Even if the DRC interprets CEQA correctly, it makes no sense. It is like claiming that there is no difference in impact between one warehouse and twenty warehouses if each one *separately* complies with local planning rules.

Conflicts with the Northside Specific Plan Alternate Land Use Concepts

Rick Engineering, consultants for the NSP, offered three development scenarios for the area which includes the project site. Concept B and Concept C include the Center Street Commercial Center site as part of future residential development (Northside Specific Plan Draft Vision & Goals Concept B, page 4 and Concept C, page 5). However, once the facility is built, it may not be feasible to build housing nearby, given the need to create buffers between industrial and residential areas. People may have thought they were being given "choices", but projects like the Center Street Commercial Center will force development in one direction: more "light industrial", which probably means more warehouses. It is not a matter of whether I like any of the concepts; the City Council should have supported a moratorium on construction until the concept(s) were chosen and an EIR performed for the Specific Plan.

Attachment 1: September 30, 2016 Letter from Lozeau/Drury
Attachment 2: Development Review Committee Memorandum, December 14, 2017, Exhibit 8, Comments and Responses, pages 60 and 61
Attachment 3: Development Review Committee Memorandum, December 14, 2017, Exhibit 8, "Center Street Commerce Building Air Quality and Climate Change Assessment", June 2015. MIG/Hogle/Ireland, page 35
Attachment 4: September 30, 2016 Letter from SWAPE
Attachment 5: CalEEMod User's Guide, Version 2013.2, July 2013, cover page and page 15.
Attachment 6: High-Cube Warehouse Vehicle Trip Generation Analysis. Institute of Transportation Engineers, Washington DC, October 2016, page 23
Attachment 7: Northside Specific Plan Draft Vision & Goals. Workshop 2 Handout Package, City of Riverside, October 2017.