Air Quality Technical Report

for the

Bloomington Warehouse
Bloomington, CA

Submitted To:

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Table of Contents

1.0 Introduction

This report presents an assessment of potential air quality impacts associated with the proposed Bloomington Warehouse Project. The project site is comprised of one parcels located northwest of the intersection of Cedar Avenue at Orange Street in the community of Bloomington in unincorporated San Bernardino County, California. The community of Bloomington is entirely within the Spheres of Influence of the Cities of Rialto and Fontana; the project site is with the City of Rialto's Sphere of Influence.

The project is located northwest of the intersection of Cedar Avenue at Orange Street. The parcel is generally bound to the north by vacant property, Union Pacific Railroad tracks, and Interstate 10 (I-10); to the south by Orange Street; to the east by Cedar Place and Cedar Avenue; and to the west by Linden Avenue. The project would allow for the construction and operation of a 371,422 square foot high-cube warehouse building on an approximate 19.14-acre project site.

Table 1
Project Summary

Site Area (ac)	19.14
Building Area (sf)	
Warehouse	361,422
Office	10,000
Total Building Area	371,422
Building Coverage	44.6%
Building Height	44 ft, 6 in
Auto Parking: Required (stalls)	
Warehouse: 1st 40,000 sf @ 1:1,000 sf	40
Warehouse: above 400,000 sf @1:4,000 sf	81
Office: 1:250 sf	40
Total Required Parking	161
Auto Parking: Provided (stalls)	
Standard	156
Clean Air	19
Handicap	8
Total Provided Parking	183
Trailer Parking: Provided (stalls)	
Trailer	65
Container	37
ac: acre; sf: square feet; ft: feet; in: inch; n/a: not applicable; Source: HPA Architecture, 2014	

High-cube warehouses or distribution centers are primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. These facilities are generally very large buildings characterized by a small employment count due to a high level of automation, and truck activities are frequently outside of the peak hour of the adjacent street system. The operational design criteria for warehouses accommodating high-cube uses is associated with the functional requirements of the product/material handling equipment used in operating the facility (e.g., trucks, forklifts, pallets, and racking).

With respect to operations, the analysis assumes that the warehouse facility could operate seven days per week in two, eight-hour shifts.

The following land uses border the project site:

North	Fenced parcel with manufactured building owned by the West San Bernardino County Water District facility; Union Pacific Rail Company railroad tracks; I-10 is located north of the railroad property
South	Orange Avenue is the southern boundary. To the south of Orange Avenue are single-family residences. The property on the southwest corner of the intersection of Cedar Avenue at Orange Street is vacant.
East	Cedar Avenue.
West	Freight transfer facility with three industrial buildings and a proposed high-cube warehouse

This evaluation addresses the potential for air emissions during construction and after full buildout of the project, including an assessment of the potential for impacts to sensitive receptors from diesel particulate matter emitted by truck traffic associated with the proposed project.

2.0 Existing Conditions

2.1 Regulatory Requirements

Air quality is defined by ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several pollutants (called "criteria" pollutants). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.

States that are designated nonattainment for the NAAQS are required to develop a State Implementation Plan (SIP), which outlines federally-enforceable rules, regulations, and programs designed to reduce emissions and bring the area into attainment of the NAAQS. In California, the California Air Resources Board (ARB) is the agency responsible for developing the SIP. The responsibility for developing plans and programs for each air basin has been delegated to the local agency responsible for attaining and maintaining air quality standards in that air basin.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The ARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant.

The ARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The ARB is responsible for the development, adoption, and

enforcement of the state's motor vehicle emissions program, as well as the adoption of the CAAQS. The ARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations.

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in the SCAB. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O_3), CO, NO_2, particulate matter with a diameter of 10 microns or less (PM_{10}), particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). These standards were established to protect sensitive receptors from adverse health impacts due to exposure to air pollution. The California Ambient Air Quality Standards (CAAQS) are more stringent than the federal standards. California has also established standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. Hydrogen sulfide and vinyl chloride are currently not monitored in the Basin because these contaminants are not seen as a significant air quality problem. CAAQS and National Ambient Air Quality Standards (NAAQS) for each of these pollutants are shown in Table 2. The SCAB is currently considered a nonattainment area for the NAAQS for O_3 (extreme), PM_{10}, and $PM_{2.5}$. In addition, the Los Angeles County portion of the SCAB has been designated a nonattainment area for the NAAQS for lead. The SCAB is also considered a nonattainment area for the CAAQS for NO_2, O_3, PM_{10}, and $PM_{2.5}$. A brief description of the criteria pollutants follows.

Ozone. Ozone is considered a photochemical oxidant, which is a chemical that is formed when reactive organic gases (ROG) and nitrogen oxides, both byproducts of combustion, react in the presence of ultraviolet light. Ozone is present in relatively high concentrations in the Basin. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Carbon monoxide. Carbon monoxide is a product of combustion, and the main source of carbon monoxide in the Basin is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

Nitrogen dioxide. NO_2 is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of NO with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Fine particulate matter. Fine particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} arises from a variety of sources, including road dust, diesel exhaust, combustion, tire and break wear, construction operations, and windblown dust. PM_{10} can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. In 1997, the U.S. EPA proposed a new standard for $PM_{2.5}$, which is particulate matter with an aerodynamic diameter of 2.5 microns or less. These finer particulates are considered to have the potential to lodge deeper in the lungs.

Sulfur dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead in the atmosphere occurs as particulate matter. Lead has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead

emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen.

The attainment status of the SCAB for each of the criteria pollutants described above is presented below in Table 3.

Table 2 Ambient Air Quality Standards						
POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Measurement Method	Primary	Secondary	Measurement Method
Ozone (O_3)	1 hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	--	--	Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 $\mu g/m^3$)		0.075 ppm (147 $\mu g/m^3$)	0.075 ppm (147 $\mu g/m^3$)	
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	--	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm (56 $\mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 $\mu g/m^3$)		0.100 ppm (188 $\mu g/m^3$)	--	
Sulfur Dioxide (SO_2)	24 hours	0.04 ppm (105 $\mu g/m^3$)	Ultraviolet Fluorescence	--	--	Pararosaniline
	3 hours	--		--	0.5 ppm (1300 $\mu g/m^3$)	
	1 hour	0.25 ppm (655 $\mu g/m^3$)		0.075 ppm (196 $\mu g/m^3$)	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	150 $\mu g/m^3$	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		--	--	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	12 $\mu g/m^3$	--	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 $\mu g/m^3$	--	
Sulfates	24 hours	25 $\mu g/m^3$	Ion Chromatography	--	--	--
Lead (Pb)	30-day Average	1.5 $\mu g/m^3$	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	
	Rolling 3-month Average	--		0.15 $\mu g/m^3$	0.15 $\mu g/m^3$	
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 $\mu g/m^3$)	Gas Chromatography	--	--	--

ppm= parts per million; $\mu g/m^3$ = micrograms per cubic meter; mg/m^3= milligrams per cubic meter
Source: California Air Resources Board, www.arb.ca.gov.

Table 3 South Coast Air Basin Attainment Classification for Criteria Pollutants		
Pollutant	**CAAQS Attainment Classification**	**NAAQS Attainment Classification**
1-hr Ozone	Nonattainment	Rescinded
8-hr Ozone	Nonattainment	Extreme Nonattainment
CO	Attainment	Maintenance[1]
NO_2	Nonttainment	Maintenance[1]
SO_2	Attainment	Attainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment[2]	Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	Unclassified	N/A

[1]A maintenance area is defined as an area that has demonstrated that it has attained the NAAQS for a given pollutant, but has implemented a maintenance plan that is in effect for 10 years that requires a demonstration of continued attainment of the NAAQS. Once the area has maintained the NAAQS for a period of 10 years, it can be redesignated as an attainment area.
[2]The Los Angeles portion of the SCAB was redesignated to nonattainment for lead on March 25, 2010.

2.2 Regional Climate

Annual average temperatures in the Bloomington area range from an average minimum temperature of 52.3ºF to an average maximum temperature of 79.4ºF. January is the coldest month, with average minimum temperatures of 44.0°F. July is the hottest month in the area, with average maximum temperatures reaching 95.0°F (Western Regional Climatic Center 2015). The nearest meteorological monitoring station to the project site is the Fontana station. Figure 1 presents a wind rose for the Fontana station showing the prevailing wind directions in the project vicinity.

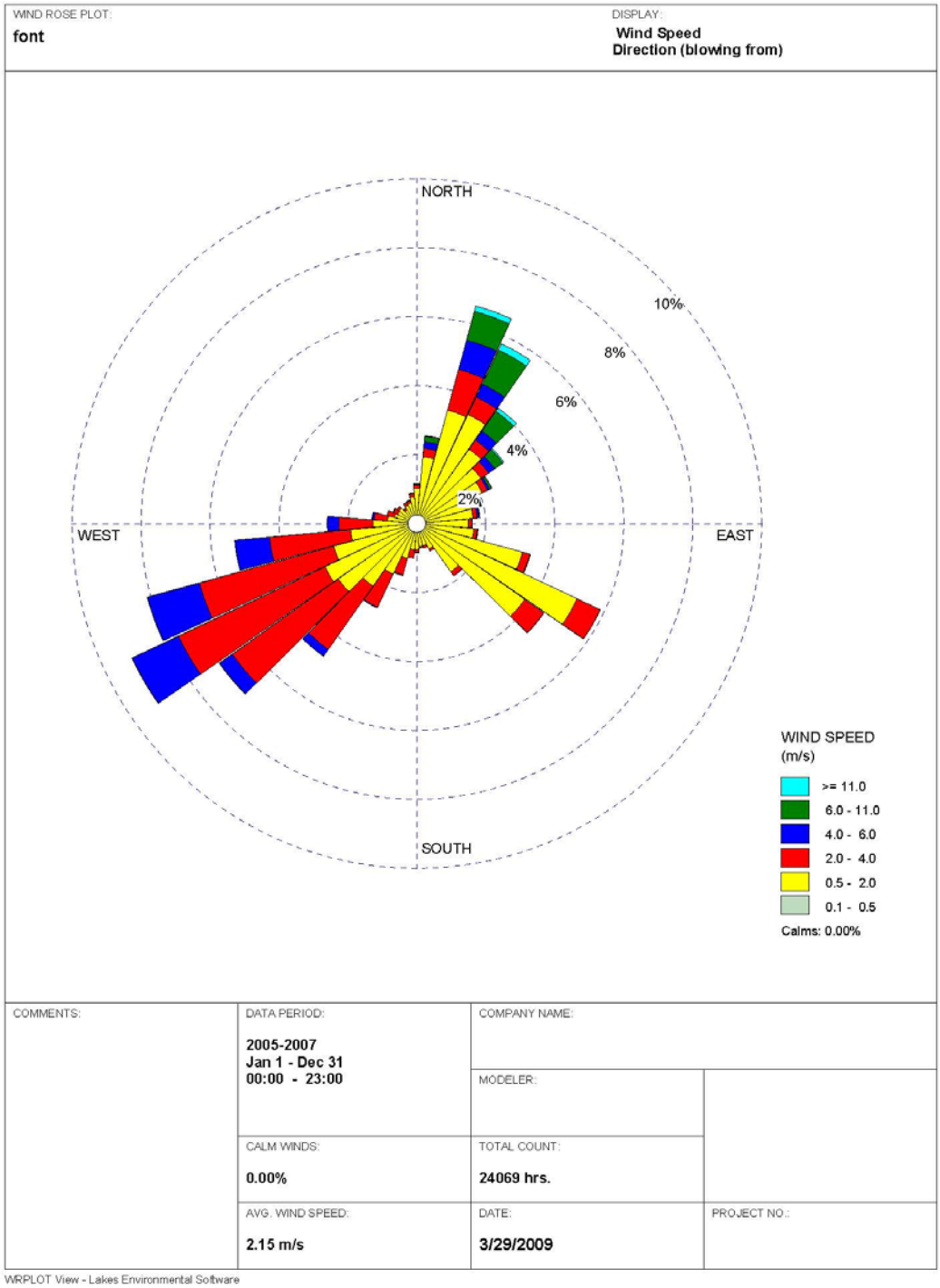

Figure 1 – Wind Rose, Fontana Meteorological Station

2.3 Existing Air Quality

The closest ambient air quality monitoring station to the project is the Fontana monitoring station, which measures O_3, CO, PM_{10}, $PM_{2.5}$, NO_2, and SO_2. Ambient concentrations of criteria pollutants measured at these monitoring stations during the period 2009-2011 are presented in Table 4. Ambient air concentrations were compared with the CAAQS and NAAQS. The data indicate that the area is in compliance with both CAAQS and NAAQS for CO, NO_2, and SO_2. The state 8-hour CO standard was not exceeded during this three-year period. The maximum measured concentrations of NO_2 each year were less than the 0.18-ppm one-hour state standard and the national annual standard. The SO_2 concentrations were below state and national standards during this period. Exceedances of the ozone standards and PM_{10} and $PM_{2.5}$ standards have been recorded at the Fontana monitoring station.

Table 4
Background Air Quality Data
ppm (unless otherwise indicated)

Pollutant	Averaging Time	2011	2012	2013	NAAQS	CAAQS	Monitoring Station
Ozone	8 hour	0.124	0.110	0.122	0.075	0.070	Fontana
No. of Days in Violation of NAAQS		*39*	*62*	*42*			
No. of Days in Violation of CAAQS		*53*	*88*	*68*			
Ozone	1 hour	0.144	0.142	0.151	-	0.09	Fontana
No. of Days in Violation		*39*	*60*	*34*			
PM_{10}	Annual Arithmetic Mean	31.8	34.3	40.7	-	20 µg/m^3	Fontana
	24 hour	84	67	90	150 µg/m^3	50 µg/m^3	Fontana
No. of Days in Violation of NAAQS		*0*	*0*	*0*			
No. of Days in Violation of CAAQS		*4*	*5*	*15*			
$PM_{2.5}$	Annual Arithmetic Mean	12.5	12.8	12.2	12 µg/m^3	12 µg/m^3	Fontana
	24 hour	60.1	39.9	43.6	35 µg/m^3	-	Fontana
No. of Days in Violation		*2*	*3*	*1*			
NO_2	Annual	0.021	0.021	0.020	0.053	0.030	Fontana
	1 hour	0.076	0.069	0.082	0.100	0.18	Fontana
No. of Days in Violation		*0*	*0*	*0*			
CO	8 hour	1.15	1.76	1.3	9	9.0	Fontana
No. of Days in Violation		*0*	*0*	*0*			
SO_2	24 hour	0.003	0.004	0.001	-	0.04	Fontana
No. of Days in Violation		*0*	*0*	*0*			

Table 4 Background Air Quality Data ppm (unless otherwise indicated)							
Pollutant	**Averaging Time**	**2011**	**2012**	**2013**	**NAAQS**	**CAAQS**	**Monitoring Station**
	1 hour	0.012	0.007	0.004	0.075	0.25	Fontana
No. of Days in Violation		*0*	*0*	*0*			

[1]Secondary NAAQS

Source: www.arb.ca.gov, http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/aq13card.pdf?sfvrsn=4

NA = Data not available

2.4 Toxic Air Contaminants

Cancer Risk. One of the primary health risks of concern due to exposure to toxic air contaminants (TACs) is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens; that is, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people will contract cancer over their lifetime, or 250,000 in a million, from all causes, including diet, genetic factors, and lifestyle choices.

Noncancer Health Risks. Unlike carcinogens, for most noncarcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The California Environmental Protection Agency (CalEPA) and California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (RELs) for noncarcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The noncancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

3.0 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the State CEQA Guidelines which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict or obstruct the implementation of the applicable air quality plan (in this case, the SCAQMD's Air Quality Management Plan);
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of any criteria pollutant forwhich the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

The most recently adopted air quality plan is the 2012 Air Quality Management Plan developed by the SCAQMD. This plan is the SCAB's portion of the SIP. The 2012 AQMP accommodates population growth and transportation projections based on the projections made by the Southern California Association of Governments (SCAG). Projects that are consistent with employment and population forecasts made by the SCAB are consistent with the emissions budgets contained within the AQMP. Also, projects that are consistent with the SIP rules (i.e., the federally-approved rules and regulations adopted by the SCAQMD) are consistent with the SIP. Thus projects would be required to conform with measures adopted in the AQMP, including undergoing New Source Review for sources subject to permitting with the SCAQMD.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), project emissions

may be evaluated based on the quantitative emission thresholds established by the SCAQMD in their CEQA Air Quality Handbook (SCAQMD 1993), as updated in 2011 (SCAQMD 2011). The SCAQMD has established quantitative thresholds against which a project's emissions could be evaluated to determine if there is a potential for a significant impact. These thresholds are listed in Table 5.

Table 5
Air Quality Significance Thresholds

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds		
NO_x	100 lbs/day	55 lbs/day
ROG	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 Metric tons/year CO_2e for industrial facilities	
Ambient Air Quality for Criteria Pollutants		
NO_2 1-hour NO_2 annual	0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour PM_{10} annual average	10.4 $\mu g/m^3$ (construction) and 2.5 $\mu g/m^3$ (operations) 1.0 $\mu g/m^3$	
$PM_{2.5}$ 24-hour	10.4 $\mu g/m^3$ (construction) and 2.5 $\mu g/m^3$ (operations)	
SO_2 24-hour SO_2 annual average	0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu g/m^3$	
CO 1-hour average CO 8-hour average	20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Lead rolling 3-month average Lead quarterly average	1.5 $\mu g/m^3$ 0.15 $\mu g/m^3$ 1.5 $\mu g/m^3$	

$\mu g/m^3$ = microgram per cubic meter; pphm = parts per hundred million; mg/m^3 = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; GHG = greenhouse gases; CO_2e = CO_2-equivalent

Should emissions exceed these quantitative thresholds, further evaluation may be warranted to assess whether a significant impact could result.

To further evaluate the potential for significant impacts associated with the construction phase, the SCAQMD's *Final Localized Significance Threshold Methodology* was used (SCAQMD 2008). The Localized Significance Threshold (LST) Methodology provides a look-up table for construction and operational emissions based on the emission rate, location, and distance from receptors, and provides a methodology for air dispersion modeling to evaluate whether a construction or operation could cause an exceedance of an ambient air quality standard. The LST lookup tables are applicable only to sources that are five acres or less in size. A screening air dispersion modeling approach was therefore used to assess the significance of localized construction impacts on receptors in the project vicinity. The LST Methodology only applies to impacts to NO_2, CO, and PM_{10} concentrations. In accordance with the SCAQMD's Localized Significance Threshold Methodology (SCAQMD 2008), an air dispersion modeling analysis was conducted to evaluate potential impacts associated with construction. It should be noted that, in accordance with the SCAQMD guidance,

> "The use of LSTs is voluntary, to be implemented at the discretion of local public agencies acting as a lead agency pursuant to the California Environmental Quality Act (CEQA). LSTs would only apply to projects that must undergo an environmental analysis pursuant to CEQA or the National Environmental Policy Act (NEPA) and are five acres or less. It is recommended that proposed projects larger than five acres in area undergo air dispersion modeling to determine localized air quality."

Because the project site is larger than 5 acres, an air dispersion modeling analysis was conducted. The analysis of project impacts provides a discussion on the LST analysis.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Any project which has the potential to directly impact a sensitive receptor located within 1 mile and results in a health risk greater than the risk significance thresholds discussed above would be deemed to have a potentially significant impact.

With regard to odor impacts, a project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The impacts associated with construction and operation of the Bloomington Warehouse Project were evaluated for significance based on these significance criteria.

4.0 Impacts

The proposed project includes both construction and operational impacts. Construction impacts include emissions associated with the construction of the project. Operational impacts include emissions associated with the project, including traffic, at full buildout.

4.1 Construction

Emissions from the construction phase of the project were estimated based on information from the project developer for construction equipment requirements and schedule. It is anticipated that construction of the project would commence in July of 2015 and would be completed by May of 2016. Project construction would commence with grading of the site, along with installation of utilities. Grading at the site would require 22,165 cubic yards of cut and 17,790 cubic yards of fill, with a net export of 4,375 cubic yards of material.

Following site preparation activities, the project would include construction of buildings, including office and warehousing space, and paving of the truck parking areas. Construction of the buildings would require the following phases: building construction, architectural coatings application, and paving associated with buildings. For conservative purposes, it was assumed that the entire development would be constructed in one phase following initial site preparation activities.

The construction emissions were evaluated using the CalEEMod Model (ENVIRON 2013), which is the SCAQMD's recommended model for evaluating air quality impacts from land use projects.

Table 6 presents a summary of the assumptions used in the CalEEMod analysis. It was assumed that all equipment would meet Tier 3 emission standards.

Table 6
Heavy Construction Equipment Requirements

Construction Phase/Duration	Equipment	Number
Grading		
Grading – 4 weeks	Motor Graders	3
	Dozers	3
	Excavator	1
	Scrapers	3
Underground Infrastructure/Utilities – 4 weeks	Excavators	2
	Ditch Witch with Trencher	4
	Backhoe	4
Building Construction		
Building Construction – 6 months	Lattice crawler crane	1
	Boom lifts	4
	Bobcat crane jib	4
Paving – 6 weeks	Pavers	2
	Concrete Pumps	2
	Concrete Mixing Trucks	2
Architectural Coatings Application – 6 weeks	Air Compressor	1

With regard to architectural coatings application, due to the nature of the buildings as concrete tilt-up industrial buildings, some of the buildings materials would be pre-coated and would not require substantial architectural coatings application. Furthermore, the applicant will use zero-VOC coatings during painting. Accordingly, there would be no VOC emissions from the architectural coatings, and the CalEEMod model inputs reflect zero VOC-coatings use.

Table 7 provides a summary of the emission estimates for construction for the project, assuming standard fugitive dust control measures would be implemented. Refer to Appendix A for CalEEMod outputs. As shown in Table 7, emissions of all pollutants would be below the daily significance thresholds during construction.

Table 7 Estimated Construction Emissions Bloomington Warehouse Project						
Emission Source	**ROG**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Total Construction Emissions, lbs/day						
Grading						
Fugitive Dust	-	-	-	-	7.28	3.90
Offroad Diesel	2.33	45.07	55.85	0.10	1.83	1.83
Onroad Diesel	0.31	5.05	3.38	0.01	0.37	0.16
Worker Trips	0.12	0.14	1.79	0.004	0.28	0.08
TOTAL	**2.76**	**50.26**	**61.02**	**0.11**	**2.48**	**2.07**
Significance Criteria	75	100	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*
Underground Infrastructure/Utilities						
Offroad Diesel	0.90	19.74	27.90	0.04	1.27	1.27
Worker Trips	0.12	0.14	1.79	0.004	0.28	0.08
TOTAL	**1.02**	**19.85**	**29.63**	**0.04**	**1.55**	**1.35**
Significance Criteria	75	100	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*
Building Construction						
Building Construction Heavy Equipment Exhaust	0.28	6.04	7.62	0.01	0.35	0.35
Building Construction Vendor Trips	0.58	5.99	6.61	0.01	0.48	0.20
Building Construction Worker Trips	0.72	0.90	11.17	0.02	1.76	0.48
TOTAL	**1.58**	**12.93**	**25.40**	**0.04**	**2.59**	**1.03**
Significance Criteria	75	100	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*
Architectural Coatings Application						
Architectural Coatings Emissions	0.00	-	-	-	-	-
Architectural Coatings Heavy Equipment Exhaust	0.06	1.36	1.83	0.00	0.10	0.10
Architectural Coatings Worker Trips	0.13	0.16	2.01	0.00	0.35	0.09
TOTAL	**0.19**	**1.52**	**3.84**	**0**	**0.45**	**0.19**
Significance Criteria	75	100	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*
Paving						
Paving Offroad Diesel	0.49	10.30	14.96	0.02	0.63	0.63
Paving Worker Trips	0.10	0.13	1.62	0.00	0.28	0.08
TOTAL	**0.59**	**10.43**	**16.58**	**0.02**	**0.91**	**0.71**
Significance Criteria	75	100	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*
Maximum Simultaneous Daily Emissions	**3.78**	**70.15**	**90.72**	**0.15**	**11.31**	**7.31**
Significance Criteria	**75**	**100**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

To evaluate potential localized impact, a modeling analysis was conducted in accordance with the recommended approach in the LST Methodology (SCAQMD 2008), which includes representing the construction site as a series of volume sources located where on-site construction would occur.

The site was divided equally into volume sources distributed throughout the site, which resulted in a grid of 35 sources with dimensions of 50 meters by 50 meters. This approach is consistent with the SCAQMD's LST Methodology, which recommends representing a construction source as a series of volume sources divided evenly on the site. The approach conservatively assumes that the entire site is undergoing construction at any one time. This approach was used by the SCAQMD in deriving the LST emission thresholds in their look-up tables for 1-acre, 2-acre, and 5-acre site sizes. The maximum daily emissions were allocated to the volume sources. The maximum daily on-site construction emissions are 55.85 lbs/day for CO, 9.11 lbs/day for PM_{10}, 5.73 lbs/day for $PM_{2.5}$, and 45.07 lbs/day for NOx. Based on the LST Methodology, construction emissions were modeled with the USEPA-approved AERMOD model using SCAQMD-processed Fontana meteorological data, using urban dispersion coefficients.

The maximum offsite 1-hour and 8-hour CO impacts were predicted to be 529.26 $\mu g/m^3$ (0.049 ppm) and 466.63 $\mu g/m^3$ (0.037 ppm) respectively, during construction. The 1-hour and 8-hour CO background concentrations for the Fontana monitoring station (the nearest monitoring station that measures CO to the site) are 3 ppm and 1.76 ppm, respectively. When CO impacts due to construction were added to CO background levels, the resulting concentrations of 3.05 ppm and 1.80 ppm would not exceed the CO standards of 20 ppm and 9 ppm, respectively. CO emissions during construction would therefore not result in a significant localized impact.

The maximum offsite 1-hour NOx impact was predicted to be 428.05 $\mu g/m^3$. Based on the LST Methodology, the NO_2 conversion rate can be accounted for by a NOx-to-NO_2 ratio which is dependent on distance. The location of the maximum NOx was calculated at a receptor located 50 meters from the site boundary; this is a hypothetical receptor that is meant to represent the nearest location where a receptor could be exposed to NOx from the project in the ambient air. It represents where the nearest commercial receptor could be located adjacent to the property, and serves to provide a conservative means of using the NOx-to-NO_2 ratio recommended in the LST methodology. According to the LST Methodology, the NOx-to-NO_2 ratio for 50 meters distance would be 0.059 to account for conversion of NOx to NO_2. The resultant maximum 1-hour NO_2 concentration associated with construction activities was predicted to be 25.25 $\mu g/m^3$ or 0.047 ppm. When added to the maximum 1-hour NO_2 background level at the Fontana monitoring

station as measured in the past 3-year period from 2011 through 2013 of 0.082, the resulting concentration of 0.13 ppm would not exceed the current 1-hour CAAQS for NO_2 of 0.18 ppm. NOx emissions during construction would therefore not result in a significant localized impact.

The maximum 24-hour PM_{10} impact was predicted to be 4.20 µg/m^3. This impact is below the SCAQMD's change in concentration threshold of 10.4 µg/m^3. PM_{10} emissions would therefore not result in a significant localized impact. The maximum 24-hour $PM_{2.5}$ impact was predicted to be 2.21 µg/m^3. $PM_{2.5}$ emissions would therefore not result in a significant localized impact.

Diesel exhaust particulate matter is known to the state of California as carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Air Pollution Control Officers' Association (CAPCOA) Air Toxics "Hot Spots" Program Risk Assessment Guidelines (CAPCOA 1993) as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Diesel exhaust particulate matter would be emitted during the construction period assumed for the Project from heavy equipment used in the construction process. Because of the short-term nature of project construction and the fact that heavy equipment exhaust emissions are not significant, exposure to diesel exhaust emissions during construction would be less than significant.

4.2 Operational Impacts

The AQMP is a plan that develops an analysis of how the air basin will attain and maintain the ambient air quality standards, and identifies strategies that will be used to achieve attainment. These strategies are then adopted as rules and regulations in the SCAQMD's Rules and Regulations, and all facilities must comply with applicable rules and regulations.

The AQMP identifies state-wide measures such as increasingly stringent vehicular emission standards that will reduce emissions from mobile sources. All vehicles will be required to comply with ARB emission standards, and will therefore be consistent with the AQMP. Furthermore, all sources within the Bloomington Warehouse Project will be required to comply with the applicable SCAQMD Rules and Regulations, and will therefore be in compliance with the applicable portions

of the AQMP. The project will therefore not conflict with or obstruct implementation of the applicable air quality plan.

The main operational impacts associated with the Project would be impacts associated with traffic. Minor impacts would be associated with area sources such as energy use, including combustion of natural gas, which is included in the CalEEMod Model calculations, and landscaping.

To address whether the Project would result in emissions that would violate any air quality standards or contribute substantially to an existing or proposed air quality violation, the emissions associated with Project-generated traffic are compared with the significance criteria.

To estimate emissions associated with area sources, the CalEEMod Model was used. The CalEEMod Model provides estimates of emissions associated with operations, including area sources such as energy use and landscaping, and on-road traffic. To estimate emissions from on-road vehicles, the EMFAC model was used. One-way trip lengths for employee trips (light-duty autos and trucks) were assumed to be 15 miles. This assumption is conservative because it is higher than the CalEEMod Model default value of 12.7 miles for projects within the SCAQMD. A one-way trip length of 40 miles per one-way trip for truck traffic was used based on similar projects.

Emission calculations are shown in Table A-1 in Appendix A. Emission factors representing the vehicle mix for 2017 were used to estimate emissions, which is the first year the project is scheduled for occupancy. Emissions would decrease on an annual basis from 2017 onward due to phase-out of higher polluting vehicles and implementation of more stringent emission standards that are taken into account in the EMFAC model. Traffic emissions were calculated based on net traffic generation of 125 trucks and 499 passenger vehicle trips, based on the Traffic Impact Study (Hall and Foreman 2015).

Table 8 presents a summary of the maximum daily operational emissions estimated for the Bloomington Warehouse Project. As shown in the table, the emissions of all criteria pollutants would be less than significant.

Table 8 Maximum Daily Operational Emissions						
Emission Source	**ROG**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
			lbs/day			
Area Sources	9.72	0.00	0.04	0.00	0.00	0.00
Energy Use	0.02	0.21	0.18	0.00	0.02	0.02
Vehicle Emissions	15.02	53.74	49.08	0.20	11.47	2.10
TOTAL	**24.76**	**53.95**	**49.30**	**0.20**	**11.49**	**2.12**
Significance Criteria	55	55	550	150	150	55
Significant?	*No*	*No*	*No*	*No*	*No*	*No*

Off-site emissions are not compared with the LSTs as, according to the SCAQMD's guidance within the LST Methodology, the LSTs are not appropriate for projects where the majority of emissions are on-road emissions that would mainly occur offsite. Only on-site emissions are considered in the LST analysis for operational emissions. Based on the analysis of on-site operational emissions, the emissions are negligible in comparison with on-road emissions. Impacts would therefore not exceed the threshold in the LST analysis.

Projects that involve increases in traffic have the potential to cause CO "hot spots" to occur due to project-related traffic. Based on the Traffic Impact Study (Hall and Foreman 2015), impacts in the study area would be fully mitigated, and no intersections would experience a degradation to LOS E or F due to project-related traffic. Accordingly, the project would not have the potential to cause CO "hot spots", and no significant impact would result.

4.3 Odors

The SCAQMD CEQA Air Quality Handbook (SCAQMD 1993) identifies certain land uses as sources of odors. These land uses include the following:

- Agriculture (Farming and Livestock)
- Wastewater Treatment Plant
- Food Processing Plants
- Chemical Plants
- Composting

- Refineries
- Landfills
- Dairies
- Fiberglass Molding

The Project is a warehousing/distribution center project. The project is not proposing to include any of these operations at the site. The project would therefore not be a source of objectionable odors.

All sources are subject to SCAQMD Rule 402, which prohibits any entity from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Odors would be regulated by the SCAQMD and any odor issues would be subject to enforcement action. Thus odor impacts would not be significant.

5.0 Health Risk Assessment

This Health Risk Assessment (HRA) addresses the potential for significant health risks associated with diesel particulate emissions from truck traffic generated by the operations at the Bloomington Warehouse Project. This HRA was prepared in accordance with the California Office of Environmental Health Hazard Assessment's (OEHHA) *Draft Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2014), the South Coast Air Quality Management District's (SCAQMD) *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (SCAQMD 2003), and the SCAQMD's *Risk Assessment Procedures for Rules 1401 and 212, Version 7.0* (SCAQMD 2005).

The primary objective of this HRA is to estimate upper-bound incremental excess cancer risks and non-cancer health hazards associated with operation of the proposed project. According to

OEHHA, the four steps involved in the risk assessment process are 1) hazard identification, 2) exposure assessment, 3) dose-response assessment, and 4) risk characterization. The principal elements of this HRA following the OEHHA guidance, and are listed below:

- Existing conditions (Section 5.1)
- Estimation of toxic air contaminant (TAC) emissions from project operational sources (hazard identification) (Section 5.2);
- Air dispersion modeling to predict maximum concentrations of TACs using the SCAQMD and OEHHA approach (exposure assessment/exposure concentrations) (Section 5.3);
- Risk assessment approach to predict incremental cancer risks and chronic non-cancer health risks, using the HARP modeling approach (exposure assessment/dose and dose-response assessment) (Section 5.4);
- Risk characterization (Section 5.5);
- Uncertainty analysis (Section 5.6).

This health risk assessment methology is not appropriate for evaluating construction emissions, because health risks associated with exposure to emissions from construction equipment (i.e., diesel particulate) are chronic in nature. The OEHHA has not identified short-term health effects from diesel particulate matter. Because construction is temporary and would be transient throughout the site (i.e., move from location to location), and because construction would last less than 10 years, health risks associated with temporary construction activities are not addressed in this analysis.

5.1 Existing Conditions

Toxic air contaminants are gases, liquids, or particles that are emitted into the atmosphere and, under certain conditions, may cause adverse health effects, including cancer, acute non-cancer, and/or chronic non-cancer effects. The OEHHA has compiled the health effects and health values for all toxic air pollutants into one document entitled *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA 2005), and has included these values in the Hot Spots Assessment and Reporting Program (HARP).

In July of 2008, the SCAQMD released its draft final report entitled *Multiple Air Toxics Exposure Study (MATES-III) in the South Coast Air Basin* (SCAQMD 2008). MATES-III contains extensive general information regarding regional ambient air toxics levels in the SCAB, and detailed information on the findings.

Two monitoring programs were conducted in the MATES-III study: the regional program and the microscale program. In the regional program, MATES-III estimates that the average excess cancer risk level from exposure to air toxics for the SCAB as a whole is approximately 1,200 in one million. According to the study, "diesel exhaust was the key driver for air toxics risk, accounting for over 80% of the total air toxics risk." The closest fixed-site location to the Bloomington Warehouse Project is the Inland Valley-San Bernardino station. The estimated cancer risk at that station is 922 in one million versus a modeled average of 1,166 in one million in the SCAB.

As part of the overall objectives of the MATES-III, a regional model study was conducted. According to the SCAQMD (SCAQMD 2008), the regional model results show similar levels of carcinogenic risk across the SCAB as does the monitoring data. The model results, which are more complete in describing risk levels across the SCAB than is possible with the monitored data, show that the higher risk levels occur in the south-central Los Angeles area, in the harbor area, and near freeways. The model results suggest that the basin-wide excess cancer risk level may be 16 percent lower than the corresponding risk levels estimated from the regional monitoring sites (SCAQMD 2008).

The MATES-III study calculated average population-weighted County-wide risks in Riverside County to be 712 in a million. In contrast, the population-weighted risk in the SCAB is 853 in a million. As discussed above, diesel particulate matter ranked as the highest toxic compound contributing to the overall risk from air toxics to the population.

5.2 Toxic Air Contaminant Emissions

According to OEHHA, for air toxics sources hazard identification involves identifying if a hazard exists, and if so, what are the exact pollutant(s) of concern and whether a pollutant is a potential human carcinogen or is associated with other types of adverse health effects. The emitted substances that should be addressed in a HRA are listed by the ARB in their *Emission Inventory Criteria and Guidelines Regulations (Title 17, California Code of Regulations, Sections 93300-93300.5), and the Emission Inventory Criteria and Guidelines Report*. The list of substances also identifies those substances that are considered human carcinogens or potential human carcinogens, as well as substances that could have a non-cancer health effect.

Truck traffic has been identified as the main source of TACs emitted from the Bloomington Warehouse Project. This HRA focuses on emissions of diesel particulate from trucks, as diesel particulate is the risk driver within the SCAB. To estimate emissions from truck traffic associated with the Project, traffic projections were obtained from the Traffic Impact Study prepared for the project (Hall and Foreman 2015). Mobile source emission factors were modeled using the Emission Factors (EMFAC2011) Model (ARB 2011), which are more conservative than factors from the recently released EMFAC2014 model. This analysis therefore provides a worst-case estimate of risk. Vehicle distribution characteristics (e.g., class and fuel types) were based on vehicle population data contained within EMFAC2011 for the San Bernardino County portion of the SCAB. Because the residential exposure scenario is based on 30 years of exposure, emission factors from the EMFAC2011 model were averaged over the exposure period, assuming the start of operations in 2016. The EMFAC2011 model provides emission factors out to the year 2035. After the year 2035, emission factors were conservatively assumed to be constant. For conservative purposes, trucks were represented as heavy-duty vehicles. Vehicle speed on surface roadway segments was assumed to be 25 mph, based on Caltrans guidance (Caltrans 1998).

The emission factors for PM_{10} for heavy heavy-duty diesel trucks (T7 trucks) for each year were used to represent emissions from trucks.

Because the emission factors provided are based on grams per vehicle mile traveled, emissions were allocated to the individual volume sources used to represent each roadway segment. The volume sources were placed at 25-meter intervals along the roadways that will be used for project traffic and on internal roadways at the project site. Each volume therefore represents 0.0155 mile of vehicle travel per volume source. The way that the emissions for each source were calculated was by the following equation:

Emissions per source (lbs/source per year) = Number of trucks x emission factor in grams per mile x 0.0155 miles/453.59 grams per pound x 365 days per year.

As shown in the above equation, the project was assumed to operate 365 days per year.

To obtain average emissions for the entire exposure period, the emission factors were averaged over the exposure period. In accordance with the most recent draft risk assessment guidance from OEHHA (OEHHA 2014), sensitive receptors are assumed to be exposed in a residential exposure scenario, which is defined as 30 years. For residential exposure, to account for the 30-year exposure period, an average of the emission factors for the years 2016 through 2045 was used to estimate average emissions over that period of time. Truck idling emissions on site were calculated using emission factors from the EMFAC2011 model, and assuming each truck trip would include 7.5 minutes of idling (15 minutes per truck). Idling emissions were represented as two volume sources within each of the warehouse locations. Emissions associated with on-site trucks were calculated on an average annual basis rather than a maximum daily basis. Emission estimates on a per source basis are summarized in Table 9. Detailed emission calculations are provided in Appendix A.

Table 9
Diesel Truck Emissions, lbs/year per source

Roadway Segment	Trucks	30-year average Emissions, lbs/year per source
Inbound Linden, Orange to Linden Entrance	13	0.008
Inbound Slover to Orange	3	0.002
Inbound Orange, Orange Entrance to Linden	9	0.006
Inbound Orange, Cedar to Orange Entrance	34	0.021
Inbound Cedar, Slover to Orange	13	0.008
Inbound Cedar, Cedar Place to Orange	28	0.017
Inbound Cedar, I10 EB to Cedar Place	47	0.029
Inbound Cedar, I10 WB to I10 EB	28	0.017
Inbound Cedar, Valley to I10WB	13	0.008
Outbound Linden, Orange to Linden Entrance	41	0.025
Outbound Slover to Orange	3	0.002
Outbound Orange, Orange Entrance to Linden	38	0.023
Outbound Orange, Cedar to Orange Entrance	53	0.032
Outbound Cedar, Slover to Orange	13	0.008
Outbound Cedar, Cedar Place to Orange	6	0.004
Outbound Cedar, I10 EB to Cedar Place	47	0.029
Outbound Cedar, I10 WB to I10 EB	31	0.019
Outbound Cedar, Valley to I10WB	13	0.008
Idling Sources		
Idling	125	1.693

5.3 Air Dispersion Modeling

Air dispersion modeling was used to predict the downwind concentration of diesel particulate matter to which receptors could be exposed. Air dispersion modeling is dependent on the emissions of diesel particulate matter, the location of sources, and the site-specific meteorology of the impacted area. The air dispersion modeling was performed in accordance with U.S. EPA, ARB, and SCAQMD modeling guidelines. Results of the air dispersion analysis were used in conjunction with diesel particulate matter emission rates described in Section 3.0 to calculate maximum diesel particulate matter concentrations to which receptors could be exposed.

To accurately represent the spatial distributions of emissions and capture high concentrations that often occur next to roadways, the analysis utilized link-based emissions as recommended by the U.S. Environmental Protection Agency (EPA 2002). Roadway segments were modeled as a series of volume sources as recommended in the South Coast Air Quality Management District's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (SCAQMD 2003), which recommends using multiple, adjacent volume sources to simulate a roadway.

The AERMOD model was run to estimate ground-level concentrations of TACs. As recommended by the SCAQMD, surface meteorological data from the Fontana meteorological monitoring station for 2008-2012 (the nearest station to the project site for which AERMOD-processed data are available) were used in the AERMOD model. Figure 1 in Section 2.0 presents the wind rose from the Fontana station. Modeling was conducted using SCAQMD-recommended model settings, including urban dispersion coefficients, and regulatory default settings.

Receptors were placed at the locations of residences on a grid with 50-meter spacing surrounding the site. Receptors were also placed at the location of the school south of Orange Avenue, which was treated as residential exposure scenario for conservative puporses. Residential risk is calculated based on a 30-year exposure scenario, and adjusted using age sensitive factors for childhood exposure based on the draft OEHHA risk assessment guidance, as follows:

- Third trimester to 2 years – age sensitivity factor of 10
- 2 years to 16 years – age sensitivity factor of 3
- 16 years to 30 years – age sensitivity factor of 1

Risks decrease with distance from the site. Thus risks at nearby residences and the proposed residential uses within the site, which are closer than any sensitive receptors, would be higher than risks at sensitive receptors if calculated based on a residential scenario. Figure 2 presents a schematic of the sources and the receptor grid used to calculate risks associated with diesel truck traffic associated with the project.

- Sources
- Receptors

Figure 2. Sources and Receptors – Health Risk Assessment Modeling

5.4 Exposure and Toxicity Assessment

Under the OEHHA and U.S. EPA guidance, risk assessments for TACs consist of dispersion modeling of air toxics emissions to predict their downwind concentrations at the ground level. The methodology uses the model results in estimating potential health risks associated with exposure at the predicted concentrations. This section of the report describes the exposure assessment procedures that were used to calculate the exposure point concentrations used in the HRA calculations and the resulting health risk calculations.

5.4.1 Exposure Assumptions

Exposure is defined in EPA human risk assessment guidelines as the contact of a human with a chemical or physical agent (EPA 1989, 1992). The exposure assessment determines the quantities or concentrations of the risk agents received by the potentially exposed populations and receptors. Exposure assessment's emphasis is on calculating risk to maximally exposed individuals or small populations based on an exposure scenario evaluation. This assessment is generally performed by separately determining the concentrations of chemicals in a medium or at a location of interest and combining this information with the time that individuals or populations contact the chemicals.

For this HRA, the exposure assumptions dictated by the OEHHA guidelines (OEHHA 2015) were used to assess potential human health risks. In order to determine the total dose to the receptor, the applicable pathways of exposure need to be identified. As stated in the guidelines, the inhalation pathway must be evaluated from all TACs emitted by the project's operations. Because this risk assessment focuses on diesel particulate risks, multi-pathway exposures (i.e., exposure through soil dermal exposure, ingestion of plants, etc.) were not considered in this risk assessment. Diesel particulate has not been identified by the OEHHA as a multi-pathway TAC and therefore has no health identified effects associated wth dermal exposure or ingestion.

Methods used in this HRA are conservative in that they are more likely to overestimate than underestimate the potential human health risks. For example, risks and hazards are calculated for individuals at locations where ground-level concentrations of TACs are predicted by the air

dispersion modeling to be the highest. Further, individuals are assumed to be exposed in residential and occupational exposure scenarios for long durations. Resulting incremental cancer risk estimates represent upper-range predictions of exposure and therefore health risks which may be associated with exposure to emissions from the Project truck traffic. Furthermore, the toxicity values (i.e., the values for each chemical at which an adverse health risk is predicted) are designed to be health-protective and are therefore also conservative. Thus the risks calculated for the project are anticipated to represent upper-bound risks rather than actual values for each individual.

To estimate potential incremental cancer risks and the potential for adverse chronic non-cancer health hazards to exposures, the dose through inhalation of TACs was calculated. The equation for dose through inhalation (Dose-inh) is as follows:

$$\text{Dose-air} = (C \times BR/BW \times A \times EF \times 10^{-6})$$

Where:

Dose-air	=	Dose through inhalation (mg/kg/day)
C	=	Ground-level concentration of TAC to which the receptor is exposed, micrograms/cubic meter
BR/BW	=	Daily breathing rate, liters per kilogram body weight per day
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency, days/365
10^{-6}	=	Micrograms to milligrams conversion, liters to cubic meters conversion

Based on the OEHHA guidance (OEHHA 2015), the following point estimates of residential daily breathing rates were used in the analysis:

3rd trimester	=	361 L/kg BW-day
0<2 years	=	1090 L/kg BW-day
2<16 years	=	745 L/kg BW-day
16<30 years	=	335 L/kg BW-day

Residents living near the Bloomington Warehouse Project site could be exposed to TACs mainly through inhalation; furthermore, the risk-driving TAC, diesel particulate matter, has not been

identified as a multipathway pollutant. Multipathway risks would therefore not contribute to the overall incremental cancer or non-cancer risks associated with the Project. In accordance with OEHHA guidelines, residents are assumed to be exposed for 24 hours per day, 350 days per year.

5.4.2 Dose-Response Assessment

Dose-response assessment describes the quantitative relationship between the amount of exposure to a substance (the dose) and the incidence or occurrence of injury (the response). The process often involves establishing a toxicity value or criterion to use in assessing potential health risk. The toxicity criterion, or health guidance value, for carcinogens is the cancer potency slope (potency factor), which describes the potential risk of developing cancer per unit of average daily dose over a lifetime. Cancer potency factors are typically expressed as an upper bound probability of developing cancer assuming continuous lifetime exposure to a substance at a dose of one milligram per kilogram of body weight, and are expressed in units of inverse dose as a potency slope [i.e., $(mg/kg/day)^{-1}$]. For air toxics risk assessments, cancer inhalation and oral potency factors have been recommended by OEHHA and/or the U.S. EPA with endorsement by OEHHA.

Non-cancer health risks (chronic and acute) are characterized by comparing the exposure to a concentration or dose at or below which adverse effects are not likely to occur following specified exposure conditions. These concentrations or doses are called Reference Exposure Levels (RELs). As stated in the OEHHA guidance, it should be emphasized that exceeding the REL does not necessarily indicate that an adverse health effect will occur. Levels of exposure above the REL have an increasing but undefined probability of resulting in an adverse health impact. RELs are designed to take into account exposure of sensitive populations (e.g., the very young, the elderly, those with chronic respiratory disease) and are thus intended to be health protective. Chronic RELs are levels above which prolonged exposure may have an adverse health effect, and acute RELs are levels above which short-term exposure (generally one-hour, but for some substances longer averaging times are used) may have an adverse health effect. To assess whether exposure to a substance has the potential for an adverse health effect, the exposure concentration is divided by the REL to calculate a Hazard Quotient (HQ) for that substance.

OEHHA has developed a table of health data for toxic air contaminants that must be used to estimate risk for HRAs conducted in accordance with the OEHHA guidance. The most recent health data for diesel particulate matter were obtained from OEHHA and are incorporated in the HARP software. Diesel particulate matter is assumed to have an inhalation cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and a chronic REL of 5.0 $\mu g/m^3$.

5.5 Risk Characterization

Risk characterization is the culmination of the risk assessment process; it integrates the results of the identification of chemicals of potential concern, exposure assessment, and toxicity assessment to describe the risks to individuals and populations in terms of extent and severity of probable adverse health risks under both current and future land use conditions. In this HRA, the health risk characterization process involves integrating the exposure intakes and the toxicity values to estimate two types of potential health effects: carcinogenic and noncarcinogenic. Potential adverse health effects from noncarcinogens were further divided into an assessment of potential acute and chronic exposures. Because the development of carcinogenic and noncarcinogenic effects is assumed to be caused by different mechanisms of action, different methods are used to evaluate these effects.

The following subsections present the approach to calculating carcinogenic and noncarcinogenic risks in this HRA.

5.5.1 Carcinogenic Risk Characterization Methodology

Carcinogenic risk characterization methodology stems from the current regulatory assumption that chemicals causing cancer may not have a threshold (i.e., a carcinogen produces a risk of causing cancer at any level of exposure). It should be noted that people are exposed to numerous chemicals from natural and artificial sources, and this background exposure may exceed the risk threshold considered to be acceptable for a particular cancer-causing mechanism. Moreover, some people may be more susceptible to cancer than others, which means that background levels of exposure may already exceed the risk threshold values for those individuals and not for others that are

equally exposed. On the basis of these reasons, EPA scientists emphasize that background levels of exposure to cancer-causing agents are already initiating the carcinogenic process (EPA 1989). The HRA focuses on the incremental potential cancer risk associated with exposure to facility emissions and, therefore, does not account for natural background or individual habits/occupations separate from those associated with the facility.

In assessing the carcinogenic effects resulting from exposures to environmental contaminants, the lifetime excess cancer risk, which is considered to be the risk of developing cancer above the background risk level, is calculated using the following equation:

$$\text{Inhalation Dose (mg/kg-day)} \times \text{Cancer Potency (mg/kg-day)}^{-1} = \text{Cancer Risk}$$

The individual excess cancer risk (for inhalation and multipathway exposures) represent the potential risk to a single maximally exposed individual who may be exposed over a lifetime to a facility's emissions for a residential. A significant excess cancer risk would be predicted if the individual's excess cancer risk is greater than 10 in one million.

5.5.2 Noncarcinogenic Risk Characterization Methodology

Noncarcinogenic impacts are determined for acute (inhalation exposure) and for both inhalation and oral chronic exposure. Estimates of health impacts from noncancer endpoints are expressed as a hazard quotient (HQ) (for individual substances) or as a hazard index (HI) (for multiple substances). An HQ of one or less indicates that adverse health effects are not expected to result from exposure to emissions of that substance. HQs are calculated by dividing the exposure concentration by a reference exposure level. Reference exposure levels are defined as the concentration to which a receptor could be exposed below which no adverse health effects are anticipated.

The chronic inhalation HQ is based on the annual average ground level concentration divided by the chronic reference exposure level. Generally, the inhalation pathway is the largest contributor to the total dose.

5.6 Risk Assessment Results

This section of the report presents the results of the risk calculations.

As described in Section 5.5.1, both individual and population carcinogenic risks were estimated in the HRA. The approach to calculating individual excess cancer risk for the inhalation pathway involved multiplying the predicted concentration for each carcinogenic toxic air contaminant at each receptor by the breathing rate for that receptor and the cancer potency factor for that contaminant. The total excess cancer risk for an individual receptor is the sum of the excess cancer risk for each contaminant at that receptor.

The following discussion presents the risks predicted at the maximally exposed individual resident (MEIR). The MEIR is located in the residential area to the south of Orange Avenue in the residential area. Incremental excess cancer risks were predicted predicted for the MEIR based on a residential exposure scenario, accounting for childhood exposure as discussed above. The results of the risk assessment are summarized in Table 10. As shown in Table 10, risks are less than significant.

Table 10
Summary of Risk Assessment Results

Receptor	Incremental Cancer Risk	Significant Risk Threshold	Chronic Non-Cancer Hazard Index	Significant Hazard Index
MEIR	4.02 in a million	10 in a million	0.00118	1

[1]Based on worker exposure scenario

As discussed above, two types of health effects were evaluated in this HRA: cancer risk, which represents the potential for increased risk of cancer in a lifetime associated with exposure to emissions from the diesel truck traffic, and chronic non-cancer hazards which represent the potential for a non-cancer health effect due to exposure on a chronic basis to emissions from the project.

Excess cancer risks at the MEIR, calculated based on a residential exposure scenario where individuals are exposed for 24 hours per day, 7 days per week, for 30 years would be below the 10 in a million threshold. Excess cancer risks for all other sensitive receptors are less than 10 in a million.

The chronic non-cancer risks for all receptors are also below the significance threshold of 1.0; therefore, chronic non-cancer risks are less than significant.

Risk calculations are provided as Appendix B to this report.

In conclusion, this HRA has been conducted based on the guidance issued by ARB, OEHHA and the SCAQMD. It is not intended to represent an estimate of the true risks associated with potential exposures to toxic air contaminants emitted from the facility. Rather, the uncertainties inherent in the risk assessment methodology used in this HRA lead to an upper-bound estimate of potential human health risks.

As discussed in Section 5.1, background excess cancer risks are already above the threshold of 10 in a million. The SCAQMD has not developed a significance threshold for cumulative health risks, nor had it identified a methodology for analyzing cumulative health risks by combining impacts from a cumulative project list. The significance threshold is based on the incremental contribution of a project rather than cumulative impacts. Therefore, as discussed above, the impacts due to toxic air contaminants are less than significant.

6.0 Global Climate Change

6.1 Introduction to Global Climate Change Issues

Global Climate Change (GCC) refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), which are known as greenhouse gases (GHGs). These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called greenhouse gases, analogous to a greenhouse. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Without these natural GHGs, the Earth's temperature would be about 61º Fahrenheit cooler (California Environmental Protection Agency 2006). Emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

State law defines greenhouse gases as any of the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) (California Health and Safety Code Section 38505(g).) CO_2, followed by CH_4 and N_2O, are the most common GHGs that result from human activity.

6.2 Sources and Global Warming Potentials of GHG

The State of California GHG Inventory performed by the California Air Resources Board (ARB), compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 1990 to 2012, and is summarized in Table 11. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in

the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

Table 11
State of California GHG Emissions by Sector

Sector	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2012 Emissions ($MMTCO_2e$)	Percent of Total 2012 Emissions
Agriculture	23.4	5%	37.86	8%
Commercial	14.4	3%	14.20	3%
Electricity Generation	110.6	26%	95.09	21%
Forestry (excluding sinks)	0.2	<1%		
Industrial	103.0	24%	89.16	19%
Residential	29.7	7%	28.09	6%
Transportation	150.7	35%	167.38	36%
Recycling and Waste			8.49	2%
High GWP Gases			18.41	4%
Forestry Sinks	(6.7)			

[1]Source: Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, California Air Resources Board.
[2]$MMTCO_2e$ refers to million metric tons of CO_2 equivalent emissions.

When accounting for GHGs, all types of GHG emissions are expressed in terms of CO_2 equivalents (CO_2e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (USEPA 2006). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main greenhouse gases that have been attributed to human activity include CH_4, which has a GWP of 28, and N_2O, which has a GWP of 265. Table 12 presents the GWP and atmospheric lifetimes of common GHGs.

Table 12 Global Warming Potentials and Atmospheric Lifetimes of GHGs			
GHG	**Formula**	**100-Year Global Warming Potential**	**Atmospheric Lifetime (Years)**
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	28	12
Nitrous Oxide	N_2O	265	121
Sulfur Hexafluoride	SF_6	23,500	3,200
Hydrofluorocarbons	HFCs	100 to 12,000	1 to 100
Perfluorocarbons	PFCs	7,000 to 11,000	3.000 to 50,000
Nitrogen Trifluoride	NF_3	16,100	500
Source:First Update to the Climate Change Scoping Plan, ARB 2014			

Human-caused sources of CO_2 include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO_2 have increased in the atmosphere since the industrial revolution.

CH_4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of N_2O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid. Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

The sources of GHG emissions, GWP, and atmospheric lifetime of GHGs are all important variables to be considered in the process of calculating CO_2e for discretionary land use projects that require a climate change analysis.

6.3 Regulatory Framework

All levels of government have some responsibility for the protection of air quality, and each level (Federal, State, and regional/local) has specific responsibilities relating to air quality regulation. GHG emissions and the regulation of GHGs is a relatively new component of air quality.

6.3.1 National and International Efforts

GCC is being addressed at both the international and federal levels. In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In October 1993, President Clinton announced his Climate Change Action Plan (CCAP), which had a goal of returning GHG emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in GHG emissions. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of GCC. Recently, the United States Supreme Court declared in the court case of Massachusetts et al. vs. the Environmental Protection Agency et al., 549 C.S. 497 (2007) that the EPA does have the ability to regulate GHG emissions. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs.

Endangerment Finding. On April 17, 2009, EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

Mandatory GHG Reporting Rule. On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA proposed a rule that requires mandatory reporting of greenhouse gas (GHG) emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

EPA is requiring suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), and other fluorinated gases including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE).

Corporate Average Fuel Economy Standards. The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020. In May 2009, President Obama announced plans to increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 miles per gallon by 2016. On April 1, 2010, the U.S. Department of Transportation and the EPA established historic new federal rules that set the first-ever national greenhouse gas emissions standards and will significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The standards set a requirement to meet an average fuel economy of 34.1 miles per gallon by 2016.

6.3.2 State Regulations and Standards

The following subsections describe regulations and standards that have been adopted by the State of California to address GCC issues.

Assembly Bill 32, the California Global Warming Solutions Act of 2006. In September 2006, Governor Schwarzenegger signed California AB 32, the global warming bill, into law. AB 32 directed the ARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance

mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit.

- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 required that by January 1, 2008, ARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. ARB adopted its Scoping Plan in December 2008, which provided estimates of the 1990 GHG emissions level and identified sectors for the reduction of GHG emissions. The ARB has estimated that the 1990 GHG emissions level was 427 MMT net CO_2e (ARB 2007b). The ARB estimates that a reduction of 173 MMT net CO_2e emissions below business-as-usual would be required by 2020 to meet the 1990 levels (ARB 2007b).

Senate Bill 97. Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed OPR to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009 and directed the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The Governor's Office of Planning and Research (OPR) published a technical advisory on CEQA and Climate Change on June 19, 2008. The guidance did not include a suggested threshold. The OPR does recommend that CEQA analyses include the following components:

- Identify greenhouse gas emissions
- Determine Significance
- Mitigate Impacts

In April 2009, the OPR published its proposed revisions to CEQA to address GHG emissions. The amendments to CEQA indicate the following:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

On July 3, 2009, the California Natural Resources Agency published proposed amendment of regulations based on OPR's proposed revisions to CEQA to address GHG emissions. On that date, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Having reviewed and considered all comments received, on December 30, 2009, the

Natural Resources Agency adopted the proposed amendments to the state CEQA guidelines in the California Code of Regulations. The amendments were formally adopted on March 18, 2010.

Executive Order S-3-05. Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California", and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

Executive Order S-21-09. Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 required that the ARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target as established in Executive Order S-14-08. The ARB established the regulation, which was approved by the Board on September 23, 2010, and sets a 33 percent renewable energy target by the year 2020. Under Executive Order S-21-09, the ARB will work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The ARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the ARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

California Code of Regulations Title 24. Although not originally intended to reduce greenhouse gas emissions, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The GHG emission inventory was based on Title 24 standards as of

October 2005; however, Title 24 has been updated as of 2013 and standards are set to be phased in beginning in January 2014. The new Title 24 standards are anticipated to increase energy efficiency by 15% over Title 24 standards as of 2008. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

State Standards Addressing Vehicular Emissions. California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by ARB would apply to 2009 and later model year vehicles. ARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030 (AEP 2007). Once implemented, emissions from new light-duty vehicles are expected to be reduced in San Diego County by 21 percent by 2020. The ARB has adopted amendments to the "Pavley" regulations that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by the Board on September 24, 2009, are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. ARB's September amendments will cement California's enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments will also prepare California to harmonize its rules with the federal rules for passenger vehicles. It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency.

Executive Order S-01-07. Executive Order S-01-07 was enacted by the Governor on January 18, 2007. Essentially, the order mandates the following: 1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. It is assumed that the effects of the LCFS would be a 10% reduction in GHG emissions from fuel use by 2020. On April 23, 2009, ARB adopted regulations to implement the LCFS. While the

LCFS was subject to a challenge in the 9th Circuit Court, the Court recently upheld the standard and the state of California is proceeding with implementation of the LCFS requirement.

Senate Bill 375. Senate Bill 375 requires that regions within the state which have a metropolitan planning organization must adopt a sustainable communities strategy as part of their regional transportation plans. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so "it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to "encourage developers to submit applications and local governments to make land use decisions that will help the state achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

On June 30, 2010, CARB staff issued the *Draft Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*. With respect to the SANDAG region, within which the project site is located, CARB staff proposed a draft reduction target of 5 to 10 percent for 2020, and a placeholder reduction target of 5 to 19 percent for 2035. The emissions reduction will be measured relative to 2005 levels and as a percent reduction in per capita emissions associated with passenger vehicles and light trucks. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and low carbon fuel standard regulations.

6.4 Potential Climate Change Impacts to the Site

6.4.1 Existing Conditions

The site is currently vacant. Natural vegetation and soils temporarily store carbon as part of the terrestrial carbon cycle. Carbon is assimilated into plants and animals as they grow and then is dispersed back into the environment when they die. The main source of carbon storage at the project site are the site soils.

6.4.2 Typical Adverse Effects

The Climate Scenarios Report (CCCC 2006), uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges were identified: Lower warming range (3.0 to 5.5 degrees Fahrenheit (ºF)); medium warming range (5.5 to 8.0 ºF); and higher warming range (8.0 to 10.5 ºF). The Climate Scenarios report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. These impacts are described below.

Public Health. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O_3 formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O_3 levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of pollutants including $PM_{2.5}$ could further compromise air quality. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through

increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects. This effect could occur in southern California in general and at the project site specifically.

Water Resources. A vast network of reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The State's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aquifers. This effect could impact the project by reducing the amount of water available.

Agriculture. Increased GHG and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would also impact production. Crop growth and development will change as will the intensity and frequency of pests and diseases. This effect would not impact the project because it is not an agricultural development.

Ecosystems/Habitats. Continued global warming will likely shift the ranges of existing invasive plants and weeds, thus alternating competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations of and types of pests. Continued global warming would also affect natural

ecosystems and biological habitats throughout the State. This effect could affect the project site by changing the range of plants adapted at the site.

Wildland Fires. Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. This effect could increase the potential for wildland fires in areas around the project site.

Rising Sea Levels. Rising sea levels, more intense coastal storms, and warmer water temperatures will increasing threaten the State's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats. This effect would not impact the project site because it is not in a coastal area.

6.5 Climate Change Significance Criteria

According to the California Natural Resources Agency[1], "due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis. According to Appendix G of the CEQA Guidelines, the following criteria may be considered to establish the significance of GCC emissions:

Would the project:

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

[1] California Natural Resources Agency, Initial Statement of Reasons for Regulatory Action, Proposed Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gases Pursuant to SB 97. July 2009.

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

(2) Rely on a qualitative analysis or performance based standards.

Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The SCAQMD has proposed a screening-level threshold to address significance of GHG emissions from land use projects. Their draft threshold is 10,000 MTons CO_2e per year for industrial projects. (SCAQMD 2010.)

The County of San Bernardino has adopted its *Greenhouse Gas Emissions Reduction Plan* to address the County's GHG emissions (County of San Bernardino 2011). To evaluate the

significance of the Bloomington Warehouse Project, an evaluation of the consistency of the project with the Plan has een conducted in this analysis.

6.6 Global Climate Change Impacts

This analysis provides a calculation of Project-specific emissions, but those emissions are not significant on a project-specific level because no single project will affect climate change. Accordingly, this analysis focuses on the Project's cumulative impact on global climate change, as discussed in the new State CEQA Guidelines confirming that the focus of a GHG analysis is the cumulative impact. GHG emissions associated with the project include emissions from construction of the Bloomington Warehouse Project and emissions from project operations. The following subsections discuss the emissions inventory.

Construction Emissions. GHG emissions associated with Project construction were estimated using the CalEEMod Model. Based on the analysis, total greenhouse gases associated with construction are summarized in Table 13.

Table 13[1]
Greenhouse Gas Emissions - Construction

Construction Year	CO_2 Emissions, metric tons	CH_4 Emissions, metric tons	N_2O Emissions, metric tons	CO_2e Emissions, metric tons
2015	396.13	0.0778	0.0000	398.31
2016	129.14	0.0161	0.0000	129.59
Total	**525.27**	**0.0939**	**0.00**	**527.90**

[1]Source: CalEEMod Model runs

The total emissions are estimated at 528 metric tons of CO_2 total for the duration of construction. Amortized over 30 years, the annual CO_2 emissions would be 18 metric tons per year.

Operational Emissions. Emissions of GHGs were calculated assuming a "business as usual" scenario, which does not account for any GHG reduction measures. Business as usual emissions

were calculated for energy use (including electricity and natural gas usage), water use, and vehicles.

Energy Use. Business as usual electricity use was estimated based on assuming Bloomington Warehouse Project would meet the requirements of Title 24 as of 2005. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009). Natural gas use was also estimated based on assuming the Project would meet the requirements of Title 24 as of 2005. Emissions were calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (CCAR 2009).

Electricity usage rates from the Project space were projected based on estimated annual rates of 4.45 kilowatt-hours (kWh) per square foot for an unrefrigerated warehouse (Itron 2006). Emissions of GHG were then calculated using emission factors from the California Climate Action Registry General Reporting Protocol (CCAR 2009), which provide an estimate of pounds of emissions for a given amount of annual electricity usage. Likewise, natural gas usage was estimated based on estimated annual natural gas consumption of 0.03 therms per square foot for unrefrigerated warehouse space (Itron 2006).

Water. Water use and energy use are often closely linked. The provision of potable water to commercial users consumes large amounts of energy associated with five stages: source and conveyance, treatment, distribution, end use, and wastewater treatment. This inventory estimated that delivered water for the project will have an embodied energy of 12,700 kWh/gallon.

Water usage was estimated based on an estimated water usage of 35 gallons per year per square foot (Dziegielewski 2000). Business as usual water usage, without water management strategies implemented, is estimated at 76,345,850 gallons per year. GHG emissions were then estimated based on the embodied energy of water, using the emission factors from the California Climate Action Registry General Reporting Protocol (CCAR 2009).

Transportation. On-road vehicle emissions account for 37% of existing GHG emissions in the state of California. Traffic estimates of 1,572 passenger vehicle average daily trips (ADT) and 393 truck ADT were made based on the Traffic Impact Study (Hall and Foreman 2015). Emissions from vehicles under "business as usual" conditions were calculated using the EMFAC2011 model. The EMFAC2011 model provides estimates of emission factors with and without the Pavley and LCFS programs implemented.

Table 14 presents emissions under business as usual conditions.

Table 14[1]
GHG Emissions from the Project (metric tons)
Business as Usual Scenario

Emission Source	Annual Emissions (Metric tons/year)			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use Emissions	543	0.0226	0.0061	545
Natural Gas Use Emissions	59	0.0066	0.0001	59
Water Usage	54	0.0023	0.0006	54
Vehicle Emissions	2,855	0.03	0.27	2,928
Construction	18	-	-	18
Total	**3,529**	**0.0615**	**0.2768**	**3,604**
Global Warming Potential Factor	**1**	**28**	**265**	
CO_2 Equivalent Emissions	3,529	2	73	3,604
TOTAL CO_2 Equivalent Emissions	**3,604**			

[1]Sources: GHG Emission Calculations, Appendix A, Based on California Climate Action Protocol; EMFAC2011 Model Calculations, Appendix A.

As shown in Table 14, emissions are below the SCAQMD's draft threshold of 10,000 metric tons per year for industrial sources, but are above the County of San Bernardino's threshold of 3,000 metric tons of CO_2e for all development projects.

To address reductions that would be achieved through implementation of state and federal GHG reduction programs, the following programs were taken into account.

The following project design features would reduce GHG emissions from warehousing operations:

- The project will require all new non-residential buildings to be 15 percent more energy efficient than Title 24 2008 standards, which is required under Title 24 as of 2013.
- The ARB's Heavy-Duty Vehicle Greenhouse Gas Reduction Measure airms tor educe fuel consumption of heavy-duty diesel-fueled trucks through improvements in aerodynamic drag and tire rolling resistance. According to ARB, currenty crtified aerodynamic devices achieve between 7 percent and 10 percent fuel savings at 60 mph. To account for the improvement in fuel efficiency, truck emissions were reduced by 8.5 percent.

In addition, the state-mandated Renewable Portfolio Standard, when implemented fully, will reduce indirect emissions from electricity use associated with the project and with the embodied energy of water. It was assumed that the Renewable Portfolio Standard will be 33% implemented by the year 2020, and that emissions would be reduced accordingly for electricity use and water use.

Additional project design features applicable to the Bloomington Warehouse Project that were not included in the GHG emissions analysis but would be likely to yield further GHG emissions reductions beyond what is projected in the Draft EIR include the following:

- The Proposed Project involves the development of an underutilized, derelict and contaminated infill site, which is immediately adjacent to, and accessible from, the Interstate 10 freeway. As a result of the extensive transportation network in this part of western San Bernardino County, the project site is located in one of the largest warehouse and distribution regions in the U.S., through which 80 percent of California's imported cargo is shipped. By focusing resources and development in an infill land are that has been previously developed, the project takes development pressure off further outlying, undeveloped areas. The design of the project reduces GHG emissions via smart land use patterns.
- Minimal landscaping will be used on site. High-efficiency, xeriscape irrigation systems will reduce the amount of water devoted to landscaped areas and automated irrigation systems will reduce water use. Drought tolerant, heat resistant, hardy native plants will be

used and planted in groupings. Large turf areas will be prohibited and where professional management is available, recycled water will be used.

In addition to the project design features listed above, the Bloomington Warehouse Project will be consistent with the San Bernardino County *Greenhouse Gas Reduction Plan*. The project has completed the County's checklist and has achieved reductions exceeding 100 points. The checklist is provided as Appendix C.

Table 15 presents a summary of the GHG emissions, considering GHG reduction measures that would be implemented through project design features and state and federal programs.

Table 15[1] GHG Emissions from the Project (metric tons) With GHG Reductions				
Emission Source	**Annual Emissions (Metric tons/year)**			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Operational Emissions				
Electricity Use Emissions	337	0.0140	0.0038	338
Natural Gas Use Emissions	50	0.0056	0.0001	50
Water Usage	36	0.0015	0.0004	36
Vehicle Emissions	2,472	0.03	0.25	2,540
Construction	18	-	-	18
Total	**2,913**	**0.0511**	**0.2543**	**2,982**
Global Warming Potential Factor	**1**	**28**	**265**	
CO_2 Equivalent Emissions	2,913	1	67	2,982
TOTAL CO_2 Equivalent Emissions	**2,982**			
Business as Usual CO_2 Equivalent Emissions	**3,604**			
Percent Reduction	**17.25%**			

[1]Sources: GHG Emission Calculations, Appendix A, Based on California Climate Action Protocol; EMFAC2011 Model Calculations, Appendix A.

As shown in Table 15, GHG emissions, with implementation of project design features and state and federal measures discussed above, would be reduced by 17.25% below business as usual levels. With GHG reduction measures, the emissions would also be below the County's threshold of 3,000 metric tons of CO_2e.

The project would achieve greater than 100 points for GHG reductions from the County's checklist, and would be consistent with the County's Greenhouse Gas Reduction Plan and would therefore not conflict with implementation of the applicable plan. The project would therefore have less than significant impacts on GHGs.

7.0 Cumulative Impacts

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is listed as "non-attainment" for the State AAQS. A project that has a significant impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x and/or ROGs as determined by the screening criteria outlined above would have a significant cumulative effect. In the event direct impacts from a project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions from the project, in combination with the emissions from other proposed, or reasonably foreseeable future projects are in excess of screening levels identified above, and the project's contribution accounts for more than an insignificant proportion of the cumulative total emissions.

With regard to past and present projects, the background ambient air quality, as measured at the monitoring stations maintained and operated by the SCAQMD, measures the concentrations of pollutants from existing sources. Past and present project impacts are therefore included in the background ambient air quality data.

SCAQMD Significance Thresholds. As discussed in Section 4.0, the Bloomington Warehouse Project's emissions would not exceed any of the SCAQMD significance thresholds. Accordingly, impacts would be less than cumulatively considerable.

AQMP Compliance. The Bloomington Warehouse Project's impacts would be consistent with the development in the area and would be in compliance with applicable AQMP measures. Impacts would not be cumulatively considerable.

Cumulative Health Effects. This analysis presented a health risk assessment to address the potential contribution of exposure to diesel particulate matter emitted from trucks associated with operations at the Bloomington Warehouse Project. Because the risks are below the SCAQMD's significance level, the Project would not result in a cumulatively considerable contribution to basin-wide risks.

Global Climate Change. The project also relies on federal, state, and local programs to meet the goal established under AB 32. The project would be consistent with the County of San Bernardino's Climate Action Plan by achieving reductions exceeding 100 points. Impacts would therefore be less than cumulatively considerable.

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Appendix A

Emission Calculations
CalEEMod Outputs

Table A-1
Operational Vehicle Emissions
Bloomington Warehouses Project

External Trips

Without Pavley or LCFS

Vehicle	No. of trips	Speed (mph)	VMT (mi/trip)	CO		NO_X		VOCs					SOx		PM10				Road Dust PM10 (g/mi)	PM2.5				Road Dust PM10 (g/mi)	CO2		CH4		NO2	
				Running Exhaust (g/mi)	Start-Up (g/start)[1]	Running Exhaust (g/mi)	Start-Up (g/start)[1]	Running Exhaust (g/mi)	Start-Up (g/start)[1]	Hot-Soak (g/trip)	Resting Loss (g/hr)	Running Evaporative (g/mi)	Diurnal Evaporative (g/hr)	Running Exhaust (g/mi)	Start-Up (g/start)[1]	Running Exhaust (g/mi)	Start-Up (g/start)[1]	Tire Wear (g/mi)	Brake Wear (g/mi)		Running Exhaust (g/mi)	Start-Up (g/start)[1]	Tire Wear (g/mi)	Brake Wear (g/mi)		Running Exhaust (g/mi)	Start-Up (g/start)[1]	Running Exhaust (g/mi)	Start-Up (g/start)[1]	Running Exhaust (g/mi)	Start-Up (g/start)[1]
Light Duty Autos	389	25	15	0.964519	13.2286	0.085331	0.137514	0.024553	1.024942	0.854605	0.319425	0.05587	0.376849	0.003197	0.004886	0.002179	0.017865	0.008	0.03675	0.3407	0.002012	0.016401	0.002	0.01575	0.0341	417.50013	465.3937	0.022246	0.03	0.0035497	0.005721
Light Duty Trucks	110	25	15	2.579328	31.8012	0.24557	0.281002	0.073518	2.452332	1.929423	0.809751	0.198413	1.0992515	0.00379	0.005689	0.004241	0.031335	0.008	0.03675	0.3407	0.004	0.028861	0.002	0.01575	0.0341	481.20	512.20	0.00594977	0.031	0.01021572	0.01169
Light-Heavy Duty Truck	21	25	40	0.507421		2.505105		0.087944						0.005312		0.020217		0.012	0.03675	0.3407	0.019342		0.0030	0.01575	0.0341	523.6261		0.0096		0.10421237	
Medium-Heavy Duty Truck	28	25	40	0.604472		3.640419		0.186148						0.01103		0.113154		0.012	0.03675	0.3407	0.1083		0.0030	0.01575	0.0341	1292.5493		0.0064		0.15144144	
Heavy Duty Truck	76	25	40	0.864758		5.659521		0.181688						0.015884		0.039899		0.036	0.03675	0.3407	0.0382		0.0090	0.01575	0.0341	1995.66398		0.0161		0.23543609	
TOTAL																															

TOTAL

Vehicle	Emissions, lbs/day										GHG Emissions, metric tons/year			
	CO	NOx	VOCs	SOx	PM10	Road Dust	Total PM10	PM2.5	Road Dust	Total PM2.5	CO2	CH4	N2O	
Light Duty Autos	23.76	1.22	7.42	0.05	0.62	4.38	5.00	0.27	0.44	0.71	654	0.01	0.01	
Light Duty Trucks	17.09	0.96	5.76	0.02	0.19	1.24	1.43	0.09	0.12	0.21	213	0.00	0.00	
Light-Heavy Duty Truck	0.94	4.64	0.16	0.01	0.13	0.63	0.76	0.07	0.06	0.13	110	0.00	0.02	
Medium-Heavy Duty Truck	1.49	8.99	0.46	0.03	0.40	0.84	1.24	0.31	0.08	0.40	362	0.00	0.04	
Heavy Duty Truck	5.80	37.93	1.22	0.11	0.75	2.28	3.04	0.42	0.23	0.65	1517	0.01	0.18	
TOTAL	**49.08**	**53.74**	**15.02**	**0.20**	**2.09**	**9.38**	**11.47**	**1.16**	**0.94**	**2.10**	**2855**	**0.03**	**0.25**	2923.381

Paved Road Dust

Emission Factor		Silt Loading	Mean vehicle weight
Emission Factor, grams/mi	k, g/VMT	g/m3	W, tons
0.3407	7.3	0.03	2.4

Table A-2
Operational Vehicle Emissions - with Pavley and LCFS Implemented
Bloomington Warehouses Project

With Pavley and LCFS

External Trips

Vehicle	No. of trios	Soeed (mph)	VMT (mi/trip)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]	NO2 Running Exhaust (g/mi)	NO2 Start-Up (g/start)[a]
Light Duty Autos	389	25	15	326.3033	137.4883	0.007008	0.01547	0.00355	0.005721
Light Duty Trucks	110	25	15	400.2429	167.6442	0.021863	0.046778	0.010216	0.01169
Light-Heavy Duty Truck	21	25	40	682.8429		0.008368		0.104212	
Medium-Heavy Duty Truck	28	25	40	1327.276		0.004442		0.151441	
Heavy Duty Truck	76	25	40	1865.855		0.013604		0.235436	
TOTAL									

Vehicle	GHG Emissions, metric tons/year CO2	CH4	N2O	
Light Duty Autos	489	0.01	0.01	
Light Duty Trucks	170	0.01	0.00	
Light-Heavy Duty Truck	143	0.00	0.02	
Medium-Heavy Duty Truck	372	0.00	0.04	
Heavy Duty Truck	1298	0.01	0.16	
TOTAL	**2472**	**0.03**	**0.24**	2535.775

Table A-3
Truck Traffic Breakdown
Bloomington Warehouse Project

	Bloomington Warehouses Truck Trips		
	Inbound	**Outbound**	**Total**
Building 1	62.5	62.5	125
TOTAL	**62.5**	**62.5**	**125**

Table A-4
Truck Distribution
Bloomington Warehouse Project

AADT	
Roadway Segment	**Number of Trucks**
Building 1	
Inbound Linden, Orange to Linden Entrance	13
Inbound Slover to Orange	3
Inbound Orange, Orange Entrance to Linden	9
Inbound Orange, Cedar to Orange Entrance	34
Inbound Cedar, Slover to Orange	13
Inbound Cedar, Cedar Place to Orange	28
Inbound Cedar, I10 EB to Cedar Place	47
Inbound Cedar, I10 WB to I10 EB	28
Inbound Cedar, Valley to I10WB	13
Outbound Linden, Orange to Linden Entrance	41
Outbound Slover to Orange	3
Outbound Orange, Orange Entrance to Linden	38
Outbound Orange, Cedar to Orange Entrance	53
Outbound Cedar, Slover to Orange	13
Outbound Cedar, Cedar Place to Orange	6
Outbound Cedar, I10 EB to Cedar Place	47
Outbound Cedar, I10 WB to I10 EB	31
Outbound Cedar, Valley to I10WB	13
Idling Building 1	125

NOTE: Assume trucks travel an average of 25 mph on the roadway segments
NOTE: Each volume source is 25 meters of distance, or 0.0155 miles.
NOTE: Assumes 365 days per year of traffic.

Table A-5
Diesel Particulate Emission Calculation
Bloomington Warehouse Project

Emissions per Source

	HHD	g/s		
Segment	**30-year average Diesel Particulate**	**30-year average Diesel Particulate**	**40-year average Diesel Particulate**	**70-year average Diesel Particulate**
Building 1				
Inbound Linden, Orange to Linden Entrance	0.008	1.144E-07	1.138E-07	1.152E-07
Inbound Slover to Orange	0.002	2.640E-08	2.627E-08	2.659E-08
Inbound Orange, Orange Entrance to Linden	0.006	7.921E-08	7.881E-08	7.976E-08
Inbound Orange, Cedar to Orange Entrance	0.021	2.992E-07	2.977E-07	3.013E-07
Inbound Cedar, Slover to Orange	0.008	1.144E-07	1.138E-07	1.152E-07
Inbound Cedar, Cedar Place to Orange	0.017	2.464E-07	2.452E-07	2.482E-07
Inbound Cedar, I10 EB to Cedar Place	0.029	4.136E-07	4.116E-07	4.165E-07
Inbound Cedar, I10 WB to I10 EB	0.017	2.464E-07	2.452E-07	2.482E-07
Inbound Cedar, Valley to I10WB	0.008	1.144E-07	1.138E-07	1.152E-07
Outbound Linden, Orange to Linden Entrance	0.025	3.608E-07	3.590E-07	3.634E-07
Outbound Slover to Orange	0.002	2.640E-08	2.627E-08	2.659E-08
Outbound Orange, Orange Entrance to Linden	0.023	3.344E-07	3.328E-07	3.368E-07
Outbound Orange, Cedar to Orange Entrance	0.032	4.664E-07	4.641E-07	4.697E-07
Outbound Cedar, Slover to Orange	0.008	1.144E-07	1.138E-07	1.152E-07
Outbound Cedar, Cedar Place to Orange	0.004	5.280E-08	5.254E-08	5.318E-08
Outbound Cedar, I10 EB to Cedar Place	0.029	4.136E-07	4.116E-07	4.165E-07
Outbound Cedar, I10 WB to I10 EB	0.019	2.728E-07	2.715E-07	2.747E-07
Outbound Cedar, Valley to I10WB	0.008	1.144E-07	1.138E-07	1.152E-07
Idling Building 1	1.693	2.435E-05	2.049E-05	1.553E-05

Table A-6
Diesel Particulate Emission Factors - 25 mph

Year	Diesel particulate Emission Factor, grams/mile (HDT) 25 mph
2014	0.105
2015	0.081
2016	0.071
2017	0.063
2018	0.061
2019	0.059
2020	0.058
2021	0.057
2022	0.056
2023	0.056
2024	0.056
2025	0.056
2026	0.056
2027	0.056
2028	0.056
2029	0.056
2030	0.056
2031	0.056
2032	0.056
2033	0.056
2034	0.056
2035	0.056
2036	0.056
2037	0.056
2038	0.056
2039	0.056
2040	0.056
2041	0.056
2042	0.056
2043	0.056
2044	0.056
2045	0.056
2046	0.056
2047	0.056
2048	0.056
2049	0.056
2050	0.056
2051	0.056
2052	0.056
2053	0.056
2054	0.056
2055	0.056
2056	0.056
2057	0.056
2058	0.056
2059	0.056
2060	0.056
2061	0.056
2062	0.056
2063	0.056
2064	0.056
2065	0.056
2066	0.056
2067	0.056
2068	0.056
2069	0.056
2070	0.056
2071	0.056
2072	0.056
2073	0.056
2074	0.056
2075	0.056
2076	0.056
2077	0.056
2078	0.056
2079	0.056
2080	0.056
2081	0.056
2082	0.056
2083	0.056
2084	0.056
2085	0.056
30-YEAR AVERAGE	0.057
40-YEAR AVERAGE	0.057
70-YEAR AVERAGE	0.058
30-YEAR AVERAGE IDLING	0.313999419
40-YEAR AVERAGE IDLING	0.264249564
70-YEAR AVERAGE IDLING	0.200285465

Table A-7
Diesel Particulate Emission Factors - Truck Idling

Year	Diesel particulate Emission Factor, grams/idle-hour (HDT)
2010	0.970
2011	0.970
2012	0.970
2013	0.970
2014	0.970
2015	0.970
2016	0.970
2017	0.970
2018	0.970
2019	0.970
2020	0.970
2021	0.449
2022	0.391
2023	0.342
2024	0.299
2025	0.264
2026	0.235
2027	0.211
2028	0.192
2029	0.175
2030	0.162
2031	0.150
2032	0.142
2033	0.136
2034	0.130
2035	0.126
2036	0.123
2037	0.120
2038	0.118
2039	0.116
2040	0.115
2041	0.115
2042	0.115
2043	0.115
2044	0.115
2045	0.115
2046	0.115
2047	0.115
2048	0.115
2049	0.115
2050	0.115
2051	0.115
2052	0.115
2053	0.115
2054	0.115
2055	0.115
2056	0.115
2057	0.115
2058	0.115
2059	0.115
2060	0.115
2061	0.115
2062	0.115
2063	0.115
2064	0.115
2065	0.115
2066	0.115
2067	0.115
2068	0.115
2069	0.115
2070	0.115
2071	0.115
2072	0.115
2073	0.115
2074	0.115
2075	0.115
2076	0.115
2077	0.115
2078	0.115
2079	0.115
2080	0.115
2081	0.115
2082	0.115
2083	0.115
2084	0.115
2085	0.115
30-YEAR AVERAGE	0.313999419
40-YEAR AVERAGE	0.264249564
70-YEAR AVERAGE	0.200285465

Bloomington 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	371.42	1000sqft	19.14	371,422.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	34.00

tblConstructionPhase	NumDays	300.00	129.00
tblConstructionPhase	NumDays	30.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	PhaseEndDate	6/2/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	2/11/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	4/14/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	10/1/2015	8/14/2015
tblConstructionPhase	PhaseStartDate	4/16/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	8/15/2015	9/1/2015
tblConstructionPhase	PhaseStartDate	2/29/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	9/1/2015	7/15/2015
tblGrading	AcresOfGrading	153.00	19.14
tblGrading	MaterialExported	0.00	4,375.00
tblLandUse	LandUseSquareFeet	371,420.00	371,422.00
tblLandUse	LotAcreage	8.53	19.14
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	ST_TR	2.59	0.00

tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

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					
2015	16.8759	185.4761	120.9158	0.1512	19.5169	9.5713	29.0882	10.2223	8.8055	19.0278	0.0000	15,724.3025	15,724.3025	4.1918	0.0000	15,812.3294
2016	256.0269	22.2467	23.1553	0.0469	2.1249	1.3926	2.7160	0.5710	1.3563	1.5223	0.0000	4,386.0994	4,386.0994	0.4814	0.0000	4,396.2081
Total	**272.9028**	**207.7228**	**144.0711**	**0.1982**	**21.6418**	**10.9639**	**31.8042**	**10.7933**	**10.1619**	**20.5502**	**0.0000**	**20,110.4019**	**20,110.4019**	**4.6731**	**0.0000**	**20,208.5375**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	3.7788	70.1095	90.6636	0.1512	8.1234	3.1883	11.3118	4.1239	3.1810	7.3049	0.0000	15,724.3025	15,724.3025	4.1918	0.0000	15,812.3294
2016	253.9457	12.1716	23.8499	0.0469	2.1249	0.7287	2.5749	0.5710	0.7283	1.0129	0.0000	4,386.0994	4,386.0994	0.4814	0.0000	4,396.2081
Total	**257.7245**	**82.2811**	**114.5134**	**0.1982**	**10.2484**	**3.9171**	**13.8867**	**4.6949**	**3.9093**	**8.3178**	**0.0000**	**20,110.4019**	**20,110.4019**	**4.6731**	**0.0000**	**20,208.5375**

	ROG	NOx	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	**5.56**	**60.39**	**20.52**	**0.00**	**52.65**	**64.27**	**56.34**	**56.50**	**61.53**	**59.52**	**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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Energy	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.7397**	**0.2139**	**0.2182**	**1.2800e-003**	**0.0000**	**0.0164**	**0.0164**	**0.0000**	**0.0164**	**0.0164**		**256.2757**	**256.2757**	**5.1400e-003**	**4.7000e-003**	**257.8397**

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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Energy	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.7397**	**0.2139**	**0.2182**	**1.2800e-003**	**0.0000**	**0.0164**	**0.0164**	**0.0000**	**0.0164**	**0.0164**		**256.2757**	**256.2757**	**5.1400e-003**	**4.7000e-003**	**257.8397**

	ROG	NOx	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	Grading	Grading	7/15/2015	8/31/2015	5	34	
2	Utilities	Trenching	7/15/2015	8/14/2015	5	23	
3	Building Construction	Building Construction	9/1/2015	2/28/2016	5	129	
4	Paving	Paving	3/1/2016	4/15/2016	5	34	
5	Architectural Coating	Architectural Coating	3/1/2016	4/15/2016	5	34	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 19.14

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 557,133; Non-Residential Outdoor: 185,711 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	3	8.00	174	0.41
Grading	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	3	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Utilities	Excavators	2	8.00	162	0.38
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Utilities	Trenchers	4	8.00	80	0.50
Building Construction		4	8.00		
Building Construction	Aerial Lifts	4	8.00	62	0.31

Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	0.00	130	0.36
Paving	Pumps	2	8.00	84	0.74
Paving	Rollers	2	0.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	25.00	0.00	547.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	156.00	61.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.6778	0.0000	18.6778	9.9974	0.0000	9.9974			0.0000			0.0000
Off-Road	11.7509	136.4261	86.0404	0.0954		6.3406	6.3406		5.8333	5.8333		10,022.2885	10,022.2885	2.9921		10,085.1220
Total	**11.7509**	**136.4261**	**86.0404**	**0.0954**	**18.6778**	**6.3406**	**25.0184**	**9.9974**	**5.8333**	**15.8307**		**10,022.2885**	**10,022.2885**	**2.9921**		**10,085.1220**

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	0.3141	5.0458	3.3849	0.0119	0.2802	0.0862	0.3664	0.0767	0.0793	0.1560		1,210.5340	1,210.5340	9.5600e-003		1,210.7348
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	0.1153	0.1443	1.7908	3.5400e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		308.0079	308.0079	0.0166		308.3559
Total	**0.4294**	**5.1901**	**5.1757**	**0.0154**	**0.5597**	**0.0886**	**0.6483**	**0.1508**	**0.0815**	**0.2323**		**1,518.5419**	**1,518.5419**	**0.0261**		**1,519.0906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2844	0.0000	7.2844	3.8990	0.0000	3.8990			0.0000			0.0000

Off-Road	2.3311	45.0677	55.8533	0.0954		1.8261	1.8261		1.8261	1.8261	0.0000	10,022.2885	10,022.2885	2.9921		10,085.1220
Total	**2.3311**	**45.0677**	**55.8533**	**0.0954**	**7.2844**	**1.8261**	**9.1105**	**3.8990**	**1.8261**	**5.7251**	**0.0000**	**10,022.2885**	**10,022.2885**	**2.9921**		**10,085.1220**

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	0.3141	5.0458	3.3849	0.0119	0.2802	0.0862	0.3664	0.0767	0.0793	0.1560		1,210.5340	1,210.5340	9.5600e-003		1,210.7348
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	0.1153	0.1443	1.7908	3.5400e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		308.0079	308.0079	0.0166		308.3559
Total	**0.4294**	**5.1901**	**5.1757**	**0.0154**	**0.5597**	**0.0886**	**0.6483**	**0.1508**	**0.0815**	**0.2323**		**1,518.5419**	**1,518.5419**	**0.0261**		**1,519.0906**

3.3 Utilities - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.5803	43.7156	27.9090	0.0369		3.1396	3.1396		2.8884	2.8884		3,875.4642	3,875.4642	1.1570		3,899.7609
Total	**4.5803**	**43.7156**	**27.9090**	**0.0369**		**3.1396**	**3.1396**		**2.8884**	**2.8884**		**3,875.4642**	**3,875.4642**	**1.1570**		**3,899.7609**

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	0.1153	0.1443	1.7908	3.5400e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		308.0079	308.0079	0.0166		308.3559
Total	**0.1153**	**0.1443**	**1.7908**	**3.5400e-003**	**0.2794**	**2.4600e-003**	**0.2819**	**0.0741**	**2.2500e-003**	**0.0764**		**308.0079**	**308.0079**	**0.0166**		**308.3559**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9030	19.7074	27.8438	0.0369		1.2712	1.2712		1.2712	1.2712	0.0000	3,875.4641	3,875.4641	1.1570		3,899.7609
Total	**0.9030**	**19.7074**	**27.8438**	**0.0369**		**1.2712**	**1.2712**		**1.2712**	**1.2712**	**0.0000**	**3,875.4641**	**3,875.4641**	**1.1570**		**3,899.7609**

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	0.1153	0.1443	1.7908	3.5400e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		308.0079	308.0079	0.0166		308.3559
Total	**0.1153**	**0.1443**	**1.7908**	**3.5400e-003**	**0.2794**	**2.4600e-003**	**0.2819**	**0.0741**	**2.2500e-003**	**0.0764**		**308.0079**	**308.0079**	**0.0166**		**308.3559**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9079	11.9303	7.0468	0.0116		0.5459	0.5459		0.5023	0.5023		1,211.8097	1,211.8097	0.3618		1,219.4070
Total	**0.9079**	**11.9303**	**7.0468**	**0.0116**		**0.5459**	**0.5459**		**0.5023**	**0.5023**		**1,211.8097**	**1,211.8097**	**0.3618**		**1,219.4070**

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	0.5765	5.9943	6.6126	0.0133	0.3811	0.1037	0.4848	0.1085	0.0953	0.2038		1,345.7981	1,345.7981	0.0106		1,346.0202
Worker	0.7195	0.9004	11.1745	0.0221	1.7437	0.0154	1.7591	0.4624	0.0141	0.4765		1,921.9695	1,921.9695	0.1034		1,924.1406
Total	**1.2959**	**6.8946**	**17.7871**	**0.0354**	**2.1248**	**0.1190**	**2.2438**	**0.5710**	**0.1094**	**0.6803**		**3,267.7676**	**3,267.7676**	**0.1140**		**3,270.1608**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2841	6.0618	7.6467	0.0116		0.3494	0.3494		0.3494	0.3494	0.0000	1,211.8097	1,211.8097	0.3618		1,219.4070
Total	**0.2841**	**6.0618**	**7.6467**	**0.0116**		**0.3494**	**0.3494**		**0.3494**	**0.3494**	**0.0000**	**1,211.8097**	**1,211.8097**	**0.3618**		**1,219.4070**

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	0.5765	5.9943	6.6126	0.0133	0.3811	0.1037	0.4848	0.1085	0.0953	0.2038		1,345.7981	1,345.7981	0.0106		1,346.0202
Worker	0.7195	0.9004	11.1745	0.0221	1.7437	0.0154	1.7591	0.4624	0.0141	0.4765		1,921.9695	1,921.9695	0.1034		1,924.1406
Total	**1.2959**	**6.8946**	**17.7871**	**0.0354**	**2.1248**	**0.1190**	**2.2438**	**0.5710**	**0.1094**	**0.6803**		**3,267.7676**	**3,267.7676**	**0.1140**		**3,270.1608**

3.4 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	0.8545	11.1562	6.9521	0.0116		0.4905	0.4905		0.4512	0.4512		1,199.3431	1,199.3431	0.3618		1,206.9401
Total	**0.8545**	**11.1562**	**6.9521**	**0.0116**		**0.4905**	**0.4905**		**0.4512**	**0.4512**		**1,199.3431**	**1,199.3431**	**0.3618**		**1,206.9401**

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	0.5096	5.2976	6.0845	0.0133	0.3812	0.0860	0.4673	0.1086	0.0791	0.1877		1,331.0075	1,331.0075	9.5500e-003		1,331.2080
Worker	0.6494	0.8122	10.1187	0.0221	1.7437	0.0146	1.7583	0.4624	0.0134	0.4758		1,855.7488	1,855.7488	0.0951		1,857.7466
Total	**1.1590**	**6.1098**	**16.2032**	**0.0354**	**2.1249**	**0.1006**	**2.2255**	**0.5710**	**0.0925**	**0.6635**		**3,186.7563**	**3,186.7563**	**0.1047**		**3,188.9546**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2841	6.0618	7.6467	0.0116		0.3494	0.3494		0.3494	0.3494	0.0000	1,199.3431	1,199.3431	0.3618		1,206.9401

Total	**0.2841**	**6.0618**	**7.6467**	**0.0116**		**0.3494**	**0.3494**		**0.3494**	**0.3494**	**0.0000**	**1,199.3431**	**1,199.3431**	**0.3618**		**1,206.9401**

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	0.5096	5.2976	6.0845	0.0133	0.3812	0.0860	0.4673	0.1086	0.0791	0.1877		1,331.0075	1,331.0075	9.5500e-003		1,331.2080
Worker	0.6494	0.8122	10.1187	0.0221	1.7437	0.0146	1.7583	0.4624	0.0134	0.4758		1,855.7488	1,855.7488	0.0951		1,857.7466
Total	**1.1590**	**6.1098**	**16.2032**	**0.0354**	**2.1249**	**0.1006**	**2.2255**	**0.5710**	**0.0925**	**0.6635**		**3,186.7563**	**3,186.7563**	**0.1047**		**3,188.9546**

3.5 Paving - 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	2.2575	19.5829	14.0456	0.0236		1.1908	1.1908		1.1549	1.1549		2,285.1550	2,285.1550	0.4140		2,293.8497
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2575**	**19.5829**	**14.0456**	**0.0236**		**1.1908**	**1.1908**		**1.1549**	**1.1549**		**2,285.1550**	**2,285.1550**	**0.4140**		**2,293.8497**

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	0.1041	0.1302	1.6216	3.5400e-003	0.2794	2.3400e-003	0.2818	0.0741	2.1500e-003	0.0763		297.3956	297.3956	0.0153		297.7158
Total	**0.1041**	**0.1302**	**1.6216**	**3.5400e-003**	**0.2794**	**2.3400e-003**	**0.2818**	**0.0741**	**2.1500e-003**	**0.0763**		**297.3956**	**297.3956**	**0.0153**		**297.7158**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4853	10.3042	14.9647	0.0236		0.6284	0.6284		0.6284	0.6284	0.0000	2,285.1550	2,285.1550	0.4140		2,293.8497
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4853**	**10.3042**	**14.9647**	**0.0236**		**0.6284**	**0.6284**		**0.6284**	**0.6284**	**0.0000**	**2,285.1550**	**2,285.1550**	**0.4140**		**2,293.8497**

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	0.1041	0.1302	1.6216	3.5400e-003	0.2794	2.3400e-003	0.2818	0.0741	2.1500e-003	0.0763		297.3956	297.3956	0.0153		297.7158
Total	**0.1041**	**0.1302**	**1.6216**	**3.5400e-003**	**0.2794**	**2.3400e-003**	**0.2818**	**0.0741**	**2.1500e-003**	**0.0763**		**297.3956**	**297.3956**	**0.0153**		**297.7158**

3.6 Architectural Coating - 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					
Archit. Coating	253.1678					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**253.5363**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	0.1291	0.1614	2.0108	4.3900e-003	0.3465	2.9000e-003	0.3494	0.0919	2.6600e-003	0.0946		368.7706	368.7706	0.0189		369.1676
Total	**0.1291**	**0.1614**	**2.0108**	**4.3900e-003**	**0.3465**	**2.9000e-003**	**0.3494**	**0.0919**	**2.6600e-003**	**0.0946**		**368.7706**	**368.7706**	**0.0189**		**369.1676**

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	253.1678					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**253.2272**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	0.1291	0.1614	2.0108	4.3900e-003	0.3465	2.9000e-003	0.3494	0.0919	2.6600e-003	0.0946		368.7706	368.7706	0.0189		369.1676
Total	**0.1291**	**0.1614**	**2.0108**	**4.3900e-003**	**0.3465**	**2.9000e-003**	**0.3494**	**0.0919**	**2.6600e-003**	**0.0946**		**368.7706**	**368.7706**	**0.0189**		**369.1676**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Unrefrigerated Warehouse-No	16.60	40.00	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.514315	0.060290	0.180146	0.139458	0.042007	0.006636	0.015782	0.029894	0.001929	0.002512	0.004343	0.000595	0.002093

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	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
NaturalGas Unmitigated	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535

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					
Unrefrigerated Warehouse-No Rail	2177.65	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Total		**0.0235**	**0.2135**	**0.1793**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**256.1944**	**256.1944**	**4.9100e-003**	**4.7000e-003**	**257.7535**

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					
Unrefrigerated Warehouse-No Rail	2.17765	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Total		**0.0235**	**0.2135**	**0.1793**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**256.1944**	**256.1944**	**4.9100e-003**	**4.7000e-003**	**257.7535**

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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Unmitigated	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861

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	2.3583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Total	**9.7162**	**3.7000e-004**	**0.0389**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0813**	**0.0813**	**2.3000e-004**		**0.0861**

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	2.3583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Total	**9.7162**	**3.7000e-004**	**0.0389**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0813**	**0.0813**	**2.3000e-004**		**0.0861**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Bloomington 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	371.42	1000sqft	19.14	371,422.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	34.00

tblConstructionPhase	NumDays	300.00	129.00
tblConstructionPhase	NumDays	30.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	PhaseEndDate	6/2/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	2/11/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	4/14/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	10/1/2015	8/14/2015
tblConstructionPhase	PhaseStartDate	4/16/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	8/15/2015	9/1/2015
tblConstructionPhase	PhaseStartDate	2/29/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	9/1/2015	7/15/2015
tblGrading	AcresOfGrading	153.00	19.14
tblGrading	MaterialExported	0.00	4,375.00
tblLandUse	LandUseSquareFeet	371,420.00	371,422.00
tblLandUse	LotAcreage	8.53	19.14
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	ST_TR	2.59	0.00

tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

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					
2015	16.8999	185.6877	121.1012	0.1508	19.5169	9.5716	29.0885	10.2223	8.8058	19.0281	0.0000	15,683.2420	15,683.2420	4.1919	0.0000	15,771.2715
2016	256.0321	22.2754	23.5840	0.0454	2.1249	1.3926	2.7169	0.5710	1.3563	1.5223	0.0000	4,259.6812	4,259.6812	0.4814	0.0000	4,269.7898
Total	**272.9320**	**207.9632**	**144.6853**	**0.1962**	**21.6418**	**10.9642**	**31.8054**	**10.7933**	**10.1621**	**20.5504**	**0.0000**	**19,942.9232**	**19,942.9232**	**4.6733**	**0.0000**	**20,041.0613**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	3.8028	70.3211	90.8490	0.1508	8.1234	3.1886	11.3121	4.1239	3.1813	7.3052	0.0000	15,683.2420	15,683.2420	4.1919	0.0000	15,771.2714
2016	253.9509	12.3854	24.2786	0.0454	2.1249	0.7287	2.5758	0.5710	0.7283	1.0137	0.0000	4,259.6812	4,259.6812	0.4814	0.0000	4,269.7898
Total	**257.7537**	**82.7065**	**115.1276**	**0.1962**	**10.2484**	**3.9174**	**13.8879**	**4.6949**	**3.9096**	**8.3189**	**0.0000**	**19,942.9231**	**19,942.9231**	**4.6733**	**0.0000**	**20,041.0613**

	ROG	NOx	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	**5.56**	**60.23**	**20.43**	**0.00**	**52.65**	**64.27**	**56.33**	**56.50**	**61.53**	**59.52**	**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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Energy	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.7397**	**0.2139**	**0.2182**	**1.2800e-003**	**0.0000**	**0.0164**	**0.0164**	**0.0000**	**0.0164**	**0.0164**		**256.2757**	**256.2757**	**5.1400e-003**	**4.7000e-003**	**257.8397**

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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Energy	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**9.7397**	**0.2139**	**0.2182**	**1.2800e-003**	**0.0000**	**0.0164**	**0.0164**	**0.0000**	**0.0164**	**0.0164**		**256.2757**	**256.2757**	**5.1400e-003**	**4.7000e-003**	**257.8397**

	ROG	NOx	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	Grading	Grading	7/15/2015	8/31/2015	5	34	
2	Utilities	Trenching	7/15/2015	8/14/2015	5	23	
3	Building Construction	Building Construction	9/1/2015	2/28/2016	5	129	
4	Paving	Paving	3/1/2016	4/15/2016	5	34	
5	Architectural Coating	Architectural Coating	3/1/2016	4/15/2016	5	34	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 19.14

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 557,133; Non-Residential Outdoor: 185,711 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	3	8.00	174	0.41
Grading	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	3	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Utilities	Excavators	2	8.00	162	0.38
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Utilities	Trenchers	4	8.00	80	0.50
Building Construction		4	8.00		
Building Construction	Aerial Lifts	4	8.00	62	0.31

Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	0.00	130	0.36
Paving	Pumps	2	8.00	84	0.74
Paving	Rollers	2	0.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	25.00	0.00	547.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	156.00	61.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.6778	0.0000	18.6778	9.9974	0.0000	9.9974			0.0000			0.0000
Off-Road	11.7509	136.4261	86.0404	0.0954		6.3406	6.3406		5.8333	5.8333		10,022.2885	10,022.2885	2.9921		10,085.1220
Total	**11.7509**	**136.4261**	**86.0404**	**0.0954**	**18.6778**	**6.3406**	**25.0184**	**9.9974**	**5.8333**	**15.8307**		**10,022.2885**	**10,022.2885**	**2.9921**		**10,085.1220**

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	0.3325	5.2290	3.8392	0.0119	0.2802	0.0865	0.3667	0.0767	0.0795	0.1563		1,207.6675	1,207.6675	9.6800e-003		1,207.8708
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	0.1181	0.1585	1.6564	3.3200e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		288.9109	288.9109	0.0166		289.2589
Total	**0.4506**	**5.3875**	**5.4955**	**0.0152**	**0.5597**	**0.0889**	**0.6486**	**0.1508**	**0.0818**	**0.2326**		**1,496.5784**	**1,496.5784**	**0.0263**		**1,497.1297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2844	0.0000	7.2844	3.8990	0.0000	3.8990			0.0000			0.0000

Off-Road	2.3311	45.0677	55.8533	0.0954		1.8261	1.8261		1.8261	1.8261	0.0000	10,022.2885	10,022.2885	2.9921		10,085.1220
Total	**2.3311**	**45.0677**	**55.8533**	**0.0954**	**7.2844**	**1.8261**	**9.1105**	**3.8990**	**1.8261**	**5.7251**	**0.0000**	**10,022.2885**	**10,022.2885**	**2.9921**		**10,085.1220**

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	0.3325	5.2290	3.8392	0.0119	0.2802	0.0865	0.3667	0.0767	0.0795	0.1563		1,207.6675	1,207.6675	9.6800e-003		1,207.8708
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	0.1181	0.1585	1.6564	3.3200e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		288.9109	288.9109	0.0166		289.2589
Total	**0.4506**	**5.3875**	**5.4955**	**0.0152**	**0.5597**	**0.0889**	**0.6486**	**0.1508**	**0.0818**	**0.2326**		**1,496.5784**	**1,496.5784**	**0.0263**		**1,497.1297**

3.3 Utilities - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.5803	43.7156	27.9090	0.0369		3.1396	3.1396		2.8884	2.8884		3,875.4642	3,875.4642	1.1570		3,899.7609
Total	**4.5803**	**43.7156**	**27.9090**	**0.0369**		**3.1396**	**3.1396**		**2.8884**	**2.8884**		**3,875.4642**	**3,875.4642**	**1.1570**		**3,899.7609**

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	0.1181	0.1585	1.6564	3.3200e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		288.9109	288.9109	0.0166		289.2589
Total	**0.1181**	**0.1585**	**1.6564**	**3.3200e-003**	**0.2794**	**2.4600e-003**	**0.2819**	**0.0741**	**2.2500e-003**	**0.0764**		**288.9109**	**288.9109**	**0.0166**		**289.2589**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9030	19.7074	27.8438	0.0369		1.2712	1.2712		1.2712	1.2712	0.0000	3,875.4641	3,875.4641	1.1570		3,899.7609
Total	**0.9030**	**19.7074**	**27.8438**	**0.0369**		**1.2712**	**1.2712**		**1.2712**	**1.2712**	**0.0000**	**3,875.4641**	**3,875.4641**	**1.1570**		**3,899.7609**

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	0.1181	0.1585	1.6564	3.3200e-003	0.2794	2.4600e-003	0.2819	0.0741	2.2500e-003	0.0764		288.9109	288.9109	0.0166		289.2589
Total	**0.1181**	**0.1585**	**1.6564**	**3.3200e-003**	**0.2794**	**2.4600e-003**	**0.2819**	**0.0741**	**2.2500e-003**	**0.0764**		**288.9109**	**288.9109**	**0.0166**		**289.2589**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9079	11.9303	7.0468	0.0116		0.5459	0.5459		0.5023	0.5023		1,211.8097	1,211.8097	0.3618		1,219.4070
Total	**0.9079**	**11.9303**	**7.0468**	**0.0116**		**0.5459**	**0.5459**		**0.5023**	**0.5023**		**1,211.8097**	**1,211.8097**	**0.3618**		**1,219.4070**

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	0.6332	6.1501	7.8429	0.0132	0.3811	0.1049	0.4860	0.1085	0.0965	0.2050		1,334.5720	1,334.5720	0.0109		1,334.8003
Worker	0.7370	0.9892	10.3357	0.0207	1.7437	0.0154	1.7591	0.4624	0.0141	0.4765		1,802.8042	1,802.8042	0.1034		1,804.9753
Total	**1.3702**	**7.1393**	**18.1786**	**0.0339**	**2.1248**	**0.1203**	**2.2451**	**0.5710**	**0.1105**	**0.6815**		**3,137.3762**	**3,137.3762**	**0.1143**		**3,139.7756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2841	6.0618	7.6467	0.0116		0.3494	0.3494		0.3494	0.3494	0.0000	1,211.8097	1,211.8097	0.3618		1,219.4070
Total	**0.2841**	**6.0618**	**7.6467**	**0.0116**		**0.3494**	**0.3494**		**0.3494**	**0.3494**	**0.0000**	**1,211.8097**	**1,211.8097**	**0.3618**		**1,219.4070**

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	0.6332	6.1501	7.8429	0.0132	0.3811	0.1049	0.4860	0.1085	0.0965	0.2050		1,334.5720	1,334.5720	0.0109		1,334.8003
Worker	0.7370	0.9892	10.3357	0.0207	1.7437	0.0154	1.7591	0.4624	0.0141	0.4765		1,802.8042	1,802.8042	0.1034		1,804.9753
Total	**1.3702**	**7.1393**	**18.1786**	**0.0339**	**2.1248**	**0.1203**	**2.2451**	**0.5710**	**0.1105**	**0.6815**		**3,137.3762**	**3,137.3762**	**0.1143**		**3,139.7756**

3.4 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	0.8545	11.1562	6.9521	0.0116		0.4905	0.4905		0.4512	0.4512		1,199.3431	1,199.3431	0.3618		1,206.9401
Total	**0.8545**	**11.1562**	**6.9521**	**0.0116**		**0.4905**	**0.4905**		**0.4512**	**0.4512**		**1,199.3431**	**1,199.3431**	**0.3618**		**1,206.9401**

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	0.5585	5.4314	7.3031	0.0132	0.3812	0.0869	0.4681	0.1086	0.0799	0.1885		1,319.8536	1,319.8536	9.8300e-003		1,320.0601
Worker	0.6639	0.8922	9.3288	0.0207	1.7437	0.0146	1.7583	0.4624	0.0134	0.4758		1,740.4845	1,740.4845	0.0951		1,742.4822
Total	**1.2224**	**6.3236**	**16.6319**	**0.0339**	**2.1249**	**0.1015**	**2.2264**	**0.5710**	**0.0933**	**0.6643**		**3,060.3381**	**3,060.3381**	**0.1050**		**3,062.5423**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2841	6.0618	7.6467	0.0116		0.3494	0.3494		0.3494	0.3494	0.0000	1,199.3431	1,199.3431	0.3618		1,206.9401

Total	**0.2841**	**6.0618**	**7.6467**	**0.0116**		**0.3494**	**0.3494**		**0.3494**	**0.3494**	**0.0000**	**1,199.3431**	**1,199.3431**	**0.3618**		**1,206.9401**

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	0.5585	5.4314	7.3031	0.0132	0.3812	0.0869	0.4681	0.1086	0.0799	0.1885		1,319.8536	1,319.8536	9.8300e-003		1,320.0601
Worker	0.6639	0.8922	9.3288	0.0207	1.7437	0.0146	1.7583	0.4624	0.0134	0.4758		1,740.4845	1,740.4845	0.0951		1,742.4822
Total	**1.2224**	**6.3236**	**16.6319**	**0.0339**	**2.1249**	**0.1015**	**2.2264**	**0.5710**	**0.0933**	**0.6643**		**3,060.3381**	**3,060.3381**	**0.1050**		**3,062.5423**

3.5 Paving - 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	2.2575	19.5829	14.0456	0.0236		1.1908	1.1908		1.1549	1.1549		2,285.1550	2,285.1550	0.4140		2,293.8497
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2575**	**19.5829**	**14.0456**	**0.0236**		**1.1908**	**1.1908**		**1.1549**	**1.1549**		**2,285.1550**	**2,285.1550**	**0.4140**		**2,293.8497**

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	0.1064	0.1430	1.4950	3.3200e-003	0.2794	2.3400e-003	0.2818	0.0741	2.1500e-003	0.0763		278.9238	278.9238	0.0153		279.2440
Total	**0.1064**	**0.1430**	**1.4950**	**3.3200e-003**	**0.2794**	**2.3400e-003**	**0.2818**	**0.0741**	**2.1500e-003**	**0.0763**		**278.9238**	**278.9238**	**0.0153**		**279.2440**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4853	10.3042	14.9647	0.0236		0.6284	0.6284		0.6284	0.6284	0.0000	2,285.1550	2,285.1550	0.4140		2,293.8497
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4853**	**10.3042**	**14.9647**	**0.0236**		**0.6284**	**0.6284**		**0.6284**	**0.6284**	**0.0000**	**2,285.1550**	**2,285.1550**	**0.4140**		**2,293.8497**

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	0.1064	0.1430	1.4950	3.3200e-003	0.2794	2.3400e-003	0.2818	0.0741	2.1500e-003	0.0763		278.9238	278.9238	0.0153		279.2440
Total	**0.1064**	**0.1430**	**1.4950**	**3.3200e-003**	**0.2794**	**2.3400e-003**	**0.2818**	**0.0741**	**2.1500e-003**	**0.0763**		**278.9238**	**278.9238**	**0.0153**		**279.2440**

3.6 Architectural Coating - 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					
Archit. Coating	253.1678					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**253.5363**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	0.1319	0.1773	1.8538	4.1100e-003	0.3465	2.9000e-003	0.3494	0.0919	2.6600e-003	0.0946		345.8655	345.8655	0.0189		346.2625
Total	**0.1319**	**0.1773**	**1.8538**	**4.1100e-003**	**0.3465**	**2.9000e-003**	**0.3494**	**0.0919**	**2.6600e-003**	**0.0946**		**345.8655**	**345.8655**	**0.0189**		**346.2625**

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	253.1678					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**253.2272**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	0.1319	0.1773	1.8538	4.1100e-003	0.3465	2.9000e-003	0.3494	0.0919	2.6600e-003	0.0946		345.8655	345.8655	0.0189		346.2625
Total	**0.1319**	**0.1773**	**1.8538**	**4.1100e-003**	**0.3465**	**2.9000e-003**	**0.3494**	**0.0919**	**2.6600e-003**	**0.0946**		**345.8655**	**345.8655**	**0.0189**		**346.2625**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Unrefrigerated Warehouse-No	16.60	40.00	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.514315	0.060290	0.180146	0.139458	0.042007	0.006636	0.015782	0.029894	0.001929	0.002512	0.004343	0.000595	0.002093

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	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
NaturalGas Unmitigated	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535

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					
Unrefrigerated Warehouse-No Rail	2177.65	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Total		**0.0235**	**0.2135**	**0.1793**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**256.1944**	**256.1944**	**4.9100e-003**	**4.7000e-003**	**257.7535**

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					
Unrefrigerated Warehouse-No Rail	2.17765	0.0235	0.2135	0.1793	1.2800e-003		0.0162	0.0162		0.0162	0.0162		256.1944	256.1944	4.9100e-003	4.7000e-003	257.7535
Total		**0.0235**	**0.2135**	**0.1793**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**256.1944**	**256.1944**	**4.9100e-003**	**4.7000e-003**	**257.7535**

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	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Unmitigated	9.7162	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861

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	2.3583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Total	**9.7162**	**3.7000e-004**	**0.0389**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0813**	**0.0813**	**2.3000e-004**		**0.0861**

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	2.3583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7900e-003	3.7000e-004	0.0389	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0813	0.0813	2.3000e-004		0.0861
Total	**9.7162**	**3.7000e-004**	**0.0389**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0813**	**0.0813**	**2.3000e-004**		**0.0861**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Bloomington 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	371.42	1000sqft	19.14	371,422.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	34.00

tblConstructionPhase	NumDays	300.00	129.00
tblConstructionPhase	NumDays	30.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	PhaseEndDate	6/2/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	2/11/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	4/14/2016	4/15/2016
tblConstructionPhase	PhaseEndDate	10/1/2015	8/14/2015
tblConstructionPhase	PhaseStartDate	4/16/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	8/15/2015	9/1/2015
tblConstructionPhase	PhaseStartDate	2/29/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	9/1/2015	7/15/2015
tblGrading	AcresOfGrading	153.00	19.14
tblGrading	MaterialExported	0.00	4,375.00
tblLandUse	LandUseSquareFeet	371,420.00	371,422.00
tblLandUse	LotAcreage	8.53	19.14
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	CC_TL	8.40	40.00
tblVehicleTrips	ST_TR	2.59	0.00

tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

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					
2015	0.3588	3.7627	3.0082	4.3600e-003	0.4218	0.1747	0.5966	0.1980	0.1607	0.3588	0.0000	396.2148	396.2148	0.0778	0.0000	397.8483
2016	4.3938	0.7399	0.8132	1.5200e-003	0.0532	0.0358	0.0890	0.0143	0.0342	0.0485	0.0000	129.2108	129.2108	0.0161	0.0000	129.5489
Total	**4.7525**	**4.5026**	**3.8215**	**5.8800e-003**	**0.4751**	**0.2105**	**0.6856**	**0.2123**	**0.1949**	**0.4073**	**0.0000**	**525.4256**	**525.4256**	**0.0939**	**0.0000**	**527.3973**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.1289	1.6753	2.5207	4.3600e-003	0.2282	0.0678	0.2960	0.0944	0.0673	0.1616	0.0000	396.2145	396.2145	0.0778	0.0000	397.8480
2016	4.3467	0.4605	0.8422	1.5200e-003	0.0532	0.0216	0.0748	0.0143	0.0215	0.0357	0.0000	129.2107	129.2107	0.0161	0.0000	129.5489
Total	**4.4756**	**2.1357**	**3.3629**	**5.8800e-003**	**0.2814**	**0.0895**	**0.3708**	**0.1086**	**0.0887**	**0.1974**	**0.0000**	**525.4253**	**525.4253**	**0.0939**	**0.0000**	**527.3969**

	ROG	NOx	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	**5.83**	**52.57**	**12.00**	**0.00**	**40.77**	**57.51**	**45.91**	**48.83**	**54.48**	**51.54**	**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	1.7730	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003
Energy	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	363.4077	363.4077	0.0156	3.8300e-003	364.9220
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	70.8702	0.0000	70.8702	4.1883	0.0000	158.8248
Water						0.0000	0.0000		0.0000	0.0000	27.2492	320.0448	347.2940	2.8135	0.0691	427.8066
Total	**1.7773**	**0.0390**	**0.0376**	**2.3000e-004**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**98.1194**	**683.4617**	**781.5811**	**7.0174**	**0.0730**	**951.5632**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7730	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003
Energy	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	363.4077	363.4077	0.0156	3.8300e-003	364.9220
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	17.7176	0.0000	17.7176	1.0471	0.0000	39.7062

Water						0.0000	0.0000		0.0000	0.0000	21.7994	256.0358	277.8352	2.2504	0.0552	342.2105
Total	**1.7773**	**0.0390**	**0.0376**	**2.3000e-004**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**39.5169**	**619.4527**	**658.9696**	**3.3130**	**0.0591**	**746.8485**

	ROG	NOx	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**	**59.73**	**9.37**	**15.69**	**52.79**	**19.07**	**21.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	7/15/2015	8/31/2015	5	34	
2	Utilities	Trenching	7/15/2015	8/14/2015	5	23	
3	Building Construction	Building Construction	9/1/2015	2/28/2016	5	129	
4	Paving	Paving	3/1/2016	4/15/2016	5	34	
5	Architectural Coating	Architectural Coating	3/1/2016	4/15/2016	5	34	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 19.14

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 557,133; Non-Residential Outdoor: 185,711 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	3	8.00	174	0.41
Grading	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	3	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Utilities	Excavators	2	8.00	162	0.38
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Utilities	Trenchers	4	8.00	80	0.50
Building Construction		4	8.00		
Building Construction	Aerial Lifts	4	8.00	62	0.31
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	0.00	130	0.36
Paving	Pumps	2	8.00	84	0.74
Paving	Rollers	2	0.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	25.00	0.00	547.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	156.00	61.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3175	0.0000	0.3175	0.1700	0.0000	0.1700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1998	2.3192	1.4627	1.6200e-003		0.1078	0.1078		0.0992	0.0992	0.0000	154.5651	154.5651	0.0461	0.0000	155.5342
Total	**0.1998**	**2.3192**	**1.4627**	**1.6200e-003**	**0.3175**	**0.1078**	**0.4253**	**0.1700**	**0.0992**	**0.2691**	**0.0000**	**154.5651**	**154.5651**	**0.0461**	**0.0000**	**155.5342**

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	5.5600e-003	0.0904	0.0642	2.0000e-004	4.6900e-003	1.4700e-003	6.1500e-003	1.2900e-003	1.3500e-003	2.6300e-003	0.0000	18.6505	18.6505	1.5000e-004	0.0000	18.6536
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	1.8900e-003	2.7700e-003	0.0288	6.0000e-005	4.6600e-003	4.0000e-005	4.7000e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	4.5249	4.5249	2.6000e-004	0.0000	4.5303
Total	**7.4500e-003**	**0.0932**	**0.0930**	**2.6000e-004**	**9.3500e-003**	**1.5100e-003**	**0.0109**	**2.5300e-003**	**1.3900e-003**	**3.9100e-003**	**0.0000**	**23.1754**	**23.1754**	**4.1000e-004**	**0.0000**	**23.1839**

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					0.1238	0.0000	0.1238	0.0663	0.0000	0.0663	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0396	0.7662	0.9495	1.6200e-003		0.0310	0.0310		0.0310	0.0310	0.0000	154.5650	154.5650	0.0461	0.0000	155.5340
Total	**0.0396**	**0.7662**	**0.9495**	**1.6200e-003**	**0.1238**	**0.0310**	**0.1549**	**0.0663**	**0.0310**	**0.0973**	**0.0000**	**154.5650**	**154.5650**	**0.0461**	**0.0000**	**155.5340**

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	5.5600e-003	0.0904	0.0642	2.0000e-004	4.6900e-003	1.4700e-003	6.1500e-003	1.2900e-003	1.3500e-003	2.6300e-003	0.0000	18.6505	18.6505	1.5000e-004	0.0000	18.6536
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	1.8900e-003	2.7700e-003	0.0288	6.0000e-005	4.6600e-003	4.0000e-005	4.7000e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	4.5249	4.5249	2.6000e-004	0.0000	4.5303
Total	**7.4500e-003**	**0.0932**	**0.0930**	**2.6000e-004**	**9.3500e-003**	**1.5100e-003**	**0.0109**	**2.5300e-003**	**1.3900e-003**	**3.9100e-003**	**0.0000**	**23.1754**	**23.1754**	**4.1000e-004**	**0.0000**	**23.1839**

3.3 Utilities - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0527	0.5027	0.3210	4.2000e-004		0.0361	0.0361		0.0332	0.0332	0.0000	40.4313	40.4313	0.0121	0.0000	40.6847

Total	**0.0527**	**0.5027**	**0.3210**	**4.2000e-004**		**0.0361**	**0.0361**		**0.0332**	**0.0332**	**0.0000**	**40.4313**	**40.4313**	**0.0121**	**0.0000**	**40.6847**

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	1.2800e-003	1.8800e-003	0.0195	4.0000e-005	3.1500e-003	3.0000e-005	3.1800e-003	8.4000e-004	3.0000e-005	8.6000e-004	0.0000	3.0610	3.0610	1.7000e-004	0.0000	3.0646
Total	**1.2800e-003**	**1.8800e-003**	**0.0195**	**4.0000e-005**	**3.1500e-003**	**3.0000e-005**	**3.1800e-003**	**8.4000e-004**	**3.0000e-005**	**8.6000e-004**	**0.0000**	**3.0610**	**3.0610**	**1.7000e-004**	**0.0000**	**3.0646**

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	0.0104	0.2266	0.3202	4.2000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	40.4312	40.4312	0.0121	0.0000	40.6847
Total	**0.0104**	**0.2266**	**0.3202**	**4.2000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**40.4312**	**40.4312**	**0.0121**	**0.0000**	**40.6847**

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	1.2800e-003	1.8800e-003	0.0195	4.0000e-005	3.1500e-003	3.0000e-005	3.1800e-003	8.4000e-004	3.0000e-005	8.6000e-004	0.0000	3.0610	3.0610	1.7000e-004	0.0000	3.0646
Total	**1.2800e-003**	**1.8800e-003**	**0.0195**	**4.0000e-005**	**3.1500e-003**	**3.0000e-005**	**3.1800e-003**	**8.4000e-004**	**3.0000e-005**	**8.6000e-004**	**0.0000**	**3.0610**	**3.0610**	**1.7000e-004**	**0.0000**	**3.0646**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0400	0.5249	0.3101	5.1000e-004		0.0240	0.0240		0.0221	0.0221	0.0000	48.3708	48.3708	0.0144	0.0000	48.6740
Total	**0.0400**	**0.5249**	**0.3101**	**5.1000e-004**		**0.0240**	**0.0240**		**0.0221**	**0.0221**	**0.0000**	**48.3708**	**48.3708**	**0.0144**	**0.0000**	**48.6740**

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	0.0271	0.2759	0.3365	5.8000e-004	0.0165	4.5800e-003	0.0211	4.7100e-003	4.2100e-003	8.9300e-003	0.0000	53.5309	53.5309	4.3000e-004	0.0000	53.5398
Worker	0.0306	0.0448	0.4655	9.3000e-004	0.0753	6.8000e-004	0.0760	0.0200	6.2000e-004	0.0206	0.0000	73.0804	73.0804	4.1300e-003	0.0000	73.1671
Total	**0.0576**	**0.3207**	**0.8020**	**1.5100e-003**	**0.0918**	**5.2600e-003**	**0.0971**	**0.0247**	**4.8300e-003**	**0.0296**	**0.0000**	**126.6113**	**126.6113**	**4.5600e-003**	**0.0000**	**126.7069**

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	0.0125	0.2667	0.3365	5.1000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	48.3707	48.3707	0.0144	0.0000	48.6740
Total	**0.0125**	**0.2667**	**0.3365**	**5.1000e-004**		**0.0154**	**0.0154**		**0.0154**	**0.0154**	**0.0000**	**48.3707**	**48.3707**	**0.0144**	**0.0000**	**48.6740**

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	0.0271	0.2759	0.3365	5.8000e-004	0.0165	4.5800e-003	0.0211	4.7100e-003	4.2100e-003	8.9300e-003	0.0000	53.5309	53.5309	4.3000e-004	0.0000	53.5398
Worker	0.0306	0.0448	0.4655	9.3000e-004	0.0753	6.8000e-004	0.0760	0.0200	6.2000e-004	0.0206	0.0000	73.0804	73.0804	4.1300e-003	0.0000	73.1671
Total	**0.0576**	**0.3207**	**0.8020**	**1.5100e-003**	**0.0918**	**5.2600e-003**	**0.0971**	**0.0247**	**4.8300e-003**	**0.0296**	**0.0000**	**126.6113**	**126.6113**	**4.5600e-003**	**0.0000**	**126.7069**

3.4 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	0.0175	0.2287	0.1425	2.4000e-004		0.0101	0.0101		9.2500e-003	9.2500e-003	0.0000	22.3045	22.3045	6.7300e-003	0.0000	22.4458
Total	**0.0175**	**0.2287**	**0.1425**	**2.4000e-004**		**0.0101**	**0.0101**		**9.2500e-003**	**9.2500e-003**	**0.0000**	**22.3045**	**22.3045**	**6.7300e-003**	**0.0000**	**22.4458**

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	0.0111	0.1135	0.1457	2.7000e-004	7.6900e-003	1.7700e-003	9.4700e-003	2.2000e-003	1.6300e-003	3.8200e-003	0.0000	24.6660	24.6660	1.8000e-004	0.0000	24.6698
Worker	0.0128	0.0188	0.1959	4.3000e-004	0.0351	3.0000e-004	0.0354	9.3200e-003	2.7000e-004	9.5900e-003	0.0000	32.8722	32.8722	1.7700e-003	0.0000	32.9093
Total	**0.0240**	**0.1324**	**0.3416**	**7.0000e-004**	**0.0428**	**2.0700e-003**	**0.0449**	**0.0115**	**1.9000e-003**	**0.0134**	**0.0000**	**57.5382**	**57.5382**	**1.9500e-003**	**0.0000**	**57.5791**

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	5.8200e-003	0.1243	0.1568	2.4000e-004		7.1600e-003	7.1600e-003		7.1600e-003	7.1600e-003	0.0000	22.3045	22.3045	6.7300e-003	0.0000	22.4458
Total	**5.8200e-003**	**0.1243**	**0.1568**	**2.4000e-004**		**7.1600e-003**	**7.1600e-003**		**7.1600e-003**	**7.1600e-003**	**0.0000**	**22.3045**	**22.3045**	**6.7300e-003**	**0.0000**	**22.4458**

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	0.0111	0.1135	0.1457	2.7000e-004	7.6900e-003	1.7700e-003	9.4700e-003	2.2000e-003	1.6300e-003	3.8200e-003	0.0000	24.6660	24.6660	1.8000e-004	0.0000	24.6698
Worker	0.0128	0.0188	0.1959	4.3000e-004	0.0351	3.0000e-004	0.0354	9.3200e-003	2.7000e-004	9.5900e-003	0.0000	32.8722	32.8722	1.7700e-003	0.0000	32.9093
Total	**0.0240**	**0.1324**	**0.3416**	**7.0000e-004**	**0.0428**	**2.0700e-003**	**0.0449**	**0.0115**	**1.9000e-003**	**0.0134**	**0.0000**	**57.5382**	**57.5382**	**1.9500e-003**	**0.0000**	**57.5791**

3.5 Paving - 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	0.0384	0.3329	0.2388	4.0000e-004		0.0202	0.0202		0.0196	0.0196	0.0000	35.2420	35.2420	6.3900e-003	0.0000	35.3761

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0384**	**0.3329**	**0.2388**	**4.0000e-004**		**0.0202**	**0.0202**		**0.0196**	**0.0196**	**0.0000**	**35.2420**	**35.2420**	**6.3900e-003**	**0.0000**	**35.3761**

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	1.7000e-003	2.5000e-003	0.0260	6.0000e-005	4.6600e-003	4.0000e-005	4.7000e-003	1.2400e-003	4.0000e-005	1.2700e-003	0.0000	4.3686	4.3686	2.4000e-004	0.0000	4.3735
Total	**1.7000e-003**	**2.5000e-003**	**0.0260**	**6.0000e-005**	**4.6600e-003**	**4.0000e-005**	**4.7000e-003**	**1.2400e-003**	**4.0000e-005**	**1.2700e-003**	**0.0000**	**4.3686**	**4.3686**	**2.4000e-004**	**0.0000**	**4.3735**

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	8.2500e-003	0.1752	0.2544	4.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	35.2419	35.2419	6.3900e-003	0.0000	35.3760
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2500e-003**	**0.1752**	**0.2544**	**4.0000e-004**		**0.0107**	**0.0107**		**0.0107**	**0.0107**	**0.0000**	**35.2419**	**35.2419**	**6.3900e-003**	**0.0000**	**35.3760**

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	1.7000e-003	2.5000e-003	0.0260	6.0000e-005	4.6600e-003	4.0000e-005	4.7000e-003	1.2400e-003	4.0000e-005	1.2700e-003	0.0000	4.3686	4.3686	2.4000e-004	0.0000	4.3735
Total	**1.7000e-003**	**2.5000e-003**	**0.0260**	**6.0000e-005**	**4.6600e-003**	**4.0000e-005**	**4.7000e-003**	**1.2400e-003**	**4.0000e-005**	**1.2700e-003**	**0.0000**	**4.3686**	**4.3686**	**2.4000e-004**	**0.0000**	**4.3735**

3.6 Architectural Coating - 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					
Archit. Coating	4.3039					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2600e-003	0.0403	0.0320	5.0000e-005		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003	0.0000	4.3405	4.3405	5.1000e-004	0.0000	4.3513
Total	**4.3101**	**0.0403**	**0.0320**	**5.0000e-005**		**3.3400e-003**	**3.3400e-003**		**3.3400e-003**	**3.3400e-003**	**0.0000**	**4.3405**	**4.3405**	**5.1000e-004**	**0.0000**	**4.3513**

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	2.1100e-003	3.1000e-003	0.0323	7.0000e-005	5.7800e-003	5.0000e-005	5.8300e-003	1.5400e-003	5.0000e-005	1.5800e-003	0.0000	5.4170	5.4170	2.9000e-004	0.0000	5.4231
Total	**2.1100e-003**	**3.1000e-003**	**0.0323**	**7.0000e-005**	**5.7800e-003**	**5.0000e-005**	**5.8300e-003**	**1.5400e-003**	**5.0000e-005**	**1.5800e-003**	**0.0000**	**5.4170**	**5.4170**	**2.9000e-004**	**0.0000**	**5.4231**

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	4.3039					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0100e-003	0.0231	0.0312	5.0000e-005		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003	0.0000	4.3405	4.3405	5.1000e-004	0.0000	4.3513
Total	**4.3049**	**0.0231**	**0.0312**	**5.0000e-005**		**1.6200e-003**	**1.6200e-003**		**1.6200e-003**	**1.6200e-003**	**0.0000**	**4.3405**	**4.3405**	**5.1000e-004**	**0.0000**	**4.3513**

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	2.1100e-003	3.1000e-003	0.0323	7.0000e-005	5.7800e-003	5.0000e-005	5.8300e-003	1.5400e-003	5.0000e-005	1.5800e-003	0.0000	5.4170	5.4170	2.9000e-004	0.0000	5.4231
Total	**2.1100e-003**	**3.1000e-003**	**0.0323**	**7.0000e-005**	**5.7800e-003**	**5.0000e-005**	**5.8300e-003**	**1.5400e-003**	**5.0000e-005**	**1.5800e-003**	**0.0000**	**5.4170**	**5.4170**	**2.9000e-004**	**0.0000**	**5.4231**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Unrefrigerated Warehouse-No	16.60	40.00	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.514315	0.060290	0.180146	0.139458	0.042007	0.006636	0.015782	0.029894	0.001929	0.002512	0.004343	0.000595	0.002093

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	320.9918	320.9918	0.0148	3.0500e-003	322.2480
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	320.9918	320.9918	0.0148	3.0500e-003	322.2480
NaturalGas Mitigated	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4159	42.4159	8.1000e-004	7.8000e-004	42.6740
NaturalGas Unmitigated	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4159	42.4159	8.1000e-004	7.8000e-004	42.6740

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	794843	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4159	42.4159	8.1000e-004	7.8000e-004	42.6740
Total		**4.2900e-003**	**0.0390**	**0.0327**	**2.3000e-004**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**42.4159**	**42.4159**	**8.1000e-004**	**7.8000e-004**	**42.6740**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	794843	4.2900e-003	0.0390	0.0327	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.4159	42.4159	8.1000e-004	7.8000e-004	42.6740
Total		**4.2900e-003**	**0.0390**	**0.0327**	**2.3000e-004**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**42.4159**	**42.4159**	**8.1000e-004**	**7.8000e-004**	**42.6740**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.12169e+006	320.9918	0.0148	3.0500e-003	322.2480
Total		**320.9918**	**0.0148**	**3.0500e-003**	**322.2480**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.12169e+006	320.9918	0.0148	3.0500e-003	322.2480

Total		**320.9918**	**0.0148**	**3.0500e-003**	**322.2480**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7730	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003
Unmitigated	1.7730	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003
Total	**1.7730**	**5.0000e-005**	**4.8600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2200e-003**	**9.2200e-003**	**3.0000e-005**	**0.0000**	**9.7700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	4.8600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.2200e-003	9.2200e-003	3.0000e-005	0.0000	9.7700e-003
Total	**1.7730**	**5.0000e-005**	**4.8600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.2200e-003**	**9.2200e-003**	**3.0000e-005**	**0.0000**	**9.7700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	277.8352	2.2504	0.0552	342.2105
Unmitigated	347.2940	2.8135	0.0691	427.8066

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	85.8909 / 0	347.2940	2.8135	0.0691	427.8066
Total		**347.2940**	**2.8135**	**0.0691**	**427.8066**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	68.7127 / 0	277.8352	2.2504	0.0552	342.2105
Total		**277.8352**	**2.2504**	**0.0552**	**342.2105**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.7176	1.0471	0.0000	39.7062
Unmitigated	70.8702	4.1883	0.0000	158.8248

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	349.13	70.8702	4.1883	0.0000	158.8248
Total		**70.8702**	**4.1883**	**0.0000**	**158.8248**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	87.2825	17.7176	1.0471	0.0000	39.7062

Total		**17.7176**	**1.0471**	**0.0000**	**39.7062**

9.0 Operational Offroad

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

10.0 Vegetation

Appendix B

Risk Calculations

Table B-1
Risk Calculations
Bloomington Warehouses Project

DPM Concentration ug/m3	Dose air 3rd trimester	Dose air 0-2	Dose air 2-16	Dose air 16-30	Cancer Risk	Non-Cancer HI
0.00145	5.02512E-07	1.51728E-06	1.03704E-06	4.6632E-07	9.89803E-07	0.00029
0.00171	5.92618E-07	1.78934E-06	1.22299E-06	5.49936E-07	1.16729E-06	0.000342
0.00191	6.6193E-07	1.99862E-06	1.36603E-06	6.14256E-07	1.30381E-06	0.000382
0.00211	7.31242E-07	2.2079E-06	1.50907E-06	6.78576E-07	1.44033E-06	0.000422
0.00246	8.52538E-07	2.57414E-06	1.75939E-06	7.91136E-07	1.67925E-06	0.000492
0.00279	9.66902E-07	2.91946E-06	1.99541E-06	8.97264E-07	1.90452E-06	0.000558
0.00282	9.77299E-07	2.95085E-06	2.01686E-06	9.06912E-07	1.925E-06	0.000564
0.00259	8.9759E-07	2.71018E-06	1.85237E-06	8.32944E-07	1.76799E-06	0.000518
0.00187	6.48067E-07	1.95677E-06	1.33742E-06	6.01392E-07	1.2765E-06	0.000374
0.00208	7.20845E-07	2.17651E-06	1.48762E-06	6.68928E-07	1.41986E-06	0.000416
0.00244	8.45606E-07	2.55322E-06	1.74509E-06	7.84704E-07	1.6656E-06	0.000488
0.00292	1.01196E-06	3.05549E-06	2.08838E-06	9.39072E-07	1.99326E-06	0.000584
0.00357	1.23722E-06	3.73565E-06	2.55326E-06	1.14811E-06	2.43696E-06	0.000714
0.00384	1.33079E-06	4.01818E-06	2.74637E-06	1.23494E-06	2.62127E-06	0.000768
0.00337	1.16791E-06	3.52637E-06	2.41022E-06	1.08379E-06	2.30044E-06	0.000674
0.00203	7.03517E-07	2.12419E-06	1.45186E-06	6.52848E-07	1.38572E-06	0.000406
0.00233	8.07485E-07	2.43811E-06	1.66642E-06	7.49328E-07	1.59051E-06	0.000466
0.00286	9.91162E-07	2.9927E-06	2.04547E-06	9.19776E-07	1.9523E-06	0.000572
0.00363	1.25801E-06	3.79843E-06	2.59618E-06	1.16741E-06	2.47792E-06	0.000726
0.00471	1.6323E-06	4.92854E-06	3.36859E-06	1.51474E-06	3.21515E-06	0.000942
0.00589	2.04124E-06	6.1633E-06	4.21253E-06	1.89422E-06	4.02065E-06	0.001178
0.00482	1.67042E-06	5.04365E-06	3.44726E-06	1.55011E-06	3.29024E-06	0.000964
0.00044	1.52486E-07	4.60416E-07	3.14688E-07	1.41504E-07	3.00354E-07	0.000088
0.00049	1.69814E-07	5.12736E-07	3.50448E-07	1.57584E-07	3.34485E-07	0.000098
0.00055	1.90608E-07	5.7552E-07	3.9336E-07	1.7688E-07	3.75443E-07	0.00011
0.0006	2.07936E-07	6.2784E-07	4.2912E-07	1.9296E-07	4.09574E-07	0.00012
0.00067	2.32195E-07	7.01088E-07	4.79184E-07	2.15472E-07	4.57357E-07	0.000134
0.00075	2.5992E-07	7.848E-07	5.364E-07	2.412E-07	5.11967E-07	0.00015
0.00083	2.87645E-07	8.68512E-07	5.93616E-07	2.66928E-07	5.66577E-07	0.000166
0.00091	3.1537E-07	9.52224E-07	6.50832E-07	2.92656E-07	6.21187E-07	0.000182
0.00098	3.39629E-07	1.02547E-06	7.00896E-07	3.15168E-07	6.6897E-07	0.000196
0.00107	3.70819E-07	1.11965E-06	7.65264E-07	3.44112E-07	7.30407E-07	0.000214
0.00115	3.98544E-07	1.20336E-06	8.2248E-07	3.6984E-07	7.85016E-07	0.00023
0.00122	4.22803E-07	1.27661E-06	8.72544E-07	3.92352E-07	8.328E-07	0.000244
0.00126	4.36666E-07	1.31846E-06	9.01152E-07	4.05216E-07	8.60105E-07	0.000252
0.00124	4.29734E-07	1.29754E-06	8.86848E-07	3.98784E-07	8.46452E-07	0.000248
0.0012	4.15872E-07	1.25568E-06	8.5824E-07	3.8592E-07	8.19147E-07	0.00024
0.00111	3.84682E-07	1.1615E-06	7.93872E-07	3.56976E-07	7.57111E-07	0.000222
0.00098	3.39629E-07	1.02547E-06	7.00896E-07	3.15168E-07	6.6897E-07	0.000196
0.00086	2.98042E-07	8.99904E-07	6.15072E-07	2.76576E-07	5.87056E-07	0.000172
0.00076	2.63386E-07	7.95264E-07	5.43552E-07	2.44416E-07	5.18793E-07	0.000152
0.00067	2.32195E-07	7.01088E-07	4.79184E-07	2.15472E-07	4.57357E-07	0.000134
0.00059	2.0447E-07	6.17376E-07	4.21968E-07	1.89744E-07	4.02748E-07	0.000118
0.00052	1.80211E-07	5.44128E-07	3.71904E-07	1.67232E-07	3.54964E-07	0.000104
0.00047	1.62883E-07	4.91808E-07	3.36144E-07	1.51152E-07	3.20833E-07	0.000094
0.00042	1.45555E-07	4.39488E-07	3.00384E-07	1.35072E-07	2.86702E-07	0.000084
0.00038	1.31693E-07	3.97632E-07	2.71776E-07	1.22208E-07	2.59397E-07	0.000076
0.00034	1.1783E-07	3.55776E-07	2.43168E-07	1.09344E-07	2.32092E-07	0.000068
0.0003	1.03968E-07	3.1392E-07	2.1456E-07	9.648E-08	2.04787E-07	0.00006
0.00047	1.62883E-07	4.91808E-07	3.36144E-07	1.51152E-07	3.20833E-07	0.000094
0.00053	1.83677E-07	5.54592E-07	3.79056E-07	1.70448E-07	3.6179E-07	0.000106
0.00059	2.0447E-07	6.17376E-07	4.21968E-07	1.89744E-07	4.02748E-07	0.000118
0.00065	2.25264E-07	6.8016E-07	4.6488E-07	2.0904E-07	4.43705E-07	0.00013
0.00073	2.52989E-07	7.63872E-07	5.22096E-07	2.34768E-07	4.98315E-07	0.000146
0.00083	2.87645E-07	8.68512E-07	5.93616E-07	2.66928E-07	5.66577E-07	0.000166
0.00094	3.25766E-07	9.83616E-07	6.72288E-07	3.02304E-07	6.41666E-07	0.000188
0.00104	3.60422E-07	1.08826E-06	7.43808E-07	3.34464E-07	7.09928E-07	0.000208
0.00112	3.88147E-07	1.17197E-06	8.01024E-07	3.60192E-07	7.64538E-07	0.000224
0.00123	4.26269E-07	1.28707E-06	8.79696E-07	3.95568E-07	8.39626E-07	0.000246
0.00132	4.57459E-07	1.38125E-06	9.44064E-07	4.24512E-07	9.01062E-07	0.000264
0.00144	4.99046E-07	1.50682E-06	1.02989E-06	4.63104E-07	9.82977E-07	0.000288
0.00153	5.30237E-07	1.60099E-06	1.09426E-06	4.92048E-07	1.04441E-06	0.000306
0.00153	5.30237E-07	1.60099E-06	1.09426E-06	4.92048E-07	1.04441E-06	0.000306
0.00145	5.02512E-07	1.51728E-06	1.03704E-06	4.6632E-07	9.89803E-07	0.00029
0.00138	4.78253E-07	1.44403E-06	9.86976E-07	4.43808E-07	9.4202E-07	0.000276
0.0012	4.15872E-07	1.25568E-06	8.5824E-07	3.8592E-07	8.19147E-07	0.00024
0.001	3.4656E-07	1.0464E-06	7.152E-07	3.216E-07	6.82623E-07	0.0002
0.00087	3.01507E-07	9.10368E-07	6.22224E-07	2.79792E-07	5.93882E-07	0.000174
0.00076	2.63386E-07	7.95264E-07	5.43552E-07	2.44416E-07	5.18793E-07	0.000152
0.00066	2.2873E-07	6.90624E-07	4.72032E-07	2.12256E-07	4.50531E-07	0.000132
0.0006	2.07936E-07	6.2784E-07	4.2912E-07	1.9296E-07	4.09574E-07	0.00012
0.00053	1.83677E-07	5.54592E-07	3.79056E-07	1.70448E-07	3.6179E-07	0.000106
0.00048	1.66349E-07	5.02272E-07	3.43296E-07	1.54368E-07	3.27659E-07	0.000096
0.00043	1.49021E-07	4.49952E-07	3.07536E-07	1.38288E-07	2.93528E-07	0.000086
0.00038	1.31693E-07	3.97632E-07	2.71776E-07	1.22208E-07	2.59397E-07	0.000076
0.00033	1.14365E-07	3.45312E-07	2.36016E-07	1.06128E-07	2.25266E-07	0.000066
0.0005	1.7328E-07	5.232E-07	3.576E-07	1.608E-07	3.41311E-07	0.0001
0.00057	1.97539E-07	5.96448E-07	4.07664E-07	1.83312E-07	3.89095E-07	0.000114
0.00064	2.21798E-07	6.69696E-07	4.57728E-07	2.05824E-07	4.36879E-07	0.000128
0.00072	2.49523E-07	7.53408E-07	5.14944E-07	2.31552E-07	4.91488E-07	0.000144
0.00082	2.84179E-07	8.58048E-07	5.86464E-07	2.63712E-07	5.59751E-07	0.000164
0.00092	3.18835E-07	9.62688E-07	6.57984E-07	2.95872E-07	6.28013E-07	0.000184
0.00106	3.67354E-07	1.10918E-06	7.58112E-07	3.40896E-07	7.2358E-07	0.000212
0.0012	4.15872E-07	1.25568E-06	8.5824E-07	3.8592E-07	8.19147E-07	0.00024
0.00132	4.57459E-07	1.38125E-06	9.44064E-07	4.24512E-07	9.01062E-07	0.000264
0.00142	4.92115E-07	1.48589E-06	1.01558E-06	4.56672E-07	9.69325E-07	0.000284
0.00156	5.40634E-07	1.63238E-06	1.11571E-06	5.01696E-07	1.06489E-06	0.000312
0.00174	6.03014E-07	1.82074E-06	1.24445E-06	5.59584E-07	1.18776E-06	0.000348
0.0019	6.58464E-07	1.98816E-06	1.35888E-06	6.1104E-07	1.29698E-06	0.00038
0.00194	6.72326E-07	2.03002E-06	1.38749E-06	6.23904E-07	1.32429E-06	0.000388
0.00186	6.44602E-07	1.9463E-06	1.33027E-06	5.98176E-07	1.26968E-06	0.000372
0.00173	5.99549E-07	1.81027E-06	1.2373E-06	5.56368E-07	1.18094E-06	0.000346
0.00149	5.16374E-07	1.55914E-06	1.06565E-06	4.79184E-07	1.01711E-06	0.000298
0.00123	4.26269E-07	1.28707E-06	8.79696E-07	3.95568E-07	8.39626E-07	0.000246
0.00103	3.56957E-07	1.07779E-06	7.36656E-07	3.31248E-07	7.03102E-07	0.000206
0.00089	3.08438E-07	9.31296E-07	6.36528E-07	2.86224E-07	6.07534E-07	0.000178
0.00078	2.70317E-07	8.16192E-07	5.57856E-07	2.50848E-07	5.32446E-07	0.000156
0.0007	2.42592E-07	7.3248E-07	5.0064E-07	2.2512E-07	4.77836E-07	0.00014
0.00064	2.21798E-07	6.69696E-07	4.57728E-07	2.05824E-07	4.36879E-07	0.000128
0.00057	1.97539E-07	5.96448E-07	4.07664E-07	1.83312E-07	3.89095E-07	0.000114
0.00052	1.80211E-07	5.44128E-07	3.71904E-07	1.67232E-07	3.54964E-07	0.000104
0.00045	1.55952E-07	4.7088E-07	3.2184E-07	1.4472E-07	3.0718E-07	0.00009
0.00038	1.31693E-07	3.97632E-07	2.71776E-07	1.22208E-07	2.59397E-07	0.000076
0.00155	5.37168E-07	1.62192E-06	1.10856E-06	4.9848E-07	1.05807E-06	0.00031
0.00133	4.60925E-07	1.39171E-06	9.51216E-07	4.27728E-07	9.07888E-07	0.000266
0.00124	4.29734E-07	1.29754E-06	8.86848E-07	3.98784E-07	8.46452E-07	0.000248
0.00118	4.08941E-07	1.23475E-06	8.43936E-07	3.79488E-07	8.05495E-07	0.000236
0.00113	3.91613E-07	1.18243E-06	8.08176E-07	3.63408E-07	7.71364E-07	0.000226
0.0011	3.81216E-07	1.15104E-06	7.8672E-07	3.5376E-07	7.50885E-07	0.00022
0.00118	4.08941E-07	1.23475E-06	8.43936E-07	3.79488E-07	8.05495E-07	0.000236
0.00107	3.70819E-07	1.11965E-06	7.65264E-07	3.44112E-07	7.30407E-07	0.000214
0.00104	3.60422E-07	1.08826E-06	7.43808E-07	3.34464E-07	7.09928E-07	0.000208
0.00099	3.43094E-07	1.03594E-06	7.08048E-07	3.18384E-07	6.75797E-07	0.000198
0.00096	3.32698E-07	1.00454E-06	6.86592E-07	3.08736E-07	6.55318E-07	0.000192
0.00095	3.29232E-07	9.9408E-07	6.7944E-07	3.0552E-07	6.48492E-07	0.00019
0.00097	3.36163E-07	1.01501E-06	6.93744E-07	3.11952E-07	6.62144E-07	0.000194
0.00092	3.18835E-07	9.62688E-07	6.57984E-07	2.95872E-07	6.28013E-07	0.000184
0.00087	3.01507E-07	9.10368E-07	6.22224E-07	2.79792E-07	5.93882E-07	0.000174
0.00084	2.9111E-07	8.78976E-07	6.00768E-07	2.70144E-07	5.73403E-07	0.000168
0.00082	2.84179E-07	8.58048E-07	5.86464E-07	2.63712E-07	5.59751E-07	0.000164
0.00081	2.80714E-07	8.47584E-07	5.79312E-07	2.60496E-07	5.52925E-07	0.000162
0.00195	6.75792E-07	2.04048E-06	1.39464E-06	6.2712E-07	1.33111E-06	0.00039
0.00143	4.95581E-07	1.49635E-06	1.02274E-06	4.59888E-07	9.76151E-07	0.000286

Appendix C

County Greenhouse Gas Checklist

Table 2: Screening Table for Implementation of GHG Reduction Measures for Commercial Development

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2E7: Energy Efficiency for Commercial Development			
Building Envelope			
Insulation	Title 24 standard (required)	0 points	12
	Modestly Enhanced Insulation (5% > Title 24)	4 points	
	Enhanced Insulation (15%> Title 24)	8 points	
	Greatly Enhanced Insulation (20%> Title 24)	12 points	
Windows	Title 24 standard (required)	0 points	8
	Modestly Enhanced Window Insulation (5% > Title 24)	4 points	
	Enhanced Window Insulation (15%> Title 24)	8 points	
	Greatly Enhanced Window Insulation (20%> Title 24)	12 points	
Doors	Title 24 standard (required)	0 points	0
	Modestly Enhanced Insulation (5% > Title 24)	4 points	
	Enhanced Insulation (15%> Title 24)	8 points	
	Greatly Enhanced Insulation (20%> Title 24)	12 points	
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage.		4
	Title 24 standard (required)	0 points	
	Modest Building Envelope Leakage (5% > Title 24)	4 points	
	Reduced Building Envelope Leakage (15%> Title 24)	8 points	
	Minimum Building Envelope Leakage (20% > Title 24)	12 points	
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls.		0
	Thermal storage designed to reduce heating/cooling by 5^{o}F within the building	6 points	
	Thermal storage to reduce heating/cooling by 10^{o}F within the building	12 points	
	Note: Engineering details must be provided to substantiate the efficiency of the thermal storage device.		

Feature	Description	Assigned Point Values	Project Points
Indoor Space Efficiencies			
Heating/ Cooling Distribution System	Title 24 standard (required)	0 points	8
	Modest Distribution Losses (5% > Title 24)	4 points	
	Reduced Distribution Losses (15%> Title 24)	8 points	
	Greatly Reduced Distribution Losses (15%> Title 24)	12 points	
Space Heating/ Cooling Equipment	Title 24 standard (required)	0 points	8
	Efficiency HVAC (5% > Title 24)	4 points	
	High Efficiency HBAC (15%> Title 24)	8 points	
	Very High Efficiency HBAC (20%> Title 24)	12 points	
Building Envelope			
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	
Water Heaters	Title 24 standard (required)	0 points	12
	Efficiency Water Heater (Energy Star conventional that is 5% > Title 24)	4 points	
	High Efficiency Water Heater (Conventional water heater that is 15%> Title 24)	8 points	
	High Efficiency Water Heater (Conventional water heater that is 20%> Title 24)	12 points	
	Solar Water Heating System (commercial only-this reduction feature also implements R2E10	14 points	
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours.		1
	All peripheral rooms within building have at least one window or skylight	1 points	
	All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day	5 points	
	All rooms daylighted to at least 1,000 lumens	7 points	
Artificial Lighting	Title 24 standard (required)	0 points	6
	Efficient Lights (5% > Title 24)	4 points	
	High Efficiency Lights (LED, etc. 15%> Title 24)	6 points	
	Very High Efficiency Lights (LED, etc. 20%> Title 24)	8 points	

Feature	Description	Assigned Point Values	Project Points
Appliances	Title 24 standard (required) Efficient Appliances (5% > Title 24) High Efficiency Energy Star Appliances (15%> Title 24) Very High Efficiency Appliances (20%> Title 24)	0 points 4 points 8 points 12 points	8
Miscellaneous Commercial Building Efficiencies			
Building Placement	North/South alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 point	4
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	
Existing Commercial building Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing residential dwelling units to further the point value of their project. Retrofitting existing commercial buildings within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the San Bernardino County Land Use Services Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following: Will the energy efficiency retrofit project benefit low income or disadvantaged communities? Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E4? Does the energy efficiency retrofit project provide co-benefits important to the County? Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2E9 and R2E10: New Commercial/Industrial Renewable Energy			
Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:		
	Solar Ready Roofs (sturdy roof and electric hookups)	2 points	
	10 percent of the power needs of the project	7 points	
	20 percent of the power needs of the project	13 points	
	30 percent of the power needs of the project	19 points	
	40 percent of the power needs of the project	25 points	
	50 percent of the power needs of the project	31 points	
	60 percent of the power needs of the project	37 points	
	70 percent of the power needs of the project	43 points	
	80 percent of the power needs of the project	49 points	
	90 percent of the power needs of the project	55 points	
	100 percent of the power needs of the project	60 points	
Wind turbines	Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments:		
	10 percent of the power needs of the project	7 points	
	20 percent of the power needs of the project	13 points	
	30 percent of the power needs of the project	19 points	
	40 percent of the power needs of the project	25 points	
	50 percent of the power needs of the project	31 points	
	60 percent of the power needs of the project	37 points	
	70 percent of the power needs of the project	43 points	
	80 percent of the power needs of the project	49 points	
	90 percent of the power needs of the project	55 points	
	100 percent of the power needs of the project	60 points	
Off-site renewable energy project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing residential that will help implement R2E1, existing commercial/industrial that will help implement R2E2, or the Warehouse Renewable Energy Incentive Program (R2E4). These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	

Feature	Description	Assigned Point Values	Project Points
Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure R2E7: Warehouse Renewable Energy Incentive Program			
Warehouse Photovoltaic	This measure is for warehouse projects and involves partnership with Sothern California Edison and California Public Utilities Commissions to develop an incentive program for solar installation on new and retrofit existing warehouses. A mandatory minimum solar requirement for new warehouse space. Solar Photovoltaic panels installed on warehouses or in collective arrangements within a logistics/warehouse complex such that the total power provided augments:		
	Solar Ready Roof (sturdy roof and electric hookups)	2 points	
	10 percent of the power needs of the project	4 points	
	20 percent of the power needs of the project	5 points	
	30 percent of the power needs of the project	7 points	
	40 percent of the power needs of the project	9 points	
	50 percent of the power needs of the project	11 points	
	60 percent of the power needs of the project	13 points	
	70 percent of the power needs of the project	15 points	
	80 percent of the power needs of the project	17 points	
	90 percent of the power needs of the project	19 points	
	100 percent of the power needs of the project	21 points	
Reduction Measure R2WC-1: Per Capita Water Use Reduction Goal			
Irrigation and Landscaping			
Water Efficient Landscaping	Limit conventional turf to < 20% of each lot (required)	0 points	4
	Eliminate conventional turf from landscaping	3 points	
	Eliminate turf and only provide drought tolerant plants	4 points	
	Xeroscaping that requires no irrigation	6 points	
Water Efficient irrigation systems	Drip irrigation	1 point	5
	Smart irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)	5 points	
Recycled Water	Graywater (purple pipe) irrigation system on site	5 points	

none available per west valley water district

Feature	Description	Assigned Point Values	Project Points
Storm water Reuse Systems	Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
Potable Water			
Showers	Title 24 standard (required) EPA High Efficiency Showerheads (15% > Title 24)	0 points 3 points	
Toilets	Title 24 standard (required) EPA High Efficiency Toilets/Urinals (15% > Title 24) Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	0 points 3 points 3 points	3
Faucets	Title 24 standard (required) EPA High Efficiency faucets (15% > Title 24)	0 points 3 points	3
Commercial Dishwashers	Title 24 standard (required) EPA High Efficiency dishwashers (20% water savings)	0 points 4 points	0
Commercial Laundry Washers	Title 24 standard (required) EPA High Efficiency laundry (15% water savings) EPA High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	0 points 3 points 6 points	0
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
Reduction Measure R2T1: Anti-Idling Enforcement			
Commercial Vehicle Idling Restrictions	All commercial vehicles are restricted to 5-minutes or less per trip on site and at loading docks (required of all commercial projects)	1 point	1

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2T2: Employment Based Trip and VMT Reduction Policy			
Compressed Work Week	Reduce the number of days per week that employees need to be on site will reduce the number of vehicle trips associated with commercial/industrial development. Compressed work week such that full time employees are on site: 5 days per week 4 days per week on site 3 days per week on site	 0 points 4 points 8 points	0
Car/Vanpools	Car/vanpool program Car/vanpool program with preferred parking Car/vanpool with guaranteed ride home program Subsidized employee incentive car/vanpool program Combination of all the above	1 point 2 points 3 points 5 points 6 points	2
Employee Bicycle/ Pedestrian Programs	Complete sidewalk to residential within ½ mile Complete bike path to residential within 3 miles Bike lockers and secure racks Showers and changing facilities Subsidized employee walk/bike program Note combine all applicable points for total value	1 point 1 point 1 point 2 points 3 points	1 1
Shuttle/Transit Programs	Local transit within ¼ mile Light rail transit within ½ mile Shuttle service to light rail transit station Guaranteed ride home program Subsidized Transit passes Note combine all applicable points for total value	1 point 3 points 5 points 1 points 2 points	1
CRT	Employer based Commute Trip Reduction (CRT). CRTs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: Incentive based CRT Programs (1-8 points) Mandatory CRT programs (5-20 points)	TBD	
Other Trip Reductions	Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project.	TBD	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2T4: Signal Synchronization and Intelligent Traffic Systems			
Signal improvements	Signal synchronization-1 point per signal Traffic signals connected to ITS	1 point/signal 3 points/ signal	
Reduction Measure R2T5: Renewable Fuel/Low Emissions Vehicles			
Electric Vehicle Recharging	Provide circuit and capacity in garages/parking areas for installation of electric vehicle charging stations. Install electric vehicle charging stations in garages/parking areas	2 points/area 8 points/station	2
Reduction Measure R2T6: Vehicle Trip Reduction Measures			
Mixed Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	
Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	
Reduction Measure R2W5: Construction and Demolition Debris Diversion Program			
Recycling of Construction/ Demolition Debris	Recycle 2% of debris (required) Recycle 5% of debris Recycle 8 % of debris Recycle 10% of debris Recycle 12% of debris Recycle 15% of debris Recycle 20% of debris	0 points 1 point 2 points 3 points 4 points 5 points 6 points	3
Reduction Measure R2W6: 75 Percent Solid Waste Diversion Program			
Recycling	County initiated recycling program diverting 75% of waste requires coordination with commercial development to realize this goal. The following recycling features will help the County fulfill this goal: Provide separated recycling bins within each commercial building/floor and provide large external recycling collection bins at central location for collection truck pick-up Provide commercial/industrial recycling programs that fulfills an on-site goal of 75% diversion of solid waste	 2 points 5 points	5
Total Points Earned by Commercial/Industrial Project:			102