AIR QUALITY ASSESSMENT
FOR
LOMA LINDA UNIVERSITY MEDICAL CENTER
MASTER PLAN ENHANCEMENT

Prepared For:

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1.0 INTRODUCTION

The applicant, Loma Linda University Medical Center (LLUMC), has submitted an application for campus improvements associated with a Master Plan. The improvements will be developed in two phases: Phase I will include the development of a 760-space patient and visitor parking structure, a 732,000 square foot acute care hospital with 464 beds, a Southern California Edison (SCE) substation, and a new or upgraded Central Plant. Phase II will include the development of a research building, expansion to the dental school, and re-use of the existing hospital towers A and C. Refer to Figures 1, 2, and 3 for a regional location map, project vicinity map and site plan, respectively.

This report is a study of the potential impacts the project may have on the local and regional air quality in the vicinity during construction and operation. This air quality assessment discusses the existing air quality in the vicinity/region and the potential air quality impacts associated with the planned project. Background material, including air quality emissions data output, is included in Appendix A.

2.0 GENERAL SETTING

2.1 CLIMATE

The project is located in western San Bernardino County. The study area has a Mediterranean climate with warm dry summers, mild winters with moderate rainfall. The climate is modified by the cold California Current in the Pacific Ocean, the mountain ranges that outline the Los Angeles Basin and San Bernardino Valley, and the deserts to the north and east.

The California Current causes a cold layer of air to form close to the surface. As the air above this layer is warm, air within it cannot rise normally, a phenomenon known as an inversion. The inversion traps pollutants close to the surface, causing higher than usual concentrations of ozone, suspended particles and other ingredients of smog. The mountains prevent cooler marine air from traveling very far inland, making the deserts drier and hotter than the coastal regions. The hot desert air rises, and cooler marine air from the west moves in the form of a sea breeze. A sea breeze is normal in all coastal regions, but in southern California it is exceptionally strong due to the great contrasts in temperature and the funneling effects of the mountains. In this region, the sea breeze brings higher quantities of pollutants from the Los Angeles metropolitan area to the inland valleys, exacerbating problems caused by local pollution sources.

The topographic and climatologic regional effects summarized above cause numerous days when air pollutants exceed federal and/or State air quality standards. This has led to aggressive air quality management measures being required by the federal, State, and local governments.

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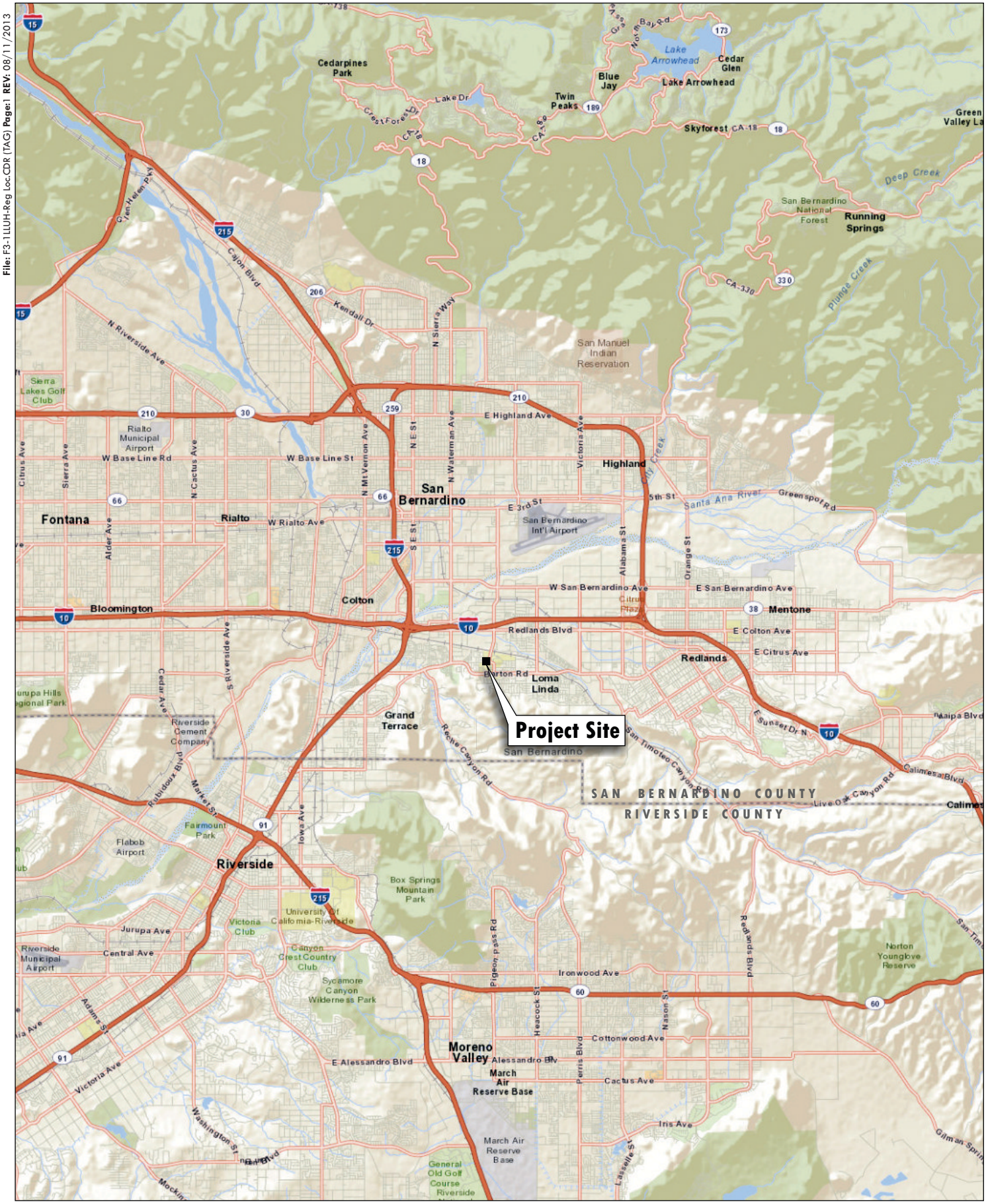


0 3.5
Miles
Source: World Street Map, 2013

LILBURN CORPORATION

LEGEND

- **Project Site Location** (Geographic Location)
  Lat/Lon: 34.051239° N, -117.264079° W

REGIONAL LOCATION

LLUH MASTER PLAN PROJECT
Environmental Impact Report
City of Loma Linda, California

FIGURE 1

File: F3-1LLUH-Reg Loc.CDR (TAG) Page: 1 REV: 08/21/2013

N

0 3.5

Miles

Aerial: GOOGLE, June, 2012.

LILBURN CORPORATION

LEGEND

Project Site

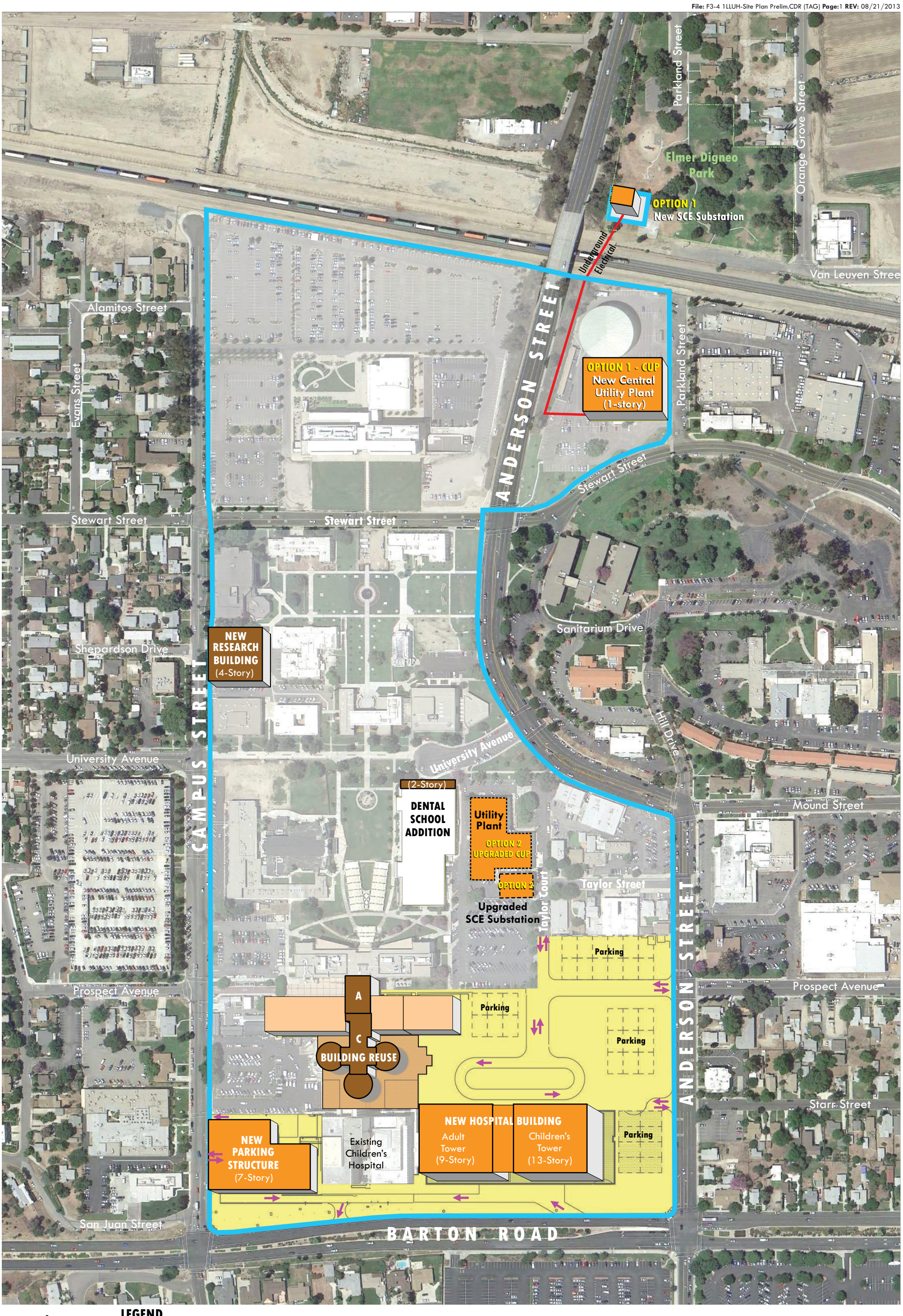
PROJECT VICINTY

LLUH MASTER PLAN PROJECT

Environmental Impact Report

City of Loma Linda, California

FIGURE 2



N
0 250'
Feet
Aerial: GOOGLE, June, 2012.

LILBURN CORPORATION

LEGEND

- Project Site
- Phase 1 Master Plan Buildings
- Phase 1 Master Plan Site Work
- Phase 2 Master Plan Buildings
- New Underground Electrical
- Program Ingress and Egress

PROPOSED MASTER PLAN with PHASING

LLUH MASTER PLAN PROJECT
Environmental Impact Report
City of Loma Linda, California

FIGURE 3

2.2 APPLICABLE POLICES, PLANS AND REGULATIONS

A combination of climatic factors and urbanization cause desert communities and the interior valleys to have some of the highest air pollution levels in the country. The South Coast Air Quality Management District (SCAQMD) monitors and enforces the federal and state air quality standards in association with federal, state, local, and regional government agencies. These agencies work jointly as well as individually to reduce air pollution through legislation, regulation, policy making, education, and a variety of programs. These agencies include:

Environmental Protection Agency (EPA) - Responsible for setting and enforcing the national standards for atmospheric pollutants, including the Clean Air Act (CAA), as amended.

California Air Resources Board (CARB) - Part of the California Environmental Protection Agency (Cal-EPA) and responsible for assuring implementation of the California Clean Air Act (CCAA), responding to federal regulations, and regulating emission standards.

SCAQMD - Primarily responsible for comprehensive air pollution control in the Salton Sea Air Basin (SSAB), South Coast Air Basin (SCAB) and Riverside and Los Angeles County portions of the South East Desert Air Basin (SEDAB). SCAQMD implements the CAA and CCAA and works directly with federal, state, and local agencies.

Local Governments - Have the authority and responsibility to reduce air pollution through their local land use decision-making authority.

Air emissions from the proposed project are subject to federal, state, and local rules and regulations as implemented through provisions of the federal Clean Air Act, California Clean Air Act, and the 2012 Air Quality Management Plan (AQMP) adopted and updated regularly by SCAQMD. The 2015 AQMP is currently being developed by the SCAQMD. The following is an overview of current rules and regulations.

Federal Clean Air Act. The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as National Ambient Air Quality Standards (NAAQS). The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe of the public. The NAAQS set standards for the following pollutants:

Nitrogen dioxide (NO_2)
Sulfur dioxide (SO_2)
Particulate matter less than 10 microns, aerodynamic diameter (PM_{10})
Particulate matter less than 2.5 microns, aerodynamic diameter ($PM_{2.5}$)
Ozone (O_3)
Lead (Pb)
Carbon Monoxide (CO)

Primary and secondary NAAQS have been established and are shown in Table 1. Primary standards reflect levels of air quality deemed necessary by the EPA to provide an adequate margin of safety to protect public health. Areas found to be in violation of primary standards are termed "nonattainment areas". Secondary standards reflect levels of air quality necessary to protect public welfare from the known or anticipated adverse effects of a pollutant.

California Clean Air Act. Under the federal Clean Air Act, state and local authorities have primary responsibility for assuring that their respective regions are in attainment of, or have a verifiable plan to attain, the NAAQS. The federal Clean Air Act also provides state and local agencies authority to promulgate more stringent ambient air quality standards. The California Ambient Air Quality Standards (CAAQS) for the following pollutants are also included in Table 1.

Hydrogen sulfide (H_2S)
Vinyl chloride
Sulfates (SO_4)
Visibility-reducing particles

Under the provisions of the federal and California Clean Air Acts, areas not in attainment of the NAAQS or CAAQS are required to prepare an AQMP. An AQMP establishes an area-specific program to control existing and proposed sources of air emissions so that the NAAQS or CAAQS may be attained by the applicable target date. CARB and EPA are required to designate areas of the state as "attainment", "nonattainment", or "unclassified" for state and federal ambient air quality standards. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an extraordinary event. An unclassified designation indicates a lack of adequate air quality data or other information on which to base an attainment or nonattainment designation.

2.3 EXISTING AIR QUALITY

Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant-dispersing properties of local weather patterns. When airborne pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants in the SCAB is influenced by periodic temperature inversions, persistent meteorological conditions and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as NAAQS. The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe for the public.

NAAQS have been set for a number of criteria pollutants. The following is a brief description of health effects and whether the SCAB is or is not in attainment for these pollutants:

Table 1
State and Federal
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	---	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)		
Respirable Particulate Matter (PM_{10})[8]	24-Hour	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 μg/m^3		---		
Fine Particulate Matter ($PM_{2.5}$)[8]	24-Hour	---		35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	12 μg/m^3	15 μg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)		Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 μg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 μg/m^3)	---	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)		0.053 ppb (100 μg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 μg/m^3)	Ultraviolet Fluorescence	75 ppd (196 μg/m^3)	–	Ultraviolet Flourescence, Spectrophotometry (Pararosaniline Method)
	3-Hour	---		--	0.5 ppm (1300 μg/m^3)	
	24-Hour	0.04 ppm (105 μg/m^3)		0.14 ppm (for certain areas)[10]	---	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	
Lead[11,12]	30-day average	1.5 μg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[11]	--		1.5 μg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Calendar Quarter	–		0.15 μg/m^3		
Visibility-Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24-Hour	25 μg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 μg/m^3)	Gas Chromatography			

Source: ARB, June, 4, 2013.

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) was retained at 25 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards in the annual mean, averaged over 3 years.
9. To attain the 1-hour national standard, the 3-year average of the 98th percentile of the 1-hour daily maximum concentration at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Ozone (O_3) is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from areas cities react during transport downwind to produce the oxidant concentrations experienced in the area. Pollutants emitted in the Los Angeles area contribute to the ozone levels experienced in the SCAB.

Data summarized in Table 2 shows that the 1-hour State ozone standard was exceeded 43 to 72 days per year over the past five years at the Redlands monitoring station, the closest monitoring station to the project site. The SCAB is designated as a nonattainment basin for ozone. The federal 8-hour Ozone standard has been exceeded between 61 and 80 days per year during the past five years and the State 8-hour standard was exceeded between 82 to 101 days per year over the past five years.

Carbon Monoxide (CO) is a gas produced almost entirely from automobiles that interferes with the transfer of oxygen to the brain. Peak levels of CO occur in winter and are highest where there is heavy traffic. CO levels are not a concern in the project area due to the low traffic volumes and are therefore not monitored.

Table 2
Ozone Data
Redlands Air Monitoring Site
2008 – 2012

Year	Days Exceeding One-Hour State Standard	Days Exceeding 8-Hour Federal Standard	Days Exceeding 8-Hour State Standard	Maximum One Hour Reading (ppm)
2008	72	100	75	0.120
2009	62	91	73	0.122
2010	43	82	61	0.111
2011	64	96	80	0.133
2012	66	101	79	0.109

Source: CARB, 2013
State Standard – 0.09 ppm based on one-hour average. No Federal one-hour standard (removed in 2006).
State 8-Hour Standard 0.070 ppm; Federal 8-Hour standard is 0.075 ppm.

Nitrogen dioxide (NO_2) is a gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations). AAQS for NO_2 have not been violated since 1991.

Particulate Matter (PM_{10}) consists of extremely small-suspended particles or droplets 10 microns or smaller in diameter that can lodge in lungs contributing to respiratory problems. PM_{10} arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations and windstorms. PM_{10} scatters light and significantly reduces visibility. PM_{10} poses a health hazard, alone or in combination with other pollutants.

Data summarized in Table 3 shows that during the last five years PM_{10} levels at the Redlands monitoring station didn't exceed the federal ambient air quality standards however, the State standard was exceeded 0 to 2 days per year over the past five years.

Fine Particulate Matter ($PM_{2.5}$) consists of extremely small suspended particles 2.5 microns in diameter and arise primarily from combustion sources. Data summarized in Table 4 from the Redlands station shows that during the last five years, $PM_{2.5}$ levels exceeded the ambient air quality standards in the project area between 0 and 3 days per year over the past five years.

Sulfur dioxide (SO_2) is a gas produced when fossil fuels are burned. SO_2 is the main pollutant contributing to the formation of acid rain. No exceedances of this pollutant have occurred for decades and concentrations are well under Federal and State standards.

Lead (Pb) is a heavy metal used in industry and for years was a component in gasoline. Since the elimination of lead as a gasoline additive, lead in the atmosphere in southern California has been virtually eliminated.

Table 3
Particulate Matter (PM_{10}) Data
Redlands Air Monitoring Site
2008 – 2012

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading ($\mu g/m^3$)
2008	2	0	58
2009	0	0	52
2010	1	0	57
2011	1	0	71
2012	0	0	48

State Standard – 50 $\mu g/m^3$ based on 24-hour average
Federal Standard – 150 $\mu g/m^3$ based on 24-hour average
$\mu g/m^3$ = micrograms per cubic meter
Measurements taken every 6 days.
Source: CARB, 2013

Table 4
Fine Particulate Matter ($PM_{2.5}$) Data
Redlands Air Monitoring Site
2008 – 2012

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading ($\mu g/m^3$)
2008	N/A	3	43.5
2009	N/A	2	37.8
2010	N/A	2	39.3
2011	N/A	2	65.0
2012	N/A	0	34.8

No 24-hour State Standard for $PM_{2.5}$.
Federal Standard – lowered to 35 $\mu g/m^3$ in 2006; based on 24 hour average.
$\mu g/m^3$ = micrograms per cubic meter
Source: CARB, 2013

Hydrogen Sulfide (H_2S) This pollutant is not commonly found in the ambient atmosphere but can originate from natural sources such as volcanoes, sulfur hot springs, or mineral brine associated with dry lakebeds. The CAAQS for H_2S is not health-based but rather an aesthetic one, because the compound smells like rotten eggs. This pollutant is not an issue in the project area.

Sulfates are produced by the reaction in the air of sulfur dioxide (SO_2), which is a component of acid rain. Sources for sulfur dioxide include coal burning power plants and diesel engines. California does not have any coal burning power plants and all diesel fuels sold in the state are now lower in sulfur. Sulfates are not an issue in the area.

Visibility-reducing particles are common in the SCAB due to the vast open desert area, especially during windy conditions. Particles reduce visibility, obscuring the desert scenery, including views of the mountains. Dust control measures reduce particulates in the area.

Reactive Organic Gases (ROG) is also considered in the air quality analysis of projects in the State. Ozone is a secondary pollutant that is the result of chemical reactions between other pollutants, most importantly reactive hydrocarbons (also referred to as ROG), and NO_2, which occurs only in the presence of bright sunlight. The result is the formation of smog. There are no federal or state air quality standards for hydrocarbons or ROG as there are for other pollutants, however the SCAQMD does have thresholds for determining the severity of emissions of several criteria pollutants including ROG.

Toxic Air Contaminants (TAC) is a general term that refers to pollutants with the potential for adverse health effects but for which no ambient air quality standards have been published. The SCAQMD regulates emissions from stationary sources such as the planned Central Plant through the permitting process and requires permits to construct (PTC) and a permit to operate for all stationary equipment that has the potential to release air contaminants pursuant to SCAQMD Rules 201 and 212. The NSR requirements for toxics and noncriteria pollutants emissions are enforced through Regulation XIV. SCAQMD Rule 1401 requires that the maximum increase of

individual cancer risk due to TAC emissions from the new, relocated, or modified permit unit be less than 1 in a million (1×10^{-6}) at any residential or worker receptors, or 10 in a million (1×10^{-5}) if the permit unit is installed with best available control technology (BACT) for toxics (T-BACT). The increase in total chronic hazard index (HIC) and total acute hazard index (HIA) because TAC emissions must be less than 1. These standards are the same as the SCAQMD significance thresholds.

Air Quality Attainment Plans

The project area is under the jurisdiction of the SCAQMD, which implements and enforces the applicable AQMP. The l997 AQMP with the 1999 amendments is the current Federally-approved applicable air plan for ozone. The successor 2003 AQMP was adopted locally on August 1, 2003 by the governing board of the SCAQMD. CARB adopted the plan as part of the California State Implementation Plan on October 23, 2003. The PM_{10} attainment plan from the 2003 AQMP received final approval from the U.S. EPA on November 14, 2005 with an effective date of December 14, 2005. As of February 14, 2007 the U.S. EPA had not acted on the ozone attainment plan of the 2003 AQMP; on the same date, CARB announced that it was rescinding the ozone attainment plan from the 2003 AQMP with the intention to expedite approval of the 2007 AQMP. The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. CARB adopted the plan as a part of the California State Implementation Plan on September 27, 2007. The State Implementation Plan was submitted to the U.S. EPA on November 16, 2007. The U.S. EPA has not taken action on the 2007 AQMP at this time. The SCAQMD prepared the 2012 AQMP that was adopted by the AQMD Governing Board on December 7, 2012. Control measure IND-01 was approved for adoption and inclusion in the Final 2012 AQMP at the February 1, 2013 Governing Board meeting.

SCAQMD staff is initiating an early development process for the 2015 AQMP, which will be a comprehensive and integrated Plan primarily focused on addressing the ozone standards. The Plan will be a regional and multi-agency effort (AQMD, California Air Resources Board, Southern California Association of Governments (SCAG) and US Environmental Protection Agency). State and federal planning requirements include developing control strategies, attainment demonstrations, reasonable further progress, and maintenance plans. The 2015 AQMP will incorporate the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, Regional Transportation Plan/Sustainable Communities Strategy, and updated emission inventory methodologies for various source categories.

The primary guidance for implementing the air quality standards in relation to the California Environmental Quality Act (CEQA) is the 1993 SCAQMD CEQA Air Quality Handbook. This handbook is being revised and updated, but until the new edition is published, the 1993 version as updated, is still a valid reference and directive.

SCAQMD regulates emissions from stationary sources through the permitting process and requires permits to Construct/Operate for all stationary equipment with the potential to release air contaminants. This will be required for the Central Plant whether an upgrade or a new facility. The SCAQMD cannot issue an air quality permit to operate to projects that may create a

significant air quality impact or interfere with the AQMP progress toward attainment of the federal air quality standards. Fugitive dust emission sources are required to implement best available fugitive dust control measures as recommended in Rule 403.

Climate Change and Greenhouse Gases

Gases that trap heat in the atmosphere are often called Greenhouse Gases (GHG); analogous to a greenhouse. GHG are emitted by natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be approximately 61°F cooler (CA 2006). Emissions from human activities such as electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

GHG 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 effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA 2006a). The reference gas for GWP is carbon dioxide; carbon dioxide has a GWP of one. For example, methane has a GWP of 21, which means that it has a greater global warming effect than carbon dioxide on a molecule per molecule basis. One teragram of carbon dioxide equivalent (Tg CO2 Eq.) is the emissions of the gas multiplied by the GWP. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. The atmospheric lifetime and GWP of selected GHG are summarized in Table 5. As shown in the table, GWP ranges from 1 (carbon dioxide) to 23,900 (sulfur hexafluoride).

Table 5
Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50 – 200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF4)	50000	6,500
PFC: Hexafluoroethane (C2F6)	10000	9,200
Sulfur Hexafluoride (SF6)	3200	23,900

Source: EPA 2006b

Water vapor is the most abundant, important, and variable GHG in the atmosphere. It is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. The main

source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves.

Carbon dioxide (CO2) is an odorless, colorless natural GHG. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of carbon dioxide are from burning coal, oil, natural gas, and wood. Concentrations are currently around 370 ppm; some say that concentrations may increase to 540 ppm by 2100 as a direct result of anthropogenic sources (IPCC 2001). Some predict that this will result in an average global temperature rise of at least 2° Celsius (IPCC 2001).

Methane is a flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.

Nitrous oxide (N2O), also known as laughing gas, is a colorless GHG. Higher concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, as an aerosol spray propellant, and in race cars.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore their production was stopped as required by the Montreal Protocol.

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs for automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down though the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. Concentrations of tetrafluoromethane in the atmosphere are over 70 ppt (EPA 2006b). The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated, 23,900. Concentrations in the 1990s were about 4 ppt (EPA 2006b). Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Ozone is a GHG; however, unlike the other GHG, ozone in the troposphere is relatively short-lived and therefore is not global in nature. According to CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_x and VOCs) to global warming (CARB 2004). Therefore, project emissions of ozone precursors would not significantly contribute to global climate change.

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel with sulfur in it is burned. Black carbon (or soot) is emitted during bio mass burning incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Federal Plans, Policies, Regulations, and Laws

The federal government began studying global warming as early as 1978 with the National Climate Protection Act, 92 Stat. 601. More recently, in *Massachusetts v. EPA* (April 2, 2007), the United State Supreme Court held that GHGs fall within the Clean Air Act's definition of an "air pollutant," and directed the EPA to consider whether GHGs are causing climate change. If so, the EPA must regulate GHG emissions from automobiles under the Clean Air Act. The EPA has not finalized a regulation. However, it did issue a proposed rule on April 17, 2009. The rule declared that GHGs endanger human health and is the first step to regulation through the federal Clean Air Act. If it becomes final, the EPA would define air pollution to include the six key GHGs – CO2, CH4, N2O, HFCs, PFCs, and SF6.

Congress has increased the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In December 2007, President Bush signed a bill raising the minimum average miles per gallon for cars, sport utility vehicles, and light trucks to 35 miles per gallon by 2020. This increase in CAFE standard will create a substantial reduction in GHG emissions from automobiles, which is the largest single emitting GHG sector in California. However, there are no adopted federal plans, policies, regulations or laws setting a mandatory limit on GHG emissions. The EPA has not finalized its evaluation in the wake of *Massachusetts v. EPA.*

California State Plans, Policies, Regulations, and Laws

In November 2008, California's Governor issued Executive Order S-13-08 directing state agencies to plan for sea level rise and other climate change impacts. There are four key actions in the Executive Order: (1) initiation of a climate change adaptation strategy that will assess the state's expected climate change impacts where the state is most vulnerable, with

recommendations by early 2009; (2) an expert panel on sea level rise will inform state planning and development efforts; (3) interim guidance to state agencies on planning for sea level rise in coastal and floodplain areas for new projects; and (4) initiation of a report on critical existing and planned infrastructure projects vulnerable to sea level rise.

Pursuant to Assembly Bill (AB) 32, the California Air Resources Board (CARB) has adopted a number of relevant policies and directives. In December 2008, the Scoping Plan was adopted. The Plan is a central requirement of the statute. In addition, it has adopted a number of protocols for industry and government sectors, including one for local government.

In response to Senate Bill (SB) 97, the Office of Planning and Research (OPR) issued a Technical Advisory on CEQA and Climate Change in June 2008. The Advisory provides an outline of what should be included in a GHG analysis under CEQA (http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf). In January 2009, OPR issued draft amendments to the CEQA Guidelines that address GHGs. Among the amendments are the following:

- Determining the Significance of Impacts from Greenhouse Gas Emissions (Guidelines § 15064.4);
- Thresholds of Significance (Guidelines § 15064.7(c));
- Discussion of Cumulative Impacts (Guidelines § 15130(a)(1)(B) and 15130(f); and
- Tiering and Streamlining the Analysis of Greenhouse Gas Emissions (Guidelines § 15183.5).

Assembly Bill 32

In 2006, the Legislature passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board (ARB or Board) to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. In early 2013, ARB will initiate activities to update the AB 32 Scoping Plan.

Senate Bill 97 (2007)

Under SB 97, the Governor's Office of Planning and Research (OPR) is directed to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by the California Environmental Quality Act (CEQA), by July 1, 2009. The Resources Agency is required to certify and adopt these guidelines by January 1, 2010. OPR is required to periodically update these guidelines as CARB implements AB 32. In addition, SB 97 states that the failure to include a discussion of greenhouse gas emissions in any CEQA document for a project funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 shall not be a cause of action under CEQA.

Executive Order S-01-07 (2007)

Executive Order S-01-07 calls for a reduction in the carbon intensity of California's transportation fuels by at least 10 percent by 2020. , the low-carbon fuel standard ("LCFS") was adopted by CARB as one of its three "early action measures" on June 21, 2007

Senate Bill 1368 (2006) (Public Utilities Code §§ 8340-41)

SB 1368 required the California Public Utilities Commission ("PUC") to establish a "GHG emission performance standard" by February 1, 2007, for all electricity providers under its jurisdiction, including the state's three largest privately-owned utilities (Pub. Res. Code § 8341(d)(1)). These utilities provide approximately 30 percent of the state's electric power. After the PUC acted, the CEC adopted a performance standard "consistent with" the PUC performance standard and applied it to local publicly-owned utilities on May 23, 2007 However, the California Office of Administrative Law ("OAL") found four alleged flaws in the CEC's rulemaking. The CEC overcame these alleged flaws and adopted reformulating regulations in August 2007.

Senate Bill 107 (2006)

Senate Bill 107 ("SB 107") requires investor-owned utilities such as Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric, to generate 20 percent of their electricity from renewable sources by 2010. Previously, state law required that this target be achieved by 2017.

Senate Bill 375 (September 2008)

In September 2008, SB 375 was signed by California's Governor. SB 375 is a comprehensive global warming bill that helps to achieve the goals of AB32. To help establish these targets, the CARB assigned a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emission reduction targets. SR 375 also provides incentive – relief from certain CEQA requirements for development projects that are consistent with regional plans that achieve the targets. SB 375 requires CARB to develop, in collaboration with the Metropolitan Planning Organization (MPO), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. The MPO is required to include and adopt, in their regional transportation plan, a sustainable community strategy that will meet the region's target provided by CARB.

Energy Conservation Standards (2009)

Energy Conservation Standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2008 (Title 24, Part 6 of the California Code of Regulations [CCF]) with the standards going into effect in 2009. Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for

consideration and possible incorporation of new energy efficiency technologies and methods. The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608), dated December 2006, were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally-regulated appliances and non-federally regulated appliances. While these regulations are now often seen as "business as usual," they do exceed the standards imposed by any other state and reduce GHG emissions by reducing energy demand. On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations). Part 11 established voluntary standards, some of which became mandatory in the 2010 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

California Environmental Quality Act (CEQA) Guidelines

SB 97 required that the California Natural Resource Agency (CNRA) coordinate on the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. Pursuant to SB 97, CNRA adopted CEQA Guidelines amendments on December 30, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.

With respect to the significance assessment, newly added CEQA Guidelines section 15064.4, subdivision (b), requires that the lead agency should 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;
(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. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The new CEQA Guidelines do not include or recommend any particular threshold of significance; instead, they leave that decision to the discretion of the lead agency. The new CEQA Guidelines also do not suggest or recommend the use of any specific GHG emission mitigation measures. The newly added CEQA Guidelines provides that lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or

reporting, of mitigating the significant effects of greenhouse gas emissions. Mitigation measures may include the following, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
(4) Measures that sequester greenhouse gases;
(5) In the case of the adoption of a plan, such as a general plan, long-range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

Among other things, CNRA noted in its Public Notice for these changes that the impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The Public Notice states: "While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable."

South Coast Air Quality Management (SCAQMD) District Guidance

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for projects where the SCAQMD is the lead agency. As to all other projects, where the SCAQMD is not the lead agency, the Board has, to date, adopted thresholds only for industrial (stationary source) projects. The SCAQMD has not yet adopted any significance thresholds for new residential/commercial development projects. However, has over the last few years proposed several draft thresholds. To assist in assessing the significance of GHG emissions from new residential/commercial development projects under CEQA, SCAQMD staff has been working on developing thresholds together with the SCAQMD's GHG CEQA Significance Thresholds Working Group. To achieve its policy objective of capturing 90% of GHG emissions from new residential/commercial development projects and implementing a "fair share" approach to reducing emission increases from each new residential/commercial development sector, SCAQMD staff has proposed combining performance standards and screening thresholds. According to the GHG CEQA Significance Working Group meeting (last meeting, September 2010), SCAQMD staff proposed a draft threshold for 2020 of 4.8 MT/SP/YR (metric tons of CO2EQ per service population per year) for mixed use developments. As the goal of AB 32 is to return to 1990 GHG emission levels by 2020, the basis for this threshold is the statewide emission inventory for 1990 based on "land use" related sectors

divided by the statewide service population. The SCAQMD has also developed draft thresholds for commercial and residential projects, where it is not the lead. The draft recommends a 3,000 MTCO2EQ per year screening threshold. The SCAQMD's working group has not set a date for finalizing the recommendations.

Health and Other Effects

The 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 (i.e., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution (EPA 2006c).

3.0 AIR QUALITY IMPACT EVALUATION

3.1 STANDARDS OF SIGNIFICANCE

Air quality analyses for the proposed project have been conducted in accordance with the CEQA Air Quality Handbook prepared by the SCAQMD (1993 as updated). SCAQMD has established the following emissions criteria for determining whether the impacts from a project would be considered significant under CEQA:

<u>Thresholds of Significance for Construction:</u>

- 75 pounds per day of ROC
- 100 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_X
- 150 pounds per day of PM_{10}
- 55 pounds per day of $PM_{2.5}$

<u>Thresholds of Significance for Operations:</u>

- 55 pounds per day of ROC
- 55 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_X
- 150 pounds per day of PM_{10}
- 55 pounds per day of $PM_{2.5}$

<u>Greenhouse Gas Emissions</u>

- 3,000 metric tons of CO_2 equivalent (MTCO2e)

Toxic Air Contaminants

- Maximum Incremental Cancer Risk ≥ 10 in 1 million
- Hazard Index ≥ 1.0 (project increment)

3.2 CONSTRUCTION AIR QUALITY EVALUATION

LLUMC has submitted an application for campus improvements associated with a Master Plan. The improvements will be developed in two phases: Phase I will include the development of a 760-space patient and visitor parking structure and an 80 space parking lot, a 732,000 square foot acute care hospital with 464 beds, a SCE substation, and a new or upgraded Central Plant. Phase II will include the development of a research building, expansion to the dental school, and re-use of the existing hospital towers A and C.

Emissions generated by the proposed project would be from short-term construction of all new and renovated facilities and operational emissions from the Central Plant. No other operational emissions are anticipated as the improvements are associated with replacing and/or improving existing services. The existing campus Central Plant is located west of Anderson Street and south of University Avenue and serves the campus and the existing hospital with efficient and centralized power and other utilities. The Central Plant consists of three areas: the original Central Heating and Cooling Plant, a Centrifugal Chiller Plant, and the Cogeneration Plant. The three plants are adjacent to each other and are referred to herein as the "Central Plant". The Central Heating and Cooling Plant includes absorption chillers, pumps, cooling towers, and a backup boiler as well as office and other administrative space. The Centrifugal Chiller Plant includes 5 chillers, pumps, and a roof-mounted cooling tower. The Central Plant also provides softened, reverse osmosis, and deionized water treatment systems; and compressed air.

LLUH is currently reviewing two options to modernize and expand these services. The capacity of the cogeneration power plant would be increased in phases from the existing 10 megawatts (MW) up to 22 MW, allowing LLUH to become less reliant in time, on power purchased from others. The capacity increases would be constructed in units of 7.3 MW and the maximum buildout would be 22 MW. Air Quality reviewed Option 1, the construction and operation of a new 22 MW Central Plant as this represented the worst case scenario.

The proposed project was screened using the CalEEMod version 2013.2 emissions model. The criteria pollutants analyzed included reactive organic gases (ROG), nitrous oxides (NO_x), carbon monoxide (CO), particulates (PM_{10} and $PM_{2.5}$), carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Construction emissions are screened and quantified to document the effectiveness of control measures.

The CalEEMod model allows the user to set certain defaults and run the model to incorporate SCAQMD required rules and regulations. Therefore, per SCAQMD Rules 402 and 403, the mitigation requiring that exposed surfaces during construction be watered twice per day was "turned on". The developer and its contractor will be required to comply with mandated SCAQMD rules and regulations, including but not limited to, Rules 402 and 403. Therefore, the following dust control conditions applicable to the site activities as recommended by Rules 402 and 403 shall also be implemented:

1. The project proponent shall ensure that any portion of the site to be graded shall be pre-watered prior to the onset of grading activities.

   (a) The project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading activity on the site at least 2x per day. Portions of the site that are actively being graded shall be watered regularly to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.

   (b) The project proponent shall ensure that all disturbed areas are treated to prevent erosion until the site is constructed upon.

   (c) The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.

   (d) The project proponent shall ensure that all grading activities are suspended during first and second stage ozone episodes or when winds exceed 25 miles per hour.

During construction, exhaust emissions from construction vehicles and equipment and fugitive dust generated by equipment traveling over exposed surfaces, would increase NO_X and PM_{10} levels in the area. The following mitigation measures shall be implemented to reduce impacts.

2. To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel. Site development will be limited to one acre disturbed per day.
3. The contractor shall utilize (as much as possible) pre-coated building materials and coating transfer or spray equipment with high transfer efficiency, such as high volume, low pressure (HVLP) spray method, or manual coatings application such as paint brush, hand roller, trowel, dauber, rag, or sponge.
4. The contractor shall utilize water-based or low VOC coating per SCAQMD Rule 1113. The following measures shall also be implemented:
   - Use Super-Compliant VOC paints whenever possible.
   - If feasible, avoid painting during peak smog season: July, August, and September.
   - Recycle leftover paint. Take any left-over paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.
   - Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
   - For water-based paints, clean up with water only. Whenever possible, do not rinse the clean-up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean-up water and take it to a hazardous waste center (www.cleanup.org).
   - Recycle empty paint cans.
   - Look for non-solvent containing stripping products.

- Use Compliant Low-VOC cleaning solvents to clean paint application equipment.
- Keep all paint and solvent laden rags in sealed containers to prevent VOC emissions.

5. The project proponent shall ensure that existing power sources are utilized where feasible via temporary power poles to avoid on-site power generation.
6. The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.
7. All buildings on the project site shall conform to energy use guidelines in Title 24 of the California Administrative Code as updated to reduce energy consumption and reduce GHG emissions.
8. The operator shall maintain and effectively utilize and schedule on site equipment and delivery trucks in order to minimize exhaust emissions from truck idling.

Modeled Analysis

The emissions calculations for the construction phase include fugitive dust from grading and exhaust emissions from on-site equipment and worker travel and are summarized in Tables 6 thru 9. The fugitive dust emissions are based on earthwork activities per day. The proposed construction activities will include implementation of the "best available fugitive dust control requirements" listed above and the developer will comply with SCAQMD rules and regulations particularly Rules 402 and 403 that require controls for fugitive dust. These standard conditions will reduce emissions to the lowest amounts feasible. Construction emissions were screened and quantified to document the effectiveness of control measures. For additional information, refer to Appendix A for the CalEEMod emissions model output data. The following construction parameters were analyzed:

- Construction Years 1 thru 2
  - Demolition of 10 structures (residential used as office)
  - 760-space parking structure

- Construction Years 2 (late year 2, not to overlap with the construction of the Parking Structure) thru 6
  - 464 bed Hospital
  - 80 parking lot
  - 9,000 square feet dental building
  - 4,000 sq.ft SCE substation
  - 34,000 sq.ft New 22MW Central Plant Building
  - Demolition of 10,000 square feet building

- Construction Year 7
  - 90,000 square foot Research Building

Table 6
Construction Emissions Summary
Years 1 thru 2
(Pounds Per Day)

Source/Phase	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	5.3	51.3	38.6	0.0	3.8	2.6
Site Preparation	5.8	57.7	44.3	0.0	11.5	7.5
Grading	4.3	41.2	27.8	0.0	5.5	5.8
Building Construction	8.4	28.0	35.1	0.0	4.1	2.7
Paving	2.7	25.3	16.0	0.0	1.6	1.3
Architectural Coating	44.2	2.8	3.6	0.0	0.5	0.3
Highest Value (lbs/day)	**44.2**	**57.7**	**44.3**	**0.0**	**11.5**	**7.5**
SCAQMD Threshold	75	100	550	150	150	55
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2013.2
Phases don't overlap and represent the highest concentration

Table 7
Construction Emissions Summary
Years 2 thru 6
(Pounds Per Day)

Source/Phase	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	5.0	49.2	37.6	0.0	3.1	2.5
Site Preparation	5.6	56.9	43.8	0.0	11.4	7.4
Grading	4.0	38.5	26.9	0.0	5.3	3.6
Building Construction	7.7	35.5	34.8	0.0	4.2	2.4
Paving	1.9	17.2	15.1	0.0	1.1	0.9
Architectural Coating	53.3	2.1	3.1	0.0	0.5	0.2
Highest Value (lbs/day)	**53.3**	**56.9**	**43.8**	**0.0**	**11.4**	**7.4**
SCAQMD Threshold	75	100	550	150	150	55
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2013.2
Phases don't overlap and represent the highest concentration.

Table 8
Construction Emissions Summary
Year 7
(Pounds Per Day)

Source/Phase	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation	2.2	22.3	14.8	0.0	1.2	1.0
Grading	2.4	22.7	17.5	0.0	4.0	2.6
Building Construction	3.0	18.3	17.7	0.0	1.4	1.1
Paving	1.3	10.6	12.1	0.0	0.8	0.6
Architectural Coating	28.2	1.5	2.1	0.0	0.2	0.1
Highest Value (lbs/day)	**28.2**	**22.7**	**17.7**	**0.0**	**4.0**	**2.6**
SCAQMD Threshold	75	100	550	150	150	55
Significant	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2013.2
Phases don't overlap and represent the highest concentration

Table 9
Greenhouse Gas Construction Emissions
MT Per Year

Phase	CO_2	CH_4	N_20
Years 1 thru 2	671.5	0.11	0.0
Years 2 thru 6	1,561.1	0.3	0.0
Year 7	575.1	0.1	0.0
Highest Value (CO2e)	**1,566.9**		
SCAQMD Threshold	3,000		
Significant	**No**		

Source: CalEEMod 2013.2
Phases don't overlap and represent the highest concentration

As shown in Tables 6 thru 9, construction emissions are less than the SCAQMD thresholds and would be considered less than significant.

3.3 OPERATIONAL AIR QUALITY EVALUATION

The proposed project will not include the manufacture or production of any products on-site; therefore, no industrial type emissions will be generated. Operational emissions generated by the proposed project would be from the Central Plant. The Central Plant operational emissions are associated with the replacement of the 1985 Cogen Size 10MW Central Plant with a new more efficient 22MW Central Plant. No other operational emissions are anticipated as the improvements are associated with replacing and/or improving existing services.

Goss Engineering, Inc. prepared an emissions inventory of the existing and proposed natural gas plants. Lilburn Corporation prepared CH_4 and N_2O emissions. Emissions associated with the operational activities are listed in Tables 10 and 11. Refer to Appendix B for calculations and assumptions.

Table 10
Operations Emissions Summary
(Pounds Per Day)

Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$[1]
Existing 10MW Plant	21.0	201.4	104.9	22.5	22.0
Proposed 22MW Plant	32.9	41.1	49.3	19.2	19.0
Difference from Baseline or Existing (+/-)	**+11.9**	**-160.3**	**-55.6**	**-3.3**	**-3.0**
SCAQMD Threshold	55	55	550	150	55
Significant	**No**	**No**	**No**	**No**	**No**

Source: Goss Engineering, Inc. 2013
[1]PM2.5 is 98% of PM10

Table 11
Greenhouse Gas Operational Emissions
"MT Per Year"

Source	CO_2[1]	CH_4[2]	N_2O[2]

Existing 10MW Plant	53,694	5.0	1.0
Proposed 22MW Plant	102,121	9.6	1.7
Difference	+48,427	+4.6	+0.7
Total CO2e	**48,432.3**		
SCAQMD Threshold	3,000		
Significant	**YES**		

[1]Goss Engineering, Inc.
[2] California Climate Action Registry General Reporting Protocol, Table C.8

As shown in Table 10, replacing the existing 25-year old plant with a new plant that is required to implement current air pollutant control measures as required by SCAQMD rules and regulations would substantially reduce NO_x and CO emissions. No criteria emissions would exceed thresholds; therefore no significant impacts are anticipated. However, as shown in Table 11, GHG emissions would exceed SCAQMD thresholds. Therefore, in compliance with GHG reduction strategies the applicant will be required to implement the applicable GHG measures. These measures are included in CalEEMod model that are largely based on CAPCOA "Quantifying GHG Mitigation Measures". Refer to Table 12 for these measures. However, with implementation of the said measures, emissions would not be lowered to a less than significant level.

Table 12
Quantifying GHG Mitigation Measures

Category	Measure No.
Energy	
Building Energy Use	
Buildings Exceed Title 24 Building Envelope Energy Efficiency Standards By X%	BE-1
Install Energy Efficient Boilers	BE-4
Lighting	
Install Higher Efficacy Public Street and Area Lighting	LE-1
Alternative Energy Generation	
Establish Onsite Renewable Energy Systems-Generic	AE-1
Establish Onsite Renewable Energy Systems-Solar Power	AE-2
Establish Onsite Renewable Energy Systems-Wind Power	AE-3
Transportation	
Land Use/Location	
Increase Density	LUT-1
Increase Diversity of Urban and Suburban Development (Mixed Use)	LUT-3
Increase Destination Accessibility	LUT-4
Increase Transit Accessibility	LUT-5
Integrate Affordable and Below Market Rate Housing	LUT-6
Improve Design of Development	LUT-9
Neighborhood/Site Enhancements	
Provide Pedestrian Network Improvements	SDT-1
Provide Traffic Calming Measures	SDT-2

Category	Measure No.
Implement a Neighborhood Electric Vehicle (NEV) Network	SDT-3
Parking Policy/Pricing	
Limit Parking Supply	PDT-1
Unbundle Parking Costs from Property Cost	PDT-2
Implement Market Price Pubic Parking (On-Street)	PDT-3
Commute Trip Reduction Programs	
Implement Commute Trip Reduction Program - Voluntary Implement Commute Trip Reduction Program – Required	TRT-1
Implementation/Monitoring	TRT-2
Provide Ride-Sharing Programs	TRT-3
Implement Subsidized or Discounted Transit Program	TRT-4
Encourage Telecommuting and Alternative Work Schedules	TRT-6
Implement Commute Trip Reduction Marketing	TRT-7
Provide Employer-Sponsored Vanpool/Shuttle	TRT-11
Implement Employee Parking "Cash-Out"	TRT-15
Transit System Improvements	
Provide a Bus Rapid Transit System	TST-1
Expand Transit Network	TST-3
Increase Transit Service Frequency/Speed	TST-4
Water	
Water Supply	
Use Reclaimed Water	WSW-1
Use Gray Water	WSW-2
Water Use	
Install Low-Flow Water Fixtures	WUW-1
Adopt a Water Conservation Strategy	WUW-2
Design Water-Efficient Landscapes	WUW-3
Use Water-Efficient Landscapes	WUW-4
Reduce Turf in Landscapes an d Lawns	WUW-5

CAPCOA "Quantifying GHG Mitigation Measures, August 2010.

TAC or Health Risk Evaluation

The new Central Plant must comply with SCAQMD Rules 201 and 212 that require permits and strict emission limitations and controls to construct and operate the facility. These rule requirements were taken into account in the criteria emission inventory listed in Table 10 and Appendix B. In addition, new or modified sources are subject to strict limitations for TACs which are enforced through SCAQMD Regulation XIV. Rule 1401 requires that the maximum increase of individual cancer risk due to TAC emissions from the new, relocated, or modified facilities be less than 1 in a million (1×10^{-6}) at any residential or worker receptors, or 10 in a million (1×10^{-5}) if the permit unit is installed with BACT for toxics (T-BACT). The increase in total chronic hazard index (HIC) and total acute hazard index (HIA) because TAC emissions must be less than 1. Therefore, with mandatory compliance with Rule 1401and its limitations

above which are the same as the SCAQMD CEQA thresholds, no health impacts due to the emission of TACs are expected.

3.4 PROJECT CUMULATIVE IMPACT

The LLUMC has been in operation at the site since 1968. The proposed project is replacing and/or improving existing services. Therefore, cumulatively impacts are anticipated to be less than significant.

4.0 REPORT SUMMARY

Construction emissions from the proposed project will not exceed the CEQA thresholds of significance. Construction emissions are considered short-term. Potential dust emissions would be further reduced by implementation of standard dust control measures (water exposed surfaces twice per day) as required for all projects within the SCAB. Therefore, potential impacts from construction activities are determined to be less than significant and no further analysis is required.

The operational emissions from the proposed project would not exceed SCAQMD regional thresholds of significance for criteria pollutants, however, will exceed GHG thresholds of significance. The applicant will be required to implement Quantifying GHG Mitigation Measure as listed above.

The new Central Plant will be required to comply with limits to TAC emissions which will not cause exceedance to health risk thresholds.

5.0 REFERENCES

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California Climate Action Registry General Reporting Protocol, January 2009

Goss Engineering, Inc. Central Plant Calculations, June 2013

EPA, Climate Leaders: Greenhouse Gas Inventory Core Module Guidance, May 2008

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EPA 2006a. U.S. Environmental Protection Agency, Office of Atmospheric Programs. April 2006. The U.S. Inventory of Greenhouse Gas Emissions and Sinks: Fast Facts. http://epa.gov/climatechange/emissions/downloads06/06FastFacts.pdf

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APPENDIX A
CONSTRUCTION MODELING RESULTS

OPERATIONAL EMISSIONS

Operational emissions were analyzed with the following assumptions:

- Truck Trips (20-mile roundtrip haul distance, 15 trips per day, worst case assumption)
- Onsite Equipment (Dozer, Loader, Water Truck, Misc/Other Construction Equipment, worst case assumption; hours vary between 2 and 8 hours per day)
- 4 employees (two shifts at two employees per shift) and 3 delivery trucks per day.
- Onsite Generator (8 hours per day)
- Operations Plant (3,150 tons per day (TPD) or 69,300 tons per month was analyzed as a worst case assumption however, 50,000 tons is proposed at any given time; 8 hours per day)
- Sources for offroad mobile equipment and generator from CARB's Off-Road Model found at (www.aqmd.gov/ceqa/handbook/offroad/offroad.html)
- Fugitive Dust from onsite truck and equipment movement and open stockpile/work area estimated at 2 acres of active operations at any one time. Sources for Unpaved road dust – EPA, AP-42 Chapter 13.2.2; for Open Storage at 2 acres - AP 42 Chapter 11.19.1 and SCAQMD PM Emission Factors, July 2010. PM2.5 = 0.212 of PM10 (CEIDARS)

Loader Emissions
Lbs per day

	ROG	**CO**	**NOX**	**SOX**	**PM_{10}**	**$PM_{2.5}$**
Emission per hour	0.12	0.48	0.93	0.00	0.05	98% of PM_{10}
Hours of Operation	x8	x8	x8	x8	x8	x8
Total Lbs per day	**1.0**	**3.8**	**7.4**	**0.0**	**0.4**	(98% of PM_{10}) **0.39**

Dozer Emissions
Lbs per day

	ROG	**CO**	**NOX**	**SOX**	**PM_{10}**	**$PM_{2.5}$**
Emission per hour	0.30	1.17	2.55	0.00	0.11	98% of PM_{10}
Hours of Operation	x2	x2	x2	x2	x2	x2
Total Lbs per day	**0.6**	**2.3**	**5.1**	**0.0**	**0.2**	(98% of PM_{10}) **0.21**

Water Truck Emissions
Lbs per day

	ROG	**CO**	**NOX**	**SOX**	**PM_{10}**	**$PM_{2.5}$**
Emission per hour	0.09	0.38	0.79	0.00	0.03	98% of PM_{10}
Hours of Operation	x2	x2	x2	x2	x2	x2
Total Lbs per day	**0.2**	**0.77**	**1.6**	**0.0**	**0.06**	(98% of PM_{10}) **0.05**

Other Construction Equipment

Lbs per day

	ROG	CO	NOX	SOX	PM_{10}	$PM_{2.5}$
Emission per hour	0.09	0.38	0.79	0.00	0.03	98% of PM_{10}
Hours of Operation	x2	x2	x2	x2	x2	x2
Total Lbs per day	**0.2**	**0.77**	**1.6**	**0.0**	**0.06**	(98% of PM_{10}) **0.05**

Generator Emissions

Lbs per day

	ROG	CO	NOX	SOX	PM_{10}	$PM_{2.5}$
Emission per hour	0.24	0.95	3.2	0.00	0.09	98% of PM_{10}
Hours of Operation	x8	x8	x8	x8	x8	x8
Total Lbs per day	**1.9**	**7.6**	**25.6**	**0.0**	**0.7**	(98% of PM_{10}) **0.7**

On-Road Heavy Heavy Duty Diesel Trucks

Lbs per day

	CO	NO_x	ROG	SOX	PM_{10}	$PM_{2.5}$
Emission per mile	0.009	0.027	0.002	0.00	0.001	0.001
Total Miles	x20	x20	x20	x20	x20	x20
Sub Total	0.18	0.54	0.04	0.0	0.02	0.02
Trips per day	x15	x15	x15	x15	x15	x15
Total Lbs per day	**2.7**	**8.1**	**0.6**	**0.0**	**0.3**	**0.3**

Source: SCAQMD Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy Heavy Duty Diesel Trucks 2013. Emissions rates per mile account for all emissions including start, running and idling exhaust and PM10 and PM2.5 also include tire and brake wear.

On-Road Passenger Vehicles

Lbs per day

	CO	NO_x	ROG	SOX	PM_{10}	$PM_{2.5}$
Emission per mile	0.007	0.0007	0.0007	0.00	0.00	0.00
Total Miles	x20	x20	x20	x20	x20	x20
Sub Total	0.14	1.1	1.1	0.0	0.0	0.0
Trips per day	x8	x8	x8	x8	x8	x8
Total Lbs per day	**1.12**	**0.11**	**0.11**	**0.0**	**0.0**	**0.0**

Source: SCAQMD Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles 2013

On-Road Delivery Trucks
Lbs per day

	CO	**NO_x**	**ROG**	**SOX**	**PM_{10}**	**$PM_{2.5}$**
Emission per mile	0.010	0.015	0.002	0.00	0.000	0.000
Total Miles	x20	x20	x20	x20	x20	x20
Sub Total	0.2	0.3	0.04	0.0	0.0	0.0
Trips per day	x6	x6	x6	x6	x6	x6
Total Lbs per day	**1.2**	**1.8**	**0.24**	**0.0**	**0.0**	**0.0**

Source: SCAQMD Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Delivery Trucks 2013

Open Storage Stockpiles

PM Emission factor (controlled) = 0.0165 lb/ton of material/year
PM10 Emission factor approx. 50% of PM = 0.00825 lb/ton/year
PM2.5 Emission factor approx. 20% of PM10 = 0.00165 lbs/ton/year
Control Efficiency = 95% (per SCAQMD)

Assumption for open storage and active operational areas = 2 acres
Assume moving approx. 200,000 tons in and out of pile

PM10 emissions: 2 ac x 0.00825 x 200,000 tons/yr / 365 days/yr = 9.04 lbs/day
PM2.5 emissions: 2 ac x 0.00165 x 200,000 tons/yr / 365 days/yr = 1.81 lbs/day

Source: SCAQMD PM Emission Factors, July 2010 from AP 42 Chapter 11.19.1.

LLUMC Year 7 Research Building

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Library	90.00	1000sqft	2.07	90,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2021
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

Project Characteristics -

Land Use -

Construction Phase - Length of phase was changed to reflect time frame, two years.

Demolition -

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	75.00
tblConstructionPhase	NumDays	220.00	342.00
tblConstructionPhase	NumDays	6.00	45.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	3.00	44.00
tblGrading	AcresOfGrading	22.50	3.00
tblGrading	AcresOfGrading	66.00	4.50
tblProjectCharacteristics	OperationalYear	2014	2021

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					
2019	2.3816	22.7496	17.5927	0.0248	6.2046	1.2060	7.4106	3.3475	1.1095	4.4570	0.0000	2,435.0598	2,435.0598	0.7502	0.0000	2,450.8142
2020	3.1005	20.8283	17.8332	0.0329	6.2046	1.0880	7.2926	3.3475	1.0010	4.3485	0.0000	2,919.3176	2,919.3176	0.6482	0.0000	2,932.9290
2021	28.1589	16.8177	17.3822	0.0330	0.5190	0.8304	1.3493	0.1395	0.7952	0.9347	0.0000	2,916.4462	2,916.4462	0.5403	0.0000	2,927.7915
Total	**33.6409**	**60.3955**	**52.8081**	**0.0907**	**12.9281**	**3.1244**	**16.0525**	**6.8346**	**2.9057**	**9.7402**	**0.0000**	**8,270.8236**	**8,270.8236**	**1.9386**	**0.0000**	**8,311.5348**

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					
2019	2.3796	22.7287	17.5770	0.0248	2.8535	1.2049	4.0584	1.5227	1.1085	2.6312	0.0000	2,432.8949	2,432.8949	0.7495	0.0000	2,448.6349
2020	3.0984	20.8092	17.8196	0.0329	2.8535	1.0870	3.9406	1.5227	1.0001	2.5228	0.0000	2,917.2287	2,917.2287	0.6476	0.0000	2,930.8278
2021	28.1587	16.8031	17.3689	0.0329	0.5190	0.8296	1.3486	0.1395	0.7944	0.9340	0.0000	2,914.3573	2,914.3573	0.5398	0.0000	2,925.6924
Total	**33.6366**	**60.3410**	**52.7655**	**0.0907**	**6.2260**	**3.1215**	**9.3475**	**3.1849**	**2.9030**	**6.0879**	**0.0000**	**8,264.4809**	**8,264.4809**	**1.9369**	**0.0000**	**8,305.1551**

	ROG	NOx	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	**0.0128**	**0.0903**	**0.0808**	**0.0772**	**51.8411**	**0.0915**	**41.7688**	**53.4002**	**0.0909**	**37.4971**	**0.0000**	**0.0767**	**0.0767**	**0.0908**	**0.0000**	**0.0768**

	ROG	NOx	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2019	11/29/2019	5	44	
2	Grading	Grading	11/30/2019	1/31/2020	5	45	
3	Building Construction	Building Construction	2/1/2020	5/25/2021	5	342	
4	Paving	Paving	5/26/2021	6/24/2021	5	22	
5	Architectural Coating	Architectural Coating	6/25/2021	10/7/2021	5	75	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	38.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

Acres of Grading: 4.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1085	0.0000	0.1085	0.0117	0.0000	0.0117			0.0000			0.0000
Off-Road	2.0176	22.3143	14.5444	0.0238		1.0577	1.0577		0.9731	0.9731		2,359.7169	2,359.7169	0.7466		2,375.3953
Total	**2.0176**	**22.3143**	**14.5444**	**0.0238**	**0.1085**	**1.0577**	**1.1661**	**0.0117**	**0.9731**	**0.9848**		**2,359.7169**	**2,359.7169**	**0.7466**		**2,375.3953**

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	0.1432	0.0329	0.3444	1.0200e-003	0.0894	6.1000e-004	0.0900	0.0237	5.6000e-004	0.0243		75.3429	75.3429	3.6200e-003		75.4189
Total	**0.1432**	**0.0329**	**0.3444**	**1.0200e-003**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.6000e-004**	**0.0243**		**75.3429**	**75.3429**	**3.6200e-003**		**75.4189**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

Acres of Grading: 4.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0488	0.0000	0.0488	5.2700e-003	0.0000	5.2700e-003			0.0000			0.0000
Off-Road	2.0157	22.2938	14.5310	0.0238		1.0567	1.0567		0.9722	0.9722	0.0000	2,357.5520	2,357.5520	0.7459		2,373.2160
Total	**2.0157**	**22.2938**	**14.5310**	**0.0238**	**0.0488**	**1.0567**	**1.1055**	**5.2700e-003**	**0.9722**	**0.9774**	**0.0000**	**2,357.5520**	**2,357.5520**	**0.7459**		**2,373.2160**

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	0.1432	0.0329	0.3444	1.0200e-003	0.0894	6.1000e-004	0.0900	0.0237	5.6000e-004	0.0243		75.3429	75.3429	3.6200e-003		75.4189
Total	**0.1432**	**0.0329**	**0.3444**	**1.0200e-003**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.6000e-004**	**0.0243**		**75.3429**	**75.3429**	**3.6200e-003**		**75.4189**

3.3 Grading - 2019

Unmitigated Construction On-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0928	0.0000	6.0928	3.3179	0.0000	3.3179			0.0000			0.0000
Off-Road	2.2026	22.7085	17.1623	0.0205		1.2052	1.2052		1.1088	1.1088		2,035.7070	2,035.7070	0.6441		2,049.2326
Total	**2.2026**	**22.7085**	**17.1623**	**0.0205**	**6.0928**	**1.2052**	**7.2980**	**3.3179**	**1.1088**	**4.4267**		**2,035.7070**	**2,035.7070**	**0.6441**		**2,049.2326**

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	0.1790	0.0411	0.4304	1.2700e-003	0.1118	7.6000e-004	0.1125	0.0296	7.1000e-004	0.0304		94.1786	94.1786	4.5300e-003		94.2737
Total	**0.1790**	**0.0411**	**0.4304**	**1.2700e-003**	**0.1118**	**7.6000e-004**	**0.1125**	**0.0296**	**7.1000e-004**	**0.0304**		**94.1786**	**94.1786**	**4.5300e-003**		**94.2737**

3.3 Grading - 2019

Mitigated Construction On-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7418	0.0000	2.7418	1.4930	0.0000	1.4930			0.0000			0.0000
Off-Road	2.2006	22.6876	17.1465	0.0205		1.2041	1.2041		1.1078	1.1078	0.0000	2,033.8393	2,033.8393	0.6435		2,047.3525
Total	**2.2006**	**22.6876**	**17.1465**	**0.0205**	**2.7418**	**1.2041**	**3.9459**	**1.4930**	**1.1078**	**2.6008**	**0.0000**	**2,033.8393**	**2,033.8393**	**0.6435**		**2,047.3525**

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	0.1790	0.0411	0.4304	1.2700e-003	0.1118	7.6000e-004	0.1125	0.0296	7.1000e-004	0.0304		94.1786	94.1786	4.5300e-003		94.2737
Total	**0.1790**	**0.0411**	**0.4304**	**1.2700e-003**	**0.1118**	**7.6000e-004**	**0.1125**	**0.0296**	**7.1000e-004**	**0.0304**		**94.1786**	**94.1786**	**4.5300e-003**		**94.2737**

3.3 Grading - 2020

Unmitigated Construction On-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0928	0.0000	6.0928	3.3179	0.0000	3.3179			0.0000			0.0000
Off-Road	2.0420	20.7903	16.4814	0.0205		1.0873	1.0873		1.0003	1.0003		1,990.8950	1,990.8950	0.6439		2,004.4168
Total	**2.0420**	**20.7903**	**16.4814**	**0.0205**	**6.0928**	**1.0873**	**7.1801**	**3.3179**	**1.0003**	**4.3182**		**1,990.8950**	**1,990.8950**	**0.6439**		**2,004.4168**

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	0.1698	0.0379	0.3987	1.2700e-003	0.1118	7.6000e-004	0.1125	0.0296	7.0000e-004	0.0304		90.3223	90.3223	4.2700e-003		90.4120
Total	**0.1698**	**0.0379**	**0.3987**	**1.2700e-003**	**0.1118**	**7.6000e-004**	**0.1125**	**0.0296**	**7.0000e-004**	**0.0304**		**90.3223**	**90.3223**	**4.2700e-003**		**90.4120**

3.3 Grading - 2020

Mitigated Construction On-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7418	0.0000	2.7418	1.4930	0.0000	1.4930			0.0000			0.0000
Off-Road	2.0401	20.7713	16.4663	0.0205		1.0863	1.0863		0.9994	0.9994	0.0000	1,989.0684	1,989.0684	0.6433		2,002.5778
Total	**2.0401**	**20.7713**	**16.4663**	**0.0205**	**2.7418**	**1.0863**	**3.8280**	**1.4930**	**0.9994**	**2.4924**	**0.0000**	**1,989.0684**	**1,989.0684**	**0.6433**		**2,002.5778**

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	0.1698	0.0379	0.3987	1.2700e-003	0.1118	7.6000e-004	0.1125	0.0296	7.0000e-004	0.0304		90.3223	90.3223	4.2700e-003		90.4120
Total	**0.1698**	**0.0379**	**0.3987**	**1.2700e-003**	**0.1118**	**7.6000e-004**	**0.1125**	**0.0296**	**7.0000e-004**	**0.0304**		**90.3223**	**90.3223**	**4.2700e-003**		**90.4120**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2780	17.3169	14.8514	0.0249		0.9434	0.9434		0.9045	0.9045		2,276.7927	2,276.7927	0.4606		2,286.4660
Total	**2.2780**	**17.3169**	**14.8514**	**0.0249**		**0.9434**	**0.9434**		**0.9045**	**0.9045**		**2,276.7927**	**2,276.7927**	**0.4606**		**2,286.4660**

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	0.1773	0.8941	1.4666	3.2000e-003	0.0942	0.0161	0.1103	0.0269	0.0148	0.0417		299.3000	299.3000	2.2100e-003		299.3464
Worker	0.6451	0.1441	1.5152	4.8300e-003	0.4248	2.8800e-003	0.4276	0.1127	2.6700e-003	0.1153		343.2249	343.2249	0.0162		343.5656
Total	**0.8224**	**1.0382**	**2.9818**	**8.0300e-003**	**0.5190**	**0.0190**	**0.5379**	**0.1395**	**0.0175**	**0.1570**		**642.5249**	**642.5249**	**0.0184**		**642.9120**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2760	17.3010	14.8378	0.0249		0.9425	0.9425		0.9036	0.9036	0.0000	2,274.7039	2,274.7039	0.4602		2,284.3683
Total	**2.2760**	**17.3010**	**14.8378**	**0.0249**		**0.9425**	**0.9425**		**0.9036**	**0.9036**	**0.0000**	**2,274.7039**	**2,274.7039**	**0.4602**		**2,284.3683**

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	0.1773	0.8941	1.4666	3.2000e-003	0.0942	0.0161	0.1103	0.0269	0.0148	0.0417		299.3000	299.3000	2.2100e-003		299.3464
Worker	0.6451	0.1441	1.5152	4.8300e-003	0.4248	2.8800e-003	0.4276	0.1127	2.6700e-003	0.1153		343.2249	343.2249	0.0162		343.5656
Total	**0.8224**	**1.0382**	**2.9818**	**8.0300e-003**	**0.5190**	**0.0190**	**0.5379**	**0.1395**	**0.0175**	**0.1570**		**642.5249**	**642.5249**	**0.0184**		**642.9120**

3.4 Building Construction - 2021

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	2.0361	15.9226	14.5200	0.0249		0.8130	0.8130		0.7792	0.7792		2,276.8416	2,276.8416	0.4464		2,286.2162
Total	**2.0361**	**15.9226**	**14.5200**	**0.0249**		**0.8130**	**0.8130**		**0.7792**	**0.7792**		**2,276.8416**	**2,276.8416**	**0.4464**		**2,286.2162**

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	0.1700	0.7602	1.4298	3.2100e-003	0.0942	0.0144	0.1086	0.0269	0.0133	0.0402		300.1998	300.1998	2.2600e-003		300.2472
Worker	0.6173	0.1350	1.4325	4.8600e-003	0.4248	2.9200e-003	0.4277	0.1127	2.7100e-003	0.1154		339.4048	339.4048	0.0157		339.7335
Total	**0.7873**	**0.8952**	**2.8622**	**8.0700e-003**	**0.5190**	**0.0174**	**0.5363**	**0.1395**	**0.0160**	**0.1555**		**639.6046**	**639.6046**	**0.0179**		**639.9807**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0343	15.9079	14.5067	0.0249		0.8123	0.8123		0.7785	0.7785	0.0000	2,274.7527	2,274.7527	0.4460		2,284.1187
Total	**2.0343**	**15.9079**	**14.5067**	**0.0249**		**0.8123**	**0.8123**		**0.7785**	**0.7785**	**0.0000**	**2,274.7527**	**2,274.7527**	**0.4460**		**2,284.1187**

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	0.1700	0.7602	1.4298	3.2100e-003	0.0942	0.0144	0.1086	0.0269	0.0133	0.0402		300.1998	300.1998	2.2600e-003		300.2472
Worker	0.6173	0.1350	1.4325	4.8600e-003	0.4248	2.9200e-003	0.4277	0.1127	2.7100e-003	0.1154		339.4048	339.4048	0.0157		339.7335
Total	**0.7873**	**0.8952**	**2.8622**	**8.0700e-003**	**0.5190**	**0.0174**	**0.5363**	**0.1395**	**0.0160**	**0.1555**		**639.6046**	**639.6046**	**0.0179**		**639.9807**

3.5 Paving - 2021

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0509	10.5186	11.6254	0.0176		0.5763	0.5763		0.5314	0.5314		1,685.6318	1,685.6318	0.5341		1,696.8473
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0509**	**10.5186**	**11.6254**	**0.0176**		**0.5763**	**0.5763**		**0.5314**	**0.5314**		**1,685.6318**	**1,685.6318**	**0.5341**		**1,696.8473**

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	0.2437	0.0533	0.5654	1.9200e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0700e-003	0.0455		133.9756	133.9756	6.1800e-003		134.1053
Total	**0.2437**	**0.0533**	**0.5654**	**1.9200e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**133.9756**	**133.9756**	**6.1800e-003**		**134.1053**

3.5 Paving - 2021

Mitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0500	10.5089	11.6148	0.0176		0.5758	0.5758		0.5309	0.5309	0.0000	1,684.0853	1,684.0853	0.5336		1,695.2906
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0500**	**10.5089**	**11.6148**	**0.0176**		**0.5758**	**0.5758**		**0.5309**	**0.5309**	**0.0000**	**1,684.0853**	**1,684.0853**	**0.5336**		**1,695.2906**

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	0.2437	0.0533	0.5654	1.9200e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0700e-003	0.0455		133.9756	133.9756	6.1800e-003		134.1053
Total	**0.2437**	**0.0533**	**0.5654**	**1.9200e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0700e-003**	**0.0455**		**133.9756**	**133.9756**	**6.1800e-003**		**134.1053**

3.6 Architectural Coating - 2021

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	27.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.8537
Total	**28.0289**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.8537**

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	0.1300	0.0284	0.3016	1.0200e-003	0.0894	6.2000e-004	0.0900	0.0237	5.7000e-004	0.0243		71.4536	71.4536	3.3000e-003		71.5229
Total	**0.1300**	**0.0284**	**0.3016**	**1.0200e-003**	**0.0894**	**6.2000e-004**	**0.0900**	**0.0237**	**5.7000e-004**	**0.0243**		**71.4536**	**71.4536**	**3.3000e-003**		**71.5229**

3.6 Architectural Coating - 2021

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	27.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2187	1.5254	1.8159	2.9700e-003		0.0940	0.0940		0.0940	0.0940	0.0000	281.1898	281.1898	0.0193		281.5951
Total	**28.0287**	**1.5254**	**1.8159**	**2.9700e-003**		**0.0940**	**0.0940**		**0.0940**	**0.0940**	**0.0000**	**281.1898**	**281.1898**	**0.0193**		**281.5951**

LLUMC Year 7 Research Building

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Library	90.00	1000sqft	2.07	90,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2021
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

Project Characteristics -

Land Use -

Construction Phase - Length of phase was changed to reflect time frame, two years.

Demolition -

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	75.00
tblConstructionPhase	NumDays	220.00	342.00
tblConstructionPhase	NumDays	6.00	45.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	3.00	44.00
tblGrading	AcresOfGrading	22.50	3.00
tblGrading	AcresOfGrading	66.00	4.50
tblProjectCharacteristics	OperationalYear	2014	2021

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					
2019	0.0731	0.7419	0.5215	7.9000e-004	0.1426	0.0366	0.1792	0.0757	0.0336	0.1094	0.0000	69.8911	69.8911	0.0215	0.0000	70.3414
2020	0.3856	2.4358	2.3356	4.2000e-003	0.1992	0.1275	0.3267	0.0914	0.1217	0.2131	0.0000	338.9445	338.9445	0.0587	0.0000	340.1771
2021	1.2105	1.0418	1.1135	2.0700e-003	0.0313	0.0527	0.0840	8.4200e-003	0.0504	0.0588	0.0000	166.7949	166.7949	0.0279	0.0000	167.3798
Total	**1.6692**	**4.2195**	**3.9706**	**7.0600e-003**	**0.3732**	**0.2167**	**0.5899**	**0.1755**	**0.2056**	**0.3812**	**0.0000**	**575.6305**	**575.6305**	**0.1080**	**0.0000**	**577.8983**

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					
2019	0.0730	0.7411	0.5209	7.9000e-004	0.0659	0.0365	0.1024	0.0345	0.0336	0.0681	0.0000	69.8109	69.8109	0.0214	0.0000	70.2607
2020	0.3853	2.4330	2.3333	4.1900e-003	0.1238	0.1274	0.2512	0.0503	0.1215	0.1719	0.0000	338.6262	338.6262	0.0586	0.0000	339.8573
2021	1.2103	1.0407	1.1124	2.0700e-003	0.0313	0.0526	0.0839	8.4200e-003	0.0503	0.0587	0.0000	166.6370	166.6370	0.0278	0.0000	167.2212
Total	**1.6686**	**4.2147**	**3.9665**	**7.0500e-003**	**0.2211**	**0.2165**	**0.4375**	**0.0933**	**0.2054**	**0.2987**	**0.0000**	**575.0740**	**575.0740**	**0.1079**	**0.0000**	**577.3392**

	ROG	NOx	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	**0.0347**	**0.1138**	**0.1023**	**0.1416**	**40.7627**	**0.1200**	**25.8311**	**46.8611**	**0.1118**	**21.6428**	**0.0000**	**0.0967**	**0.0967**	**0.1111**	**0.0000**	**0.0967**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2019	11/29/2019	5	44	
2	Grading	Grading	11/30/2019	1/31/2020	5	45	
3	Building Construction	Building Construction	2/1/2020	5/25/2021	5	342	
4	Paving	Paving	5/26/2021	6/24/2021	5	22	
5	Architectural Coating	Architectural Coating	6/25/2021	10/7/2021	5	75	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	38.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

Acres of Grading: 4.5

	ROG	NOx	CO	SO2	Fugitive 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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0444	0.4909	0.3200	5.2000e-004		0.0233	0.0233		0.0214	0.0214	0.0000	47.0954	47.0954	0.0149	0.0000	47.4083
Total	**0.0444**	**0.4909**	**0.3200**	**5.2000e-004**	**2.3900e-003**	**0.0233**	**0.0257**	**2.6000e-004**	**0.0214**	**0.0217**	**0.0000**	**47.0954**	**47.0954**	**0.0149**	**0.0000**	**47.4083**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

Acres of Grading: 4.5

	ROG	NOx	CO	SO2	Fugitive 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	2.7700e-003	7.5000e-004	7.8600e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5270	1.5270	7.0000e-005	0.0000	1.5285
Total	**2.7700e-003**	**7.5000e-004**	**7.8600e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9400e-003**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.5270**	**1.5270**	**7.0000e-005**	**0.0000**	**1.5285**

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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0443	0.4903	0.3196	5.2000e-004		0.0232	0.0232		0.0214	0.0214	0.0000	47.0394	47.0394	0.0149	0.0000	47.3519
Total	**0.0443**	**0.4903**	**0.3196**	**5.2000e-004**	**1.0700e-003**	**0.0232**	**0.0243**	**1.2000e-004**	**0.0214**	**0.0215**	**0.0000**	**47.0394**	**47.0394**	**0.0149**	**0.0000**	**47.3519**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

Acres of Grading: 4.5

	ROG	NOx	CO	SO2	Fugitive 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	2.7700e-003	7.5000e-004	7.8600e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5270	1.5270	7.0000e-005	0.0000	1.5285
Total	**2.7700e-003**	**7.5000e-004**	**7.8600e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9400e-003**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.5270**	**1.5270**	**7.0000e-005**	**0.0000**	**1.5285**

3.3 Grading - 2019

Unmitigated Construction On-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive 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					0.1371	0.0000	0.1371	0.0747	0.0000	0.0747	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2498	0.1888	2.3000e-004		0.0133	0.0133		0.0122	0.0122	0.0000	20.3144	20.3144	6.4300e-003	0.0000	20.4494
Total	**0.0242**	**0.2498**	**0.1888**	**2.3000e-004**	**0.1371**	**0.0133**	**0.1504**	**0.0747**	**0.0122**	**0.0869**	**0.0000**	**20.3144**	**20.3144**	**6.4300e-003**	**0.0000**	**20.4494**

3.3 Grading - 2019

Unmitigated Construction Off-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive 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	1.7300e-003	4.7000e-004	4.9100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9544	0.9544	5.0000e-005	0.0000	0.9553
Total	**1.7300e-003**	**4.7000e-004**	**4.9100e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9544**	**0.9544**	**5.0000e-005**	**0.0000**	**0.9553**

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					0.0617	0.0000	0.0617	0.0336	0.0000	0.0336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2495	0.1886	2.3000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	20.2902	20.2902	6.4200e-003	0.0000	20.4250
Total	**0.0242**	**0.2495**	**0.1886**	**2.3000e-004**	**0.0617**	**0.0132**	**0.0749**	**0.0336**	**0.0122**	**0.0458**	**0.0000**	**20.2902**	**20.2902**	**6.4200e-003**	**0.0000**	**20.4250**

3.3 Grading - 2019

Mitigated Construction Off-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive 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	1.7300e-003	4.7000e-004	4.9100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9544	0.9544	5.0000e-005	0.0000	0.9553
Total	**1.7300e-003**	**4.7000e-004**	**4.9100e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9544**	**0.9544**	**5.0000e-005**	**0.0000**	**0.9553**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1371	0.0000	0.1371	0.0747	0.0000	0.0747	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0235	0.2391	0.1895	2.4000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	20.7703	20.7703	6.7200e-003	0.0000	20.9113
Total	**0.0235**	**0.2391**	**0.1895**	**2.4000e-004**	**0.1371**	**0.0125**	**0.1496**	**0.0747**	**0.0115**	**0.0862**	**0.0000**	**20.7703**	**20.7703**	**6.7200e-003**	**0.0000**	**20.9113**

3.3 Grading - 2020

Unmitigated Construction Off-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive 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	1.7200e-003	4.5000e-004	4.7600e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9569	0.9569	4.0000e-005	0.0000	0.9578
Total	**1.7200e-003**	**4.5000e-004**	**4.7600e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9569**	**0.9569**	**4.0000e-005**	**0.0000**	**0.9578**

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					0.0617	0.0000	0.0617	0.0336	0.0000	0.0336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0235	0.2388	0.1893	2.4000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	20.7456	20.7456	6.7100e-003	0.0000	20.8865
Total	**0.0235**	**0.2388**	**0.1893**	**2.4000e-004**	**0.0617**	**0.0125**	**0.0742**	**0.0336**	**0.0115**	**0.0451**	**0.0000**	**20.7456**	**20.7456**	**6.7100e-003**	**0.0000**	**20.8865**

3.3 Grading - 2020

Mitigated Construction Off-Site

Acres of Grading: 3

	ROG	NOx	CO	SO2	Fugitive 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	1.7200e-003	4.5000e-004	4.7600e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9569	0.9569	4.0000e-005	0.0000	0.9578
Total	**1.7200e-003**	**4.5000e-004**	**4.7600e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9569**	**0.9569**	**4.0000e-005**	**0.0000**	**0.9578**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2722	2.0694	1.7747	2.9700e-003		0.1127	0.1127		0.1081	0.1081	0.0000	246.8239	246.8239	0.0499	0.0000	247.8725
Total	**0.2722**	**2.0694**	**1.7747**	**2.9700e-003**		**0.1127**	**0.1127**		**0.1081**	**0.1081**	**0.0000**	**246.8239**	**246.8239**	**0.0499**	**0.0000**	**247.8725**

3.4 Building Construction - 2020

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	0.0205	0.1089	0.1788	3.8000e-004	0.0111	1.9100e-003	0.0130	3.1700e-003	1.7600e-003	4.9300e-003	0.0000	32.6085	32.6085	2.3000e-004	0.0000	32.6134
Worker	0.0677	0.0179	0.1878	5.9000e-004	0.0498	3.4000e-004	0.0501	0.0132	3.2000e-004	0.0135	0.0000	37.7850	37.7850	1.7600e-003	0.0000	37.8219
Total	**0.0882**	**0.1269**	**0.3666**	**9.7000e-004**	**0.0609**	**2.2500e-003**	**0.0631**	**0.0164**	**2.0800e-003**	**0.0185**	**0.0000**	**70.3935**	**70.3935**	**1.9900e-003**	**0.0000**	**70.4354**

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	0.2719	2.0669	1.7726	2.9700e-003		0.1126	0.1126		0.1080	0.1080	0.0000	246.5302	246.5302	0.0499	0.0000	247.5777
Total	**0.2719**	**2.0669**	**1.7726**	**2.9700e-003**		**0.1126**	**0.1126**		**0.1080**	**0.1080**	**0.0000**	**246.5302**	**246.5302**	**0.0499**	**0.0000**	**247.5777**

3.4 Building Construction - 2020

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	0.0205	0.1089	0.1788	3.8000e-004	0.0111	1.9100e-003	0.0130	3.1700e-003	1.7600e-003	4.9300e-003	0.0000	32.6085	32.6085	2.3000e-004	0.0000	32.6134
Worker	0.0677	0.0179	0.1878	5.9000e-004	0.0498	3.4000e-004	0.0501	0.0132	3.2000e-004	0.0135	0.0000	37.7850	37.7850	1.7600e-003	0.0000	37.8219
Total	**0.0882**	**0.1269**	**0.3666**	**9.7000e-004**	**0.0609**	**2.2500e-003**	**0.0631**	**0.0164**	**2.0800e-003**	**0.0185**	**0.0000**	**70.3935**	**70.3935**	**1.9900e-003**	**0.0000**	**70.4354**

3.4 Building Construction - 2021

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	0.1049	0.8200	0.7478	1.2800e-003		0.0419	0.0419		0.0401	0.0401	0.0000	106.3741	106.3741	0.0209	0.0000	106.8121
Total	**0.1049**	**0.8200**	**0.7478**	**1.2800e-003**		**0.0419**	**0.0419**		**0.0401**	**0.0401**	**0.0000**	**106.3741**	**106.3741**	**0.0209**	**0.0000**	**106.8121**

3.4 Building Construction - 2021

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	8.4400e-003	0.0399	0.0750	1.7000e-004	4.7700e-003	7.4000e-004	5.5100e-003	1.3700e-003	6.8000e-004	2.0500e-003	0.0000	14.0951	14.0951	1.0000e-004	0.0000	14.0973
Worker	0.0279	7.2300e-003	0.0765	2.5000e-004	0.0215	1.5000e-004	0.0216	5.7000e-003	1.4000e-004	5.8400e-003	0.0000	16.1037	16.1037	7.3000e-004	0.0000	16.1191
Total	**0.0364**	**0.0472**	**0.1515**	**4.2000e-004**	**0.0262**	**8.9000e-004**	**0.0271**	**7.0700e-003**	**8.2000e-004**	**7.8900e-003**	**0.0000**	**30.1988**	**30.1988**	**8.3000e-004**	**0.0000**	**30.2163**

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	0.1047	0.8190	0.7469	1.2800e-003		0.0418	0.0418		0.0401	0.0401	0.0000	106.2475	106.2475	0.0208	0.0000	106.6850
Total	**0.1047**	**0.8190**	**0.7469**	**1.2800e-003**		**0.0418**	**0.0418**		**0.0401**	**0.0401**	**0.0000**	**106.2475**	**106.2475**	**0.0208**	**0.0000**	**106.6850**

3.4 Building Construction - 2021

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	8.4400e-003	0.0399	0.0750	1.7000e-004	4.7700e-003	7.4000e-004	5.5100e-003	1.3700e-003	6.8000e-004	2.0500e-003	0.0000	14.0951	14.0951	1.0000e-004	0.0000	14.0973
Worker	0.0279	7.2300e-003	0.0765	2.5000e-004	0.0215	1.5000e-004	0.0216	5.7000e-003	1.4000e-004	5.8400e-003	0.0000	16.1037	16.1037	7.3000e-004	0.0000	16.1191
Total	**0.0364**	**0.0472**	**0.1515**	**4.2000e-004**	**0.0262**	**8.9000e-004**	**0.0271**	**7.0700e-003**	**8.2000e-004**	**7.8900e-003**	**0.0000**	**30.1988**	**30.1988**	**8.3000e-004**	**0.0000**	**30.2163**

3.5 Paving - 2021

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0116	0.1157	0.1279	1.9000e-004		6.3400e-003	6.3400e-003		5.8400e-003	5.8400e-003	0.0000	16.8210	16.8210	5.3300e-003	0.0000	16.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0116**	**0.1157**	**0.1279**	**1.9000e-004**		**6.3400e-003**	**6.3400e-003**		**5.8400e-003**	**5.8400e-003**	**0.0000**	**16.8210**	**16.8210**	**5.3300e-003**	**0.0000**	**16.9329**

3.5 Paving - 2021

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	2.3500e-003	6.1000e-004	6.4500e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3578	1.3578	6.0000e-005	0.0000	1.3590
Total	**2.3500e-003**	**6.1000e-004**	**6.4500e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3578**	**1.3578**	**6.0000e-005**	**0.0000**	**1.3590**

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	0.0116	0.1156	0.1277	1.9000e-004		6.3300e-003	6.3300e-003		5.8400e-003	5.8400e-003	0.0000	16.8010	16.8010	5.3200e-003	0.0000	16.9128
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0116**	**0.1156**	**0.1277**	**1.9000e-004**		**6.3300e-003**	**6.3300e-003**		**5.8400e-003**	**5.8400e-003**	**0.0000**	**16.8010**	**16.8010**	**5.3200e-003**	**0.0000**	**16.9128**

3.5 Paving - 2021

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	2.3500e-003	6.1000e-004	6.4500e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3578	1.3578	6.0000e-005	0.0000	1.3590
Total	**2.3500e-003**	**6.1000e-004**	**6.4500e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3578**	**1.3578**	**6.0000e-005**	**0.0000**	**1.3590**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2100e-003	0.0573	0.0682	1.1000e-004		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003	0.0000	9.5747	9.5747	6.6000e-004	0.0000	9.5885
Total	**1.0511**	**0.0573**	**0.0682**	**1.1000e-004**		**3.5300e-003**	**3.5300e-003**		**3.5300e-003**	**3.5300e-003**	**0.0000**	**9.5747**	**9.5747**	**6.6000e-004**	**0.0000**	**9.5885**

3.6 Architectural Coating - 2021

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	4.2800e-003	1.1100e-003	0.0117	4.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.4686	2.4686	1.1000e-004	0.0000	2.4710
Total	**4.2800e-003**	**1.1100e-003**	**0.0117**	**4.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.4686**	**2.4686**	**1.1000e-004**	**0.0000**	**2.4710**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0572	0.0681	1.1000e-004		3.5200e-003	3.5200e-003		3.5200e-003	3.5200e-003	0.0000	9.5633	9.5633	6.6000e-004	0.0000	9.5771
Total	**1.0511**	**0.0572**	**0.0681**	**1.1000e-004**		**3.5200e-003**	**3.5200e-003**		**3.5200e-003**	**3.5200e-003**	**0.0000**	**9.5633**	**9.5633**	**6.6000e-004**	**0.0000**	**9.5771**

3.6 Architectural Coating - 2021

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	4.2800e-003	1.1100e-003	0.0117	4.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.4686	2.4686	1.1000e-004	0.0000	2.4710
Total	**4.2800e-003**	**1.1100e-003**	**0.0117**	**4.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.4686**	**2.4686**	**1.1000e-004**	**0.0000**	**2.4710**

LLUMC Years 2 thru 6 Hospital, Parking Lot, School building, Utility buildings and Demo

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	464.00	Bed	7.62	332,111.52	0
Library	9.00	1000sqft	0.21	9,000.00	0
General Light Industry	48.00	1000sqft	1.10	48,000.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
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

Project Characteristics -

Land Use -

Construction Phase - Construction Years 1 and 2 will not overlap with Years 2 (late year 2) thru 6. Dates changed so the operational year is later than the construction year.

Demolition -

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	171.00
tblConstructionPhase	NumDays	230.00	415.00
tblConstructionPhase	NumDays	20.00	108.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	122.00
tblProjectCharacteristics	OperationalYear	2014	2019

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	0.1170	1.1761	0.9026	9.3000e-004	1.1114	0.0617	1.1731	0.6077	0.0571	0.6648	0.0000	87.4470	87.4470	0.0237	0.0000	87.9454
2016	0.6817	5.7433	4.4983	5.4000e-003	1.5296	0.3200	1.8496	0.8074	0.2955	1.1029	0.0000	491.6342	491.6342	0.1200	0.0000	494.1539
2017	0.8703	4.2753	4.3806	7.8600e-003	0.2607	0.2447	0.5054	0.0704	0.2296	0.2999	0.0000	661.4403	661.4403	0.0869	0.0000	663.2653
2018	3.9705	1.8205	2.0110	3.7800e-003	0.1240	0.1016	0.2256	0.0334	0.0958	0.1292	0.0000	311.7157	311.7157	0.0432	0.0000	312.6228
2019	0.9378	0.0343	0.0549	1.2000e-004	5.5600e-003	2.2900e-003	7.8600e-003	1.4800e-003	2.2900e-003	3.7700e-003	0.0000	8.8712	8.8712	5.9000e-004	0.0000	8.8835
Total	**6.5772**	**13.0496**	**11.8474**	**0.0181**	**3.0312**	**0.7303**	**3.7615**	**1.5204**	**0.6802**	**2.2006**	**0.0000**	**1,561.1084**	**1,561.1084**	**0.2744**	**0.0000**	**1,566.8709**

2.1 Overall Construction

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	0.1169	1.1747	0.9016	9.3000e-004	0.5081	0.0617	0.5697	0.2755	0.0570	0.3325	0.0000	87.3492	87.3492	0.0237	0.0000	87.8471
2016	0.6810	5.7367	4.4937	5.4000e-003	0.7288	0.3197	1.0485	0.3742	0.2951	0.6694	0.0000	491.1598	491.1598	0.1199	0.0000	493.6765
2017	0.8698	4.2712	4.3778	7.8500e-003	0.2607	0.2444	0.5051	0.0704	0.2293	0.2997	0.0000	661.0699	661.0699	0.0868	0.0000	662.8930
2018	3.9703	1.8187	2.0096	3.7800e-003	0.1240	0.1015	0.2255	0.0334	0.0957	0.1291	0.0000	311.5239	311.5239	0.0432	0.0000	312.4300
2019	0.9378	0.0343	0.0548	1.2000e-004	5.5600e-003	2.2900e-003	7.8500e-003	1.4800e-003	2.2900e-003	3.7600e-003	0.0000	8.8659	8.8659	5.9000e-004	0.0000	8.8782
Total	**6.5758**	**13.0357**	**11.8374**	**0.0181**	**1.6271**	**0.7295**	**2.3566**	**0.7549**	**0.6794**	**1.4344**	**0.0000**	**1,559.9687**	**1,559.9687**	**0.2741**	**0.0000**	**1,565.7248**

	ROG	NOx	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	**0.0223**	**0.1064**	**0.0842**	**0.0553**	**46.3199**	**0.1164**	**37.3491**	**50.3450**	**0.1161**	**34.8187**	**0.0000**	**0.0730**	**0.0730**	**0.1093**	**0.0000**	**0.0731**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/2/2015	11/27/2015	5	20	
2	Site Preparation	Site Preparation	11/28/2015	5/17/2016	5	122	
3	Grading	Grading	5/18/2016	10/14/2016	5	108	
4	Building Construction	Building Construction	10/15/2016	5/18/2018	5	415	
5	Paving	Paving	5/19/2018	6/22/2018	5	25	
6	Architectural Coating	Architectural Coating	6/23/2018	2/18/2019	5	171	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	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
Demolition	6	15.00	0.00	45.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	144.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive 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					4.9200e-003	0.0000	4.9200e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.4836	0.3607	4.0000e-004		0.0245	0.0245		0.0229	0.0229	0.0000	37.4413	37.4413	0.0102	0.0000	37.6544
Total	**0.0451**	**0.4836**	**0.3607**	**4.0000e-004**	**4.9200e-003**	**0.0245**	**0.0294**	**7.5000e-004**	**0.0229**	**0.0236**	**0.0000**	**37.4413**	**37.4413**	**0.0102**	**0.0000**	**37.6544**

3.2 Demolition - 2015

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive 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	9.7000e-004	7.4200e-003	5.3400e-003	2.0000e-005	3.9000e-004	1.2000e-004	5.1000e-004	1.1000e-004	1.1000e-004	2.2000e-004	0.0000	1.5239	1.5239	1.0000e-005	0.0000	1.5242
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2100e-003	9.7000e-004	0.0102	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5248	1.5248	9.0000e-005	0.0000	1.5266
Total	**4.1800e-003**	**8.3900e-003**	**0.0156**	**4.0000e-005**	**2.0300e-003**	**1.3000e-004**	**2.1700e-003**	**5.5000e-004**	**1.2000e-004**	**6.7000e-004**	**0.0000**	**3.0487**	**3.0487**	**1.0000e-004**	**0.0000**	**3.0508**

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					2.2100e-003	0.0000	2.2100e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0450	0.4831	0.3603	4.0000e-004		0.0245	0.0245		0.0228	0.0228	0.0000	37.3967	37.3967	0.0101	0.0000	37.6096
Total	**0.0450**	**0.4831**	**0.3603**	**4.0000e-004**	**2.2100e-003**	**0.0245**	**0.0267**	**3.4000e-004**	**0.0228**	**0.0232**	**0.0000**	**37.3967**	**37.3967**	**0.0101**	**0.0000**	**37.6096**

3.2 Demolition - 2015

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive 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	9.7000e-004	7.4200e-003	5.3400e-003	2.0000e-005	5.9100e-003	1.2000e-004	6.0300e-003	1.4600e-003	1.1000e-004	1.5700e-003	0.0000	1.5239	1.5239	1.0000e-005	0.0000	1.5242
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2100e-003	9.7000e-004	0.0102	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5248	1.5248	9.0000e-005	0.0000	1.5266
Total	**4.1800e-003**	**8.3900e-003**	**0.0156**	**4.0000e-005**	**7.5500e-003**	**1.3000e-004**	**7.6900e-003**	**1.9000e-003**	**1.2000e-004**	**2.0200e-003**	**0.0000**	**3.0487**	**3.0487**	**1.0000e-004**	**0.0000**	**3.0508**

3.3 Site Preparation - 2015

Unmitigated Construction On-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive 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					1.1020	0.0000	1.1020	0.6058	0.0000	0.6058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0631	0.6827	0.5116	4.7000e-004		0.0371	0.0371		0.0341	0.0341	0.0000	44.7613	44.7613	0.0134	0.0000	45.0420
Total	**0.0631**	**0.6827**	**0.5116**	**4.7000e-004**	**1.1020**	**0.0371**	**1.1391**	**0.6058**	**0.0341**	**0.6399**	**0.0000**	**44.7613**	**44.7613**	**0.0134**	**0.0000**	**45.0420**

3.3 Site Preparation - 2015

Unmitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive 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	4.6300e-003	1.4000e-003	0.0147	3.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1957	2.1957	1.2000e-004	0.0000	2.1983
Total	**4.6300e-003**	**1.4000e-003**	**0.0147**	**3.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1957**	**2.1957**	**1.2000e-004**	**0.0000**	**2.1983**

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					0.4959	0.0000	0.4959	0.2726	0.0000	0.2726	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0631	0.6819	0.5110	4.7000e-004		0.0370	0.0370		0.0341	0.0341	0.0000	44.7081	44.7081	0.0134	0.0000	44.9884
Total	**0.0631**	**0.6819**	**0.5110**	**4.7000e-004**	**0.4959**	**0.0370**	**0.5329**	**0.2726**	**0.0341**	**0.3067**	**0.0000**	**44.7081**	**44.7081**	**0.0134**	**0.0000**	**44.9884**

3.3 Site Preparation - 2015

Mitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive 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	4.6300e-003	1.4000e-003	0.0147	3.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1957	2.1957	1.2000e-004	0.0000	2.1983
Total	**4.6300e-003**	**1.4000e-003**	**0.0147**	**3.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1957**	**2.1957**	**1.2000e-004**	**0.0000**	**2.1983**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1020	0.0000	1.1020	0.6058	0.0000	0.6058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2488	2.6770	2.0142	1.9100e-003		0.1440	0.1440		0.1325	0.1325	0.0000	180.6978	180.6978	0.0545	0.0000	181.8424
Total	**0.2488**	**2.6770**	**2.0142**	**1.9100e-003**	**1.1020**	**0.1440**	**1.2460**	**0.6058**	**0.1325**	**0.7383**	**0.0000**	**180.6978**	**180.6978**	**0.0545**	**0.0000**	**181.8424**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0174	5.1200e-003	0.0539	1.1000e-004	9.6700e-003	7.0000e-005	9.7400e-003	2.5700e-003	7.0000e-005	2.6400e-003	0.0000	8.6428	8.6428	4.6000e-004	0.0000	8.6526
Total	**0.0174**	**5.1200e-003**	**0.0539**	**1.1000e-004**	**9.6700e-003**	**7.0000e-005**	**9.7400e-003**	**2.5700e-003**	**7.0000e-005**	**2.6400e-003**	**0.0000**	**8.6428**	**8.6428**	**4.6000e-004**	**0.0000**	**8.6526**

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					0.4959	0.0000	0.4959	0.2726	0.0000	0.2726	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2485	2.6738	2.0118	1.9100e-003		0.1438	0.1438		0.1323	0.1323	0.0000	180.4829	180.4829	0.0544	0.0000	181.6261
Total	**0.2485**	**2.6738**	**2.0118**	**1.9100e-003**	**0.4959**	**0.1438**	**0.6397**	**0.2726**	**0.1323**	**0.4049**	**0.0000**	**180.4829**	**180.4829**	**0.0544**	**0.0000**	**181.6261**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0174	5.1200e-003	0.0539	1.1000e-004	9.6700e-003	7.0000e-005	9.7400e-003	2.5700e-003	7.0000e-005	2.6400e-003	0.0000	8.6428	8.6428	4.6000e-004	0.0000	8.6526
Total	**0.0174**	**5.1200e-003**	**0.0539**	**1.1000e-004**	**9.6700e-003**	**7.0000e-005**	**9.7400e-003**	**2.5700e-003**	**7.0000e-005**	**2.6400e-003**	**0.0000**	**8.6428**	**8.6428**	**4.6000e-004**	**0.0000**	**8.6526**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3538	0.0000	0.3538	0.1818	0.0000	0.1818	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1980	2.0761	1.4083	1.6100e-003		0.1187	0.1187		0.1092	0.1092	0.0000	151.5585	151.5585	0.0457	0.0000	152.5185
Total	**0.1980**	**2.0761**	**1.4083**	**1.6100e-003**	**0.3538**	**0.1187**	**0.4725**	**0.1818**	**0.1092**	**0.2911**	**0.0000**	**151.5585**	**151.5585**	**0.0457**	**0.0000**	**152.5185**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0160	4.7000e-003	0.0495	1.1000e-004	8.8800e-003	7.0000e-005	8.9500e-003	2.3600e-003	6.0000e-005	2.4200e-003	0.0000	7.9373	7.9373	4.3000e-004	0.0000	7.9463
Total	**0.0160**	**4.7000e-003**	**0.0495**	**1.1000e-004**	**8.8800e-003**	**7.0000e-005**	**8.9500e-003**	**2.3600e-003**	**6.0000e-005**	**2.4200e-003**	**0.0000**	**7.9373**	**7.9373**	**4.3000e-004**	**0.0000**	**7.9463**

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					0.1592	0.0000	0.1592	0.0818	0.0000	0.0818	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1978	2.0737	1.4066	1.6000e-003		0.1186	0.1186		0.1091	0.1091	0.0000	151.3782	151.3782	0.0457	0.0000	152.3370
Total	**0.1978**	**2.0737**	**1.4066**	**1.6000e-003**	**0.1592**	**0.1186**	**0.2778**	**0.0818**	**0.1091**	**0.1909**	**0.0000**	**151.3782**	**151.3782**	**0.0457**	**0.0000**	**152.3370**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0160	4.7000e-003	0.0495	1.1000e-004	8.8800e-003	7.0000e-005	8.9500e-003	2.3600e-003	6.0000e-005	2.4200e-003	0.0000	7.9373	7.9373	4.3000e-004	0.0000	7.9463
Total	**0.0160**	**4.7000e-003**	**0.0495**	**1.1000e-004**	**8.8800e-003**	**7.0000e-005**	**8.9500e-003**	**2.3600e-003**	**6.0000e-005**	**2.4200e-003**	**0.0000**	**7.9373**	**7.9373**	**4.3000e-004**	**0.0000**	**7.9463**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0937	0.7839	0.5089	7.4000e-004		0.0541	0.0541		0.0508	0.0508	0.0000	66.5922	66.5922	0.0165	0.0000	66.9391
Total	**0.0937**	**0.7839**	**0.5089**	**7.4000e-004**		**0.0541**	**0.0541**		**0.0508**	**0.0508**	**0.0000**	**66.5922**	**66.5922**	**0.0165**	**0.0000**	**66.9391**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0296	0.1735	0.2215	4.1000e-004	0.0117	2.7500e-003	0.0145	3.3600e-003	2.5300e-003	5.8900e-003	0.0000	37.4011	37.4011	2.7000e-004	0.0000	37.4068
Worker	0.0782	0.0230	0.2421	5.1000e-004	0.0434	3.3000e-004	0.0438	0.0115	3.0000e-004	0.0118	0.0000	38.8045	38.8045	2.0800e-003	0.0000	38.8483
Total	**0.1078**	**0.1965**	**0.4636**	**9.2000e-004**	**0.0552**	**3.0800e-003**	**0.0582**	**0.0149**	**2.8300e-003**	**0.0177**	**0.0000**	**76.2056**	**76.2056**	**2.3500e-003**	**0.0000**	**76.2551**

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	0.0936	0.7830	0.5083	7.4000e-004		0.0540	0.0540		0.0508	0.0508	0.0000	66.5130	66.5130	0.0165	0.0000	66.8594
Total	**0.0936**	**0.7830**	**0.5083**	**7.4000e-004**		**0.0540**	**0.0540**		**0.0508**	**0.0508**	**0.0000**	**66.5130**	**66.5130**	**0.0165**	**0.0000**	**66.8594**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0296	0.1735	0.2215	4.1000e-004	0.0117	2.7500e-003	0.0145	3.3600e-003	2.5300e-003	5.8900e-003	0.0000	37.4011	37.4011	2.7000e-004	0.0000	37.4068
Worker	0.0782	0.0230	0.2421	5.1000e-004	0.0434	3.3000e-004	0.0438	0.0115	3.0000e-004	0.0118	0.0000	38.8045	38.8045	2.0800e-003	0.0000	38.8483
Total	**0.1078**	**0.1965**	**0.4636**	**9.2000e-004**	**0.0552**	**3.0800e-003**	**0.0582**	**0.0149**	**2.8300e-003**	**0.0177**	**0.0000**	**76.2056**	**76.2056**	**2.3500e-003**	**0.0000**	**76.2551**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.1271	0.7452	0.9994	1.9400e-003	0.0555	0.0116	0.0671	0.0159	0.0107	0.0266	0.0000	173.8942	173.8942	1.2500e-003	0.0000	173.9204
Worker	0.3399	0.0974	1.0244	2.4300e-003	0.2053	1.5000e-003	0.2068	0.0545	1.3800e-003	0.0559	0.0000	176.2232	176.2232	9.0300e-003	0.0000	176.4129
Total	**0.4670**	**0.8426**	**2.0238**	**4.3700e-003**	**0.2607**	**0.0131**	**0.2738**	**0.0704**	**0.0121**	**0.0824**	**0.0000**	**350.1174**	**350.1174**	**0.0103**	**0.0000**	**350.3334**

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	0.4028	3.4287	2.3540	3.4800e-003		0.2313	0.2313		0.2172	0.2172	0.0000	310.9525	310.9525	0.0765	0.0000	312.5596
Total	**0.4028**	**3.4287**	**2.3540**	**3.4800e-003**		**0.2313**	**0.2313**		**0.2172**	**0.2172**	**0.0000**	**310.9525**	**310.9525**	**0.0765**	**0.0000**	**312.5596**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.1271	0.7452	0.9994	1.9400e-003	0.0555	0.0116	0.0671	0.0159	0.0107	0.0266	0.0000	173.8942	173.8942	1.2500e-003	0.0000	173.9204
Worker	0.3399	0.0974	1.0244	2.4300e-003	0.2053	1.5000e-003	0.2068	0.0545	1.3800e-003	0.0559	0.0000	176.2232	176.2232	9.0300e-003	0.0000	176.4129
Total	**0.4670**	**0.8426**	**2.0238**	**4.3700e-003**	**0.2607**	**0.0131**	**0.2738**	**0.0704**	**0.0121**	**0.0824**	**0.0000**	**350.1174**	**350.1174**	**0.0103**	**0.0000**	**350.3334**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1334	1.1630	0.8766	1.3400e-003		0.0747	0.0747		0.0702	0.0702	0.0000	118.3848	118.3848	0.0290	0.0000	118.9932
Total	**0.1334**	**1.1630**	**0.8766**	**1.3400e-003**		**0.0747**	**0.0747**		**0.0702**	**0.0702**	**0.0000**	**118.3848**	**118.3848**	**0.0290**	**0.0000**	**118.9932**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0439	0.2627	0.3657	7.5000e-004	0.0213	4.2000e-003	0.0255	6.1000e-003	3.8600e-003	9.9700e-003	0.0000	65.7373	65.7373	4.8000e-004	0.0000	65.7473
Worker	0.1207	0.0338	0.3550	9.3000e-004	0.0790	5.6000e-004	0.0795	0.0210	5.2000e-004	0.0215	0.0000	65.2115	65.2115	3.2100e-003	0.0000	65.2789
Total	**0.1646**	**0.2964**	**0.7206**	**1.6800e-003**	**0.1003**	**4.7600e-003**	**0.1050**	**0.0271**	**4.3800e-003**	**0.0315**	**0.0000**	**130.9488**	**130.9488**	**3.6900e-003**	**0.0000**	**131.0262**

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	0.1333	1.1617	0.8756	1.3400e-003		0.0746	0.0746		0.0702	0.0702	0.0000	118.2440	118.2440	0.0289	0.0000	118.8517
Total	**0.1333**	**1.1617**	**0.8756**	**1.3400e-003**		**0.0746**	**0.0746**		**0.0702**	**0.0702**	**0.0000**	**118.2440**	**118.2440**	**0.0289**	**0.0000**	**118.8517**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0439	0.2627	0.3657	7.5000e-004	0.0213	4.2000e-003	0.0255	6.1000e-003	3.8600e-003	9.9700e-003	0.0000	65.7373	65.7373	4.8000e-004	0.0000	65.7473
Worker	0.1207	0.0338	0.3550	9.3000e-004	0.0790	5.6000e-004	0.0795	0.0210	5.2000e-004	0.0215	0.0000	65.2115	65.2115	3.2100e-003	0.0000	65.2789
Total	**0.1646**	**0.2964**	**0.7206**	**1.6800e-003**	**0.1003**	**4.7600e-003**	**0.1050**	**0.0271**	**4.3800e-003**	**0.0315**	**0.0000**	**130.9488**	**130.9488**	**3.6900e-003**	**0.0000**	**131.0262**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.2145	0.1812	2.8000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	25.4609	25.4609	7.9300e-003	0.0000	25.6274
Paving	9.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.2145**	**0.1812**	**2.8000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**25.4609**	**25.4609**	**7.9300e-003**	**0.0000**	**25.6274**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1400e-003	8.8000e-004	9.2400e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.6982	1.6982	8.0000e-005	0.0000	1.7000
Total	**3.1400e-003**	**8.8000e-004**	**9.2400e-003**	**2.0000e-005**	**2.0600e-003**	**1.0000e-005**	**2.0700e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.6982**	**1.6982**	**8.0000e-005**	**0.0000**	**1.7000**

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	0.0201	0.2143	0.1810	2.8000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	25.4306	25.4306	7.9200e-003	0.0000	25.5969
Paving	9.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.2143**	**0.1810**	**2.8000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**25.4306**	**25.4306**	**7.9200e-003**	**0.0000**	**25.5969**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1400e-003	8.8000e-004	9.2400e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.6982	1.6982	8.0000e-005	0.0000	1.7000
Total	**3.1400e-003**	**8.8000e-004**	**9.2400e-003**	**2.0000e-005**	**2.0600e-003**	**1.0000e-005**	**2.0700e-003**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**1.6982**	**1.6982**	**8.0000e-005**	**0.0000**	**1.7000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive 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	3.5948					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.1364	0.1261	2.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	17.3622	17.3622	1.6500e-003	0.0000	17.3968
Total	**3.6151**	**0.1364**	**0.1261**	**2.0000e-004**		**0.0102**	**0.0102**		**0.0102**	**0.0102**	**0.0000**	**17.3622**	**17.3622**	**1.6500e-003**	**0.0000**	**17.3968**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0331	9.2600e-003	0.0972	2.6000e-004	0.0216	1.5000e-004	0.0218	5.7400e-003	1.4000e-004	5.8800e-003	0.0000	17.8607	17.8607	8.8000e-004	0.0000	17.8792
Total	**0.0331**	**9.2600e-003**	**0.0972**	**2.6000e-004**	**0.0216**	**1.5000e-004**	**0.0218**	**5.7400e-003**	**1.4000e-004**	**5.8800e-003**	**0.0000**	**17.8607**	**17.8607**	**8.8000e-004**	**0.0000**	**17.8792**

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	3.5948					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.1362	0.1259	2.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	17.3415	17.3415	1.6500e-003	0.0000	17.3761
Total	**3.6151**	**0.1362**	**0.1259**	**2.0000e-004**		**0.0102**	**0.0102**		**0.0102**	**0.0102**	**0.0000**	**17.3415**	**17.3415**	**1.6500e-003**	**0.0000**	**17.3761**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0331	9.2600e-003	0.0972	2.6000e-004	0.0216	1.5000e-004	0.0218	5.7400e-003	1.4000e-004	5.8800e-003	0.0000	17.8607	17.8607	8.8000e-004	0.0000	17.8792
Total	**0.0331**	**9.2600e-003**	**0.0972**	**2.6000e-004**	**0.0216**	**1.5000e-004**	**0.0218**	**5.7400e-003**	**1.4000e-004**	**5.8800e-003**	**0.0000**	**17.8607**	**17.8607**	**8.8000e-004**	**0.0000**	**17.8792**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6600e-003	0.0321	0.0322	5.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	4.4682	4.4682	3.8000e-004	0.0000	4.4761
Total	**0.9298**	**0.0321**	**0.0322**	**5.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**4.4682**	**4.4682**	**3.8000e-004**	**0.0000**	**4.4761**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive 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	7.9900e-003	2.1700e-003	0.0227	7.0000e-005	5.5600e-003	4.0000e-005	5.6000e-003	1.4800e-003	4.0000e-005	1.5100e-003	0.0000	4.4030	4.4030	2.1000e-004	0.0000	4.4074
Total	**7.9900e-003**	**2.1700e-003**	**0.0227**	**7.0000e-005**	**5.5600e-003**	**4.0000e-005**	**5.6000e-003**	**1.4800e-003**	**4.0000e-005**	**1.5100e-003**	**0.0000**	**4.4030**	**4.4030**	**2.1000e-004**	**0.0000**	**4.4074**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6600e-003	0.0321	0.0322	5.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	4.4629	4.4629	3.8000e-004	0.0000	4.4708
Total	**0.9298**	**0.0321**	**0.0322**	**5.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**4.4629**	**4.4629**	**3.8000e-004**	**0.0000**	**4.4708**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive 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	7.9900e-003	2.1700e-003	0.0227	7.0000e-005	5.5600e-003	4.0000e-005	5.6000e-003	1.4800e-003	4.0000e-005	1.5100e-003	0.0000	4.4030	4.4030	2.1000e-004	0.0000	4.4074
Total	**7.9900e-003**	**2.1700e-003**	**0.0227**	**7.0000e-005**	**5.5600e-003**	**4.0000e-005**	**5.6000e-003**	**1.4800e-003**	**4.0000e-005**	**1.5100e-003**	**0.0000**	**4.4030**	**4.4030**	**2.1000e-004**	**0.0000**	**4.4074**

LLUMC Years 2 thru 6 Hospital, Parking Lot, School building, Utility buildings and Demo

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	464.00	Bed	7.62	332,111.52	0
Library	9.00	1000sqft	0.21	9,000.00	0
General Light Industry	48.00	1000sqft	1.10	48,000.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
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

Project Characteristics -

Land Use -

Construction Phase - Construction Years 1 and 2 will not overlap with Years 2 (late year 2) thru 6. Dates changed so the operational year is later than the construction year.

Demolition -

Grading -

Architectural Coating -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	171.00
tblConstructionPhase	NumDays	230.00	415.00
tblConstructionPhase	NumDays	20.00	108.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	122.00
tblProjectCharacteristics	OperationalYear	2014	2019

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	5.6967	57.0020	43.8143	0.0435	18.2675	3.0899	21.3573	9.9840	2.8427	12.8267	0.0000	4,460.4699	4,460.4699	1.2390	0.0000	4,486.4880
2016	7.7365	54.7329	42.1657	0.0601	18.2675	2.9402	21.2076	9.9840	2.7050	12.6890	0.0000	5,692.9371	5,692.9371	1.2366	0.0000	5,718.9056
2017	7.0759	32.7500	33.2361	0.0601	2.0431	1.8826	3.9257	0.5507	1.7662	2.3168	0.0000	5,578.5781	5,578.5781	0.7371	0.0000	5,594.0568
2018	53.7155	29.0638	31.5310	0.0600	2.0430	1.5900	3.6330	0.5506	1.4929	2.0435	0.0000	5,467.8240	5,467.8240	0.7202	0.0000	5,482.9473
2019	53.6504	1.9546	3.0896	6.6600e-003	0.3242	0.1310	0.4551	0.0860	0.1308	0.2168	0.0000	554.5659	554.5659	0.0369	0.0000	555.3409
Total	**127.8749**	**175.5033**	**153.8367**	**0.2304**	**40.9452**	**9.6335**	**50.5787**	**21.1553**	**8.9375**	**30.0928**	**0.0000**	**21,754.3750**	**21,754.3750**	**3.9697**	**0.0000**	**21,837.7386**

2.1 Overall Construction (Maximum Daily Emission)

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	5.6919	56.9498	43.7752	0.0434	8.3310	3.0870	11.4180	4.5222	2.8401	7.3622	0.0000	4,456.6835	4,456.6835	1.2378	0.0000	4,482.6779
2016	7.7333	54.6827	42.1280	0.0601	8.3310	2.9375	11.2685	4.5222	2.7025	7.2246	0.0000	5,690.4882	5,690.4882	1.2355	0.0000	5,716.4330
2017	7.0731	32.7258	33.2195	0.0601	2.0431	1.8809	3.9240	0.5507	1.7647	2.3153	0.0000	5,576.1562	5,576.1562	0.7365	0.0000	5,591.6224
2018	53.7152	29.0425	31.5149	0.0600	2.0430	1.5886	3.6317	0.5506	1.4916	2.0422	0.0000	5,465.4295	5,465.4295	0.7196	0.0000	5,480.5405
2019	53.6501	1.9529	3.0879	6.6500e-003	0.3242	0.1309	0.4550	0.0860	0.1307	0.2167	0.0000	554.3077	554.3077	0.0369	0.0000	555.0823
Total	**127.8636**	**175.3537**	**153.7254**	**0.2303**	**21.0723**	**9.6249**	**30.6972**	**10.2316**	**8.9295**	**19.1610**	**0.0000**	**21,743.0650**	**21,743.0650**	**3.9662**	**0.0000**	**21,826.3561**

	ROG	NOx	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	**8.8446e-003**	**0.0852**	**0.0723**	**0.0434**	**48.5353**	**0.0899**	**39.3081**	**51.6359**	**0.0900**	**36.3268**	**0.0000**	**0.0520**	**0.0520**	**0.0869**	**0.0000**	**0.0521**

	ROG	NOx	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/2/2015	11/27/2015	5	20	
2	Site Preparation	Site Preparation	11/28/2015	5/17/2016	5	122	
3	Grading	Grading	5/18/2016	10/14/2016	5	108	
4	Building Construction	Building Construction	10/15/2016	5/18/2018	5	415	
5	Paving	Paving	5/19/2018	6/22/2018	5	25	
6	Architectural Coating	Architectural Coating	6/23/2018	2/18/2019	5	171	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	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
Demolition	6	15.00	0.00	45.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	144.00	69.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745			0.0000			0.0000
Off-Road	4.5083	48.3629	36.0738	0.0399		2.4508	2.4508		2.2858	2.2858		4,127.1934	4,127.1934	1.1188		4,150.6886
Total	**4.5083**	**48.3629**	**36.0738**	**0.0399**	**0.4922**	**2.4508**	**2.9430**	**0.0745**	**2.2858**	**2.3603**		**4,127.1934**	**4,127.1934**	**1.1188**		**4,150.6886**

3.2 Demolition - 2015

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0999	0.7311	0.5226	1.6500e-003	0.0392	0.0121	0.0513	0.0107	0.0111	0.0218		167.7518	167.7518	1.3400e-003		167.7800
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	0.3631	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.4630**	**0.8248**	**1.5080**	**3.5700e-003**	**0.2069**	**0.0134**	**0.2202**	**0.0552**	**0.0123**	**0.0675**		**333.2765**	**333.2765**	**0.0109**		**333.5048**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2215	0.0000	0.2215	0.0335	0.0000	0.0335			0.0000			0.0000
Off-Road	4.5041	48.3186	36.0407	0.0399		2.4486	2.4486		2.2837	2.2837	0.0000	4,123.4069	4,123.4069	1.1178		4,146.8806
Total	**4.5041**	**48.3186**	**36.0407**	**0.0399**	**0.2215**	**2.4486**	**2.6700**	**0.0335**	**2.2837**	**2.3172**	**0.0000**	**4,123.4069**	**4,123.4069**	**1.1178**		**4,146.8806**

3.2 Demolition - 2015

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0999	0.7311	0.5226	1.6500e-003	0.6044	0.0121	0.6165	0.1495	0.0111	0.1606		167.7518	167.7518	1.3400e-003		167.7800
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	0.3631	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.4630**	**0.8248**	**1.5080**	**3.5700e-003**	**0.7721**	**0.0134**	**0.7854**	**0.1939**	**0.0123**	**0.2062**		**333.2765**	**333.2765**	**0.0109**		**333.5048**

3.3 Site Preparation - 2015

Unmitigated Construction On-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2609	56.8897	42.6318	0.0391		3.0883	3.0883		2.8412	2.8412		4,111.7444	4,111.7444	1.2275		4,137.5225
Total	**5.2609**	**56.8897**	**42.6318**	**0.0391**	**18.0663**	**3.0883**	**21.1545**	**9.9307**	**2.8412**	**12.7719**		**4,111.7444**	**4,111.7444**	**1.2275**		**4,137.5225**

3.3 Site Preparation - 2015

Unmitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4358	0.1124	1.1825	2.3000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.6297	198.6297	0.0114		198.8697
Total	**0.4358**	**0.1124**	**1.1825**	**2.3000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.6297**	**198.6297**	**0.0114**		**198.8697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	5.2561	56.8375	42.5927	0.0391		3.0855	3.0855		2.8386	2.8386	0.0000	4,107.9721	4,107.9721	1.2264		4,133.7265
Total	**5.2561**	**56.8375**	**42.5927**	**0.0391**	**8.1298**	**3.0855**	**11.2153**	**4.4688**	**2.8386**	**7.3074**	**0.0000**	**4,107.9721**	**4,107.9721**	**1.2264**		**4,133.7265**

3.3 Site Preparation - 2015

Mitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4358	0.1124	1.1825	2.3000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.6297	198.6297	0.0114		198.8697
Total	**0.4358**	**0.1124**	**1.1825**	**2.3000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.6297**	**198.6297**	**0.0114**		**198.8697**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4024	0.1005	1.0604	2.3000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		191.4728	191.4728	0.0104		191.6921
Total	**0.4024**	**0.1005**	**1.0604**	**2.3000e-003**	**0.2012**	**1.4900e-003**	**0.2027**	**0.0534**	**1.3700e-003**	**0.0547**		**191.4728**	**191.4728**	**0.0104**		**191.6921**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	5.0724	54.5822	41.0676	0.0391		2.9360	2.9360		2.7011	2.7011	0.0000	4,061.2758	4,061.2758	1.2250		4,087.0014
Total	**5.0724**	**54.5822**	**41.0676**	**0.0391**	**8.1298**	**2.9360**	**11.0658**	**4.4688**	**2.7011**	**7.1699**	**0.0000**	**4,061.2758**	**4,061.2758**	**1.2250**		**4,087.0014**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

Acres of Grading: 54

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4024	0.1005	1.0604	2.3000e-003	0.2012	1.4900e-003	0.2027	0.0534	1.3700e-003	0.0547		191.4728	191.4728	0.0104		191.6921
Total	**0.4024**	**0.1005**	**1.0604**	**2.3000e-003**	**0.2012**	**1.4900e-003**	**0.2027**	**0.0534**	**1.3700e-003**	**0.0547**		**191.4728**	**191.4728**	**0.0104**		**191.6921**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225		3,093.7889	3,093.7889	0.9332		3,113.3860
Total	**3.6669**	**38.4466**	**26.0787**	**0.0298**	**6.5523**	**2.1984**	**8.7507**	**3.3675**	**2.0225**	**5.3900**		**3,093.7889**	**3,093.7889**	**0.9332**		**3,113.3860**

3.4 Grading - 2016

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	0.3353	0.0838	0.8837	1.9200e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		159.5607	159.5607	8.7000e-003		159.7434
Total	**0.3353**	**0.0838**	**0.8837**	**1.9200e-003**	**0.1677**	**1.2400e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**159.5607**	**159.5607**	**8.7000e-003**		**159.7434**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	3.6635	38.4113	26.0548	0.0297		2.1964	2.1964		2.0207	2.0207	0.0000	3,090.9505	3,090.9505	0.9323		3,110.5297
Total	**3.6635**	**38.4113**	**26.0548**	**0.0297**	**2.9486**	**2.1964**	**5.1449**	**1.5154**	**2.0207**	**3.5361**	**0.0000**	**3,090.9505**	**3,090.9505**	**0.9323**		**3,110.5297**

3.4 Grading - 2016

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	0.3353	0.0838	0.8837	1.9200e-003	0.1677	1.2400e-003	0.1689	0.0445	1.1400e-003	0.0456		159.5607	159.5607	8.7000e-003		159.7434
Total	**0.3353**	**0.0838**	**0.8837**	**1.9200e-003**	**0.1677**	**1.2400e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**159.5607**	**159.5607**	**8.7000e-003**		**159.7434**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

Acres of Paving: 0

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

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1112	6.1888	7.8619	0.0149	0.4335	0.1008	0.5343	0.1238	0.0927	0.2164		1,491.8681	1,491.8681	0.0112		1,492.1023
Worker	3.2190	0.8044	8.4834	0.0184	1.6096	0.0120	1.6215	0.4269	0.0110	0.4378		1,531.7826	1,531.7826	0.0836		1,533.5371
Total	**4.3302**	**6.9931**	**16.3453**	**0.0333**	**2.0431**	**0.1127**	**2.1558**	**0.5506**	**0.1036**	**0.6543**		**3,023.6507**	**3,023.6507**	**0.0947**		**3,025.6394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4031	28.4802	18.4897	0.0268		1.9656	1.9656		1.8468	1.8468	0.0000	2,666.8375	2,666.8375	0.6614		2,680.7273
Total	**3.4031**	**28.4802**	**18.4897**	**0.0268**		**1.9656**	**1.9656**		**1.8468**	**1.8468**	**0.0000**	**2,666.8375**	**2,666.8375**	**0.6614**		**2,680.7273**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1112	6.1888	7.8619	0.0149	0.4335	0.1008	0.5343	0.1238	0.0927	0.2164		1,491.8681	1,491.8681	0.0112		1,492.1023
Worker	3.2190	0.8044	8.4834	0.0184	1.6096	0.0120	1.6215	0.4269	0.0110	0.4378		1,531.7826	1,531.7826	0.0836		1,533.5371
Total	**4.3302**	**6.9931**	**16.3453**	**0.0333**	**2.0431**	**0.1127**	**2.1558**	**0.5506**	**0.1036**	**0.6543**		**3,023.6507**	**3,023.6507**	**0.0947**		**3,025.6394**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

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

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0101	5.6238	7.5100	0.0149	0.4335	0.0898	0.5234	0.1238	0.0826	0.2064		1,467.2871	1,467.2871	0.0108		1,467.5137
Worker	2.9635	0.7205	7.5970	0.0184	1.6096	0.0115	1.6211	0.4269	0.0106	0.4375		1,471.4857	1,471.4857	0.0766		1,473.0941
Total	**3.9736**	**6.3444**	**15.1070**	**0.0333**	**2.0431**	**0.1013**	**2.1444**	**0.5507**	**0.0932**	**0.6439**		**2,938.7728**	**2,938.7728**	**0.0874**		**2,940.6078**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0995	26.3814	18.1125	0.0268		1.7796	1.7796		1.6714	1.6714	0.0000	2,637.3834	2,637.3834	0.6491		2,651.0146
Total	**3.0995**	**26.3814**	**18.1125**	**0.0268**		**1.7796**	**1.7796**		**1.6714**	**1.6714**	**0.0000**	**2,637.3834**	**2,637.3834**	**0.6491**		**2,651.0146**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0101	5.6238	7.5100	0.0149	0.4335	0.0898	0.5234	0.1238	0.0826	0.2064		1,467.2871	1,467.2871	0.0108		1,467.5137
Worker	2.9635	0.7205	7.5970	0.0184	1.6096	0.0115	1.6211	0.4269	0.0106	0.4375		1,471.4857	1,471.4857	0.0766		1,473.0941
Total	**3.9736**	**6.3444**	**15.1070**	**0.0333**	**2.0431**	**0.1013**	**2.1444**	**0.5507**	**0.0932**	**0.6439**		**2,938.7728**	**2,938.7728**	**0.0874**		**2,940.6078**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.9079	5.1532	7.1529	0.0148	0.4335	0.0845	0.5180	0.1238	0.0777	0.2015		1,442.1480	1,442.1480	0.0107		1,442.3733
Worker	2.7404	0.6498	6.8454	0.0184	1.6096	0.0112	1.6208	0.4269	0.0104	0.4373		1,415.7370	1,415.7370	0.0707		1,417.2223
Total	**3.6483**	**5.8030**	**13.9983**	**0.0332**	**2.0430**	**0.0957**	**2.1388**	**0.5506**	**0.0881**	**0.6387**		**2,857.8850**	**2,857.8850**	**0.0815**		**2,859.5956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6662	23.2395	17.5166	0.0268		1.4929	1.4929		1.4035	1.4035	0.0000	2,607.5445	2,607.5445	0.6381		2,620.9449
Total	**2.6662**	**23.2395**	**17.5166**	**0.0268**		**1.4929**	**1.4929**		**1.4035**	**1.4035**	**0.0000**	**2,607.5445**	**2,607.5445**	**0.6381**		**2,620.9449**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.9079	5.1532	7.1529	0.0148	0.4335	0.0845	0.5180	0.1238	0.0777	0.2015		1,442.1480	1,442.1480	0.0107		1,442.3733
Worker	2.7404	0.6498	6.8454	0.0184	1.6096	0.0112	1.6208	0.4269	0.0104	0.4373		1,415.7370	1,415.7370	0.0707		1,417.2223
Total	**3.6483**	**5.8030**	**13.9983**	**0.0332**	**2.0430**	**0.0957**	**2.1388**	**0.5506**	**0.0881**	**0.6387**		**2,857.8850**	**2,857.8850**	**0.0815**		**2,859.5956**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0755					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6869**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

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	0.2855	0.0677	0.7131	1.9200e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		147.4726	147.4726	7.3700e-003		147.6273
Total	**0.2855**	**0.0677**	**0.7131**	**1.9200e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0456**		**147.4726**	**147.4726**	**7.3700e-003**		**147.6273**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6099	17.1470	14.4811	0.0223		0.9378	0.9378		0.8628	0.8628	0.0000	2,243.2096	2,243.2096	0.6983		2,257.8747
Paving	0.0755					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6854**	**17.1470**	**14.4811**	**0.0223**		**0.9378**	**0.9378**		**0.8628**	**0.8628**	**0.0000**	**2,243.2096**	**2,243.2096**	**0.6983**		**2,257.8747**

3.6 Paving - 2018

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	0.2855	0.0677	0.7131	1.9200e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		147.4726	147.4726	7.3700e-003		147.6273
Total	**0.2855**	**0.0677**	**0.7131**	**1.9200e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0456**		**147.4726**	**147.4726**	**7.3700e-003**		**147.6273**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	52.8650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**53.1636**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5519	0.1309	1.3786	3.7100e-003	0.3242	2.2600e-003	0.3264	0.0860	2.0900e-003	0.0881		285.1137	285.1137	0.0142		285.4128
Total	**0.5519**	**0.1309**	**1.3786**	**3.7100e-003**	**0.3242**	**2.2600e-003**	**0.3264**	**0.0860**	**2.0900e-003**	**0.0881**		**285.1137**	**285.1137**	**0.0142**		**285.4128**

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	52.8650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2984	2.0039	1.8525	2.9700e-003		0.1504	0.1504		0.1504	0.1504	0.0000	281.1903	281.1903	0.0267		281.7514
Total	**53.1633**	**2.0039**	**1.8525**	**2.9700e-003**		**0.1504**	**0.1504**		**0.1504**	**0.1504**	**0.0000**	**281.1903**	**281.1903**	**0.0267**		**281.7514**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5519	0.1309	1.3786	3.7100e-003	0.3242	2.2600e-003	0.3264	0.0860	2.0900e-003	0.0881		285.1137	285.1137	0.0142		285.4128
Total	**0.5519**	**0.1309**	**1.3786**	**3.7100e-003**	**0.3242**	**2.2600e-003**	**0.3264**	**0.0860**	**2.0900e-003**	**0.0881**		**285.1137**	**285.1137**	**0.0142**		**285.4128**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	52.8650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473
Total	**53.1314**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**281.9473**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5190	0.1192	1.2483	3.6900e-003	0.3242	2.2100e-003	0.3264	0.0860	2.0500e-003	0.0880		273.1179	273.1179	0.0131		273.3937
Total	**0.5190**	**0.1192**	**1.2483**	**3.6900e-003**	**0.3242**	**2.2100e-003**	**0.3264**	**0.0860**	**2.0500e-003**	**0.0880**		**273.1179**	**273.1179**	**0.0131**		**273.3937**

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	52.8650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2662	1.8337	1.8396	2.9700e-003		0.1287	0.1287		0.1287	0.1287	0.0000	281.1898	281.1898	0.0238		281.6886
Total	**53.1312**	**1.8337**	**1.8396**	**2.9700e-003**		**0.1287**	**0.1287**		**0.1287**	**0.1287**	**0.0000**	**281.1898**	**281.1898**	**0.0238**		**281.6886**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 585,107; Non-Residential Outdoor: 195,036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5190	0.1192	1.2483	3.6900e-003	0.3242	2.2100e-003	0.3264	0.0860	2.0500e-003	0.0880		273.1179	273.1179	0.0131		273.3937
Total	**0.5190**	**0.1192**	**1.2483**	**3.6900e-003**	**0.3242**	**2.2100e-003**	**0.3264**	**0.0860**	**2.0500e-003**	**0.0880**		**273.1179**	**273.1179**	**0.0131**		**273.3937**

LLUMC Years 1 and 2 Parking Structure and Demolition of homes

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	760.00	Space	6.84	304,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.00617

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Demolition -

Grading -

Architectural Coating - The Parking Structure will not be painted other than minor striping. 75,000 sq.ft is anticipated to be adequate.

Area Coating - The Parking Structure will not be painted other than minor striping. 75,000 sq.ft is anticipated to be adequate.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	152,000.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	456,000.00	75,000.00
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.00617
tblProjectCharacteristics	OperationalYear	2014	2015

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					
2014	8.3615	57.7460	44.2800	0.0539	18.2675	3.1394	21.4069	9.9840	2.8882	12.8723	0.0000	5,264.2084	5,264.2084	1.2406	0.0000	5,290.2606
2015	44.4891	35.9143	33.2843	0.0540	1.7449	2.2158	3.9607	0.4691	2.0814	2.5506	0.0000	5,195.6470	5,195.6470	0.7650	0.0000	5,211.7125
Total	**52.8507**	**93.6602**	**77.5643**	**0.1079**	**20.0123**	**5.3552**	**25.3675**	**10.4532**	**4.9697**	**15.4228**	**0.0000**	**10,459.8554**	**10,459.8554**	**2.0056**	**0.0000**	**10,501.9731**

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					
2014	8.3580	57.6931	44.2406	0.0539	8.3310	3.1365	11.4675	4.5222	2.8856	7.4078	0.0000	5,261.7229	5,261.7229	1.2395	0.0000	5,287.7514
2015	44.4888	35.8867	33.2671	0.0540	1.7449	2.2139	3.9587	0.4691	2.0796	2.5487	0.0000	5,193.1794	5,193.1794	0.7644	0.0000	5,209.2319
Total	**52.8468**	**93.5798**	**77.5077**	**0.1079**	**10.0759**	**5.3504**	**15.4262**	**4.9913**	**4.9652**	**9.9565**	**0.0000**	**10,454.9023**	**10,454.9023**	**2.0039**	**0.0000**	**10,496.9833**

	ROG	NOx	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	**7.4360e-003**	**0.0859**	**0.0730**	**0.0463**	**49.6517**	**0.0900**	**39.1890**	**52.2509**	**0.0901**	**35.4432**	**0.0000**	**0.0474**	**0.0474**	**0.0868**	**0.0000**	**0.0475**

	ROG	NOx	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	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
Demolition	6	15.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	128.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	26.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	4.5962	49.5429	36.2873	0.0399		2.5270	2.5270		2.3593	2.3593		4,164.0858	4,164.0858	1.1253		4,187.7164
Total	**4.5962**	**49.5429**	**36.2873**	**0.0399**	**0.9844**	**2.5270**	**3.5114**	**0.1490**	**2.3593**	**2.5083**		**4,164.0858**	**4,164.0858**	**1.1253**		**4,187.7164**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.2598	1.6730	1.1557	3.3200e-003	0.0793	0.0315	0.1107	0.0217	0.0289	0.0506		341.4523	341.4523	2.9000e-003		341.5132
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	0.3943	0.1051	1.0993	1.9100e-003	0.1677	1.3900e-003	0.1691	0.0445	1.2700e-003	0.0457		170.5373	170.5373	0.0104		170.7556
Total	**0.6540**	**1.7781**	**2.2550**	**5.2300e-003**	**0.2469**	**0.0329**	**0.2798**	**0.0662**	**0.0302**	**0.0964**		**511.9896**	**511.9896**	**0.0133**		**512.2688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4430	0.0000	0.4430	0.0671	0.0000	0.0671			0.0000			0.0000
Off-Road	4.5920	49.4975	36.2540	0.0399		2.5247	2.5247		2.3571	2.3571	0.0000	4,160.2655	4,160.2655	1.1242		4,183.8744
Total	**4.5920**	**49.4975**	**36.2540**	**0.0399**	**0.4430**	**2.5247**	**2.9677**	**0.0671**	**2.3571**	**2.4242**	**0.0000**	**4,160.2655**	**4,160.2655**	**1.1242**		**4,183.8744**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.2598	1.6730	1.1557	3.3200e-003	1.2222	0.0315	1.2537	0.3022	0.0289	0.3312		341.4523	341.4523	2.9000e-003		341.5132
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	0.3943	0.1051	1.0993	1.9100e-003	0.1677	1.3900e-003	0.1691	0.0445	1.2700e-003	0.0457		170.5373	170.5373	0.0104		170.7556
Total	**0.6540**	**1.7781**	**2.2550**	**5.2300e-003**	**1.3899**	**0.0329**	**1.4227**	**0.3467**	**0.0302**	**0.3769**		**511.9896**	**511.9896**	**0.0133**		**512.2688**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867		4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**18.0663**	**3.1377**	**21.2040**	**9.9307**	**2.8867**	**12.8174**		**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4731	0.1262	1.3192	2.2900e-003	0.2012	1.6700e-003	0.2029	0.0534	1.5200e-003	0.0549		204.6448	204.6448	0.0125		204.9067
Total	**0.4731**	**0.1262**	**1.3192**	**2.2900e-003**	**0.2012**	**1.6700e-003**	**0.2029**	**0.0534**	**1.5200e-003**	**0.0549**		**204.6448**	**204.6448**	**0.0125**		**204.9067**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	5.2861	57.5669	42.9215	0.0391		3.1349	3.1349		2.8841	2.8841	0.0000	4,152.0786	4,152.0786	1.2270		4,177.8453
Total	**5.2861**	**57.5669**	**42.9215**	**0.0391**	**8.1298**	**3.1349**	**11.2647**	**4.4688**	**2.8841**	**7.3529**	**0.0000**	**4,152.0786**	**4,152.0786**	**1.2270**		**4,177.8453**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4731	0.1262	1.3192	2.2900e-003	0.2012	1.6700e-003	0.2029	0.0534	1.5200e-003	0.0549		204.6448	204.6448	0.0125		204.9067
Total	**0.4731**	**0.1262**	**1.3192**	**2.2900e-003**	**0.2012**	**1.6700e-003**	**0.2029**	**0.0534**	**1.5200e-003**	**0.0549**		**204.6448**	**204.6448**	**0.0125**		**204.9067**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.8669	41.0997	26.7538	0.0298		2.3714	2.3714		2.1817	2.1817		3,162.4266	3,162.4266	0.9345		3,182.0518
Total	**3.8669**	**41.0997**	**26.7538**	**0.0298**	**6.5523**	**2.3714**	**8.9238**	**3.3675**	**2.1817**	**5.5492**		**3,162.4266**	**3,162.4266**	**0.9345**		**3,182.0518**

3.4 Grading - 2014

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	0.3943	0.1051	1.0993	1.9100e-003	0.1677	1.3900e-003	0.1691	0.0445	1.2700e-003	0.0457		170.5373	170.5373	0.0104		170.7556
Total	**0.3943**	**0.1051**	**1.0993**	**1.9100e-003**	**0.1677**	**1.3900e-003**	**0.1691**	**0.0445**	**1.2700e-003**	**0.0457**		**170.5373**	**170.5373**	**0.0104**		**170.7556**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	3.8633	41.0620	26.7293	0.0298		2.3693	2.3693		2.1797	2.1797	0.0000	3,159.5253	3,159.5253	0.9337		3,179.1324
Total	**3.8633**	**41.0620**	**26.7293**	**0.0298**	**2.9486**	**2.3693**	**5.3178**	**1.5154**	**2.1797**	**3.6951**	**0.0000**	**3,159.5253**	**3,159.5253**	**0.9337**		**3,179.1324**

3.4 Grading - 2014

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	0.3943	0.1051	1.0993	1.9100e-003	0.1677	1.3900e-003	0.1691	0.0445	1.2700e-003	0.0457		170.5373	170.5373	0.0104		170.7556
Total	**0.3943**	**0.1051**	**1.0993**	**1.9100e-003**	**0.1677**	**1.3900e-003**	**0.1691**	**0.0445**	**1.2700e-003**	**0.0457**		**170.5373**	**170.5373**	**0.0104**		**170.7556**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973		2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**		**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1292	5.8116	6.7803	0.0108	0.3141	0.1148	0.4290	0.0897	0.1056	0.1953		1,099.7595	1,099.7595	9.8900e-003		1,099.9672
Worker	3.3644	0.8972	9.3808	0.0163	1.4307	0.0119	1.4426	0.3794	0.0108	0.3903		1,455.2520	1,455.2520	0.0887		1,457.1141
Total	**4.4936**	**6.7088**	**16.1611**	**0.0271**	**1.7449**	**0.1267**	**1.8716**	**0.4691**	**0.1164**	**0.5856**		**2,555.0115**	**2,555.0115**	**0.0986**		**2,557.0813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8644	31.2250	18.9125	0.0268		2.2259	2.2259		2.0954	2.0954	0.0000	2,706.7114	2,706.7114	0.6882		2,721.1642
Total	**3.8644**	**31.2250**	**18.9125**	**0.0268**		**2.2259**	**2.2259**		**2.0954**	**2.0954**	**0.0000**	**2,706.7114**	**2,706.7114**	**0.6882**		**2,721.1642**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1292	5.8116	6.7803	0.0108	0.3141	0.1148	0.4290	0.0897	0.1056	0.1953		1,099.7595	1,099.7595	9.8900e-003		1,099.9672
Worker	3.3644	0.8972	9.3808	0.0163	1.4307	0.0119	1.4426	0.3794	0.0108	0.3903		1,455.2520	1,455.2520	0.0887		1,457.1141
Total	**4.4936**	**6.7088**	**16.1611**	**0.0271**	**1.7449**	**0.1267**	**1.8716**	**0.4691**	**0.1164**	**0.5856**		**2,555.0115**	**2,555.0115**	**0.0986**		**2,557.0813**

3.5 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	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**		**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.9354	5.0853	6.1306	0.0108	0.3141	0.0879	0.4020	0.0897	0.0808	0.1705		1,093.5923	1,093.5923	8.9400e-003		1,093.7800
Worker	3.0987	0.7990	8.4092	0.0164	1.4307	0.0112	1.4419	0.3794	0.0102	0.3897		1,412.4776	1,412.4776	0.0813		1,414.1842
Total	**4.0340**	**5.8843**	**14.5398**	**0.0272**	**1.7449**	**0.0991**	**1.8439**	**0.4691**	**0.0910**	**0.5602**		**2,506.0698**	**2,506.0698**	**0.0902**		**2,507.9642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6557	30.0024	18.7274	0.0268		2.1148	2.1148		1.9886	1.9886	0.0000	2,687.1096	2,687.1096	0.6742		2,701.2678
Total	**3.6557**	**30.0024**	**18.7274**	**0.0268**		**2.1148**	**2.1148**		**1.9886**	**1.9886**	**0.0000**	**2,687.1096**	**2,687.1096**	**0.6742**		**2,701.2678**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.9354	5.0853	6.1306	0.0108	0.3141	0.0879	0.4020	0.0897	0.0808	0.1705		1,093.5923	1,093.5923	8.9400e-003		1,093.7800
Worker	3.0987	0.7990	8.4092	0.0164	1.4307	0.0112	1.4419	0.3794	0.0102	0.3897		1,412.4776	1,412.4776	0.0813		1,414.1842
Total	**4.0340**	**5.8843**	**14.5398**	**0.0272**	**1.7449**	**0.0991**	**1.8439**	**0.4691**	**0.0910**	**0.5602**		**2,506.0698**	**2,506.0698**	**0.0902**		**2,507.9642**

3.6 Paving - 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	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3172**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.6 Paving - 2015

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	0.3631	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.3631**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3151	25.1527	14.9643	0.0223		1.4135	1.4135		1.3004	1.3004	0.0000	2,337.7516	2,337.7516	0.6979		2,352.4079
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3151**	**25.1527**	**14.9643**	**0.0223**		**1.4135**	**1.4135**		**1.3004**	**1.3004**	**0.0000**	**2,337.7516**	**2,337.7516**	**0.6979**		**2,352.4079**

3.6 Paving - 2015

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	0.3631	0.0936	0.9855	1.9200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2000e-003	0.0457		165.5247	165.5247	9.5200e-003		165.7247
Total	**0.3631**	**0.0936**	**0.9855**	**1.9200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2000e-003**	**0.0457**		**165.5247**	**165.5247**	**9.5200e-003**		**165.7247**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	43.4531					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177
Total	**43.8597**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**		**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6294	0.1623	1.7081	3.3300e-003	0.2906	2.2700e-003	0.2929	0.0771	2.0800e-003	0.0792		286.9095	286.9095	0.0165		287.2562
Total	**0.6294**	**0.1623**	**1.7081**	**3.3300e-003**	**0.2906**	**2.2700e-003**	**0.2929**	**0.0771**	**2.0800e-003**	**0.0792**		**286.9095**	**286.9095**	**0.0165**		**287.2562**

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	43.4531					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4062	2.5680	1.9000	2.9700e-003		0.2207	0.2207		0.2207	0.2207	0.0000	281.1898	281.1898	0.0366		281.9587
Total	**43.8594**	**2.5680**	**1.9000**	**2.9700e-003**		**0.2207**	**0.2207**		**0.2207**	**0.2207**	**0.0000**	**281.1898**	**281.1898**	**0.0366**		**281.9587**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6294	0.1623	1.7081	3.3300e-003	0.2906	2.2700e-003	0.2929	0.0771	2.0800e-003	0.0792		286.9095	286.9095	0.0165		287.2562
Total	**0.6294**	**0.1623**	**1.7081**	**3.3300e-003**	**0.2906**	**2.2700e-003**	**0.2929**	**0.0771**	**2.0800e-003**	**0.0792**		**286.9095**	**286.9095**	**0.0165**		**287.2562**

LLUMC Years 1 and 2 Parking Structure and Demolition of homes

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	760.00	Space	6.84	304,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.00617

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Demolition -

Grading -

Architectural Coating - The Parking Structure will not be painted other than minor striping. 75,000 sq.ft is anticipated to be adequate.

Area Coating - The Parking Structure will not be painted other than minor striping. 75,000 sq.ft is anticipated to be adequate.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	152,000.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	456,000.00	75,000.00
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.00617
tblProjectCharacteristics	OperationalYear	2014	2015

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					
2014	0.9603	5.2347	4.6440	6.6900e-003	0.3514	0.3134	0.6648	0.1348	0.2936	0.4285	0.0000	598.9809	598.9809	0.0999	0.0000	601.0783
2015	0.5400	0.6225	0.5174	8.2000e-004	0.0208	0.0374	0.0582	5.5800e-003	0.0350	0.0406	0.0000	72.9593	72.9593	0.0135	0.0000	73.2428
Total	**1.5003**	**5.8572**	**5.1614**	**7.5100e-003**	**0.3722**	**0.3508**	**0.7230**	**0.1404**	**0.3287**	**0.4691**	**0.0000**	**671.9402**	**671.9402**	**0.1134**	**0.0000**	**674.3210**

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					
2014	0.9597	5.2293	4.6406	6.6900e-003	0.2715	0.3130	0.5845	0.0909	0.2933	0.3842	0.0000	598.5709	598.5709	0.0998	0.0000	600.6661
2015	0.5399	0.6219	0.5170	8.2000e-004	0.0208	0.0374	0.0582	5.5800e-003	0.0350	0.0406	0.0000	72.9034	72.9034	0.0135	0.0000	73.1866
Total	**1.4996**	**5.8512**	**5.1576**	**7.5100e-003**	**0.2923**	**0.3504**	**0.6426**	**0.0965**	**0.3283**	**0.4248**	**0.0000**	**671.4744**	**671.4744**	**0.1133**	**0.0000**	**673.8527**

	ROG	NOx	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	**0.0460**	**0.1028**	**0.0734**	**0.0000**	**21.4804**	**0.1169**	**11.1137**	**31.2727**	**0.1156**	**9.4404**	**0.0000**	**0.0693**	**0.0693**	**0.1147**	**0.0000**	**0.0695**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	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
Demolition	6	15.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	128.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	26.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive 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					9.8400e-003	0.0000	9.8400e-003	1.4900e-003	0.0000	1.4900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0460	0.4954	0.3629	4.0000e-004		0.0253	0.0253		0.0236	0.0236	0.0000	37.7760	37.7760	0.0102	0.0000	37.9903
Total	**0.0460**	**0.4954**	**0.3629**	**4.0000e-004**	**9.8400e-003**	**0.0253**	**0.0351**	**1.4900e-003**	**0.0236**	**0.0251**	**0.0000**	**37.7760**	**37.7760**	**0.0102**	**0.0000**	**37.9903**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5100e-003	0.0170	0.0118	3.0000e-005	7.8000e-004	3.1000e-004	1.0900e-003	2.1000e-004	2.9000e-004	5.0000e-004	0.0000	3.1019	3.1019	3.0000e-005	0.0000	3.1025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4900e-003	1.0900e-003	0.0114	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5709	1.5709	9.0000e-005	0.0000	1.5728
Total	**6.0000e-003**	**0.0181**	**0.0232**	**5.0000e-005**	**2.4200e-003**	**3.2000e-004**	**2.7500e-003**	**6.5000e-004**	**3.0000e-004**	**9.5000e-004**	**0.0000**	**4.6728**	**4.6728**	**1.2000e-004**	**0.0000**	**4.6753**

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					4.4300e-003	0.0000	4.4300e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0459	0.4948	0.3624	4.0000e-004		0.0252	0.0252		0.0236	0.0236	0.0000	37.7310	37.7310	0.0102	0.0000	37.9451
Total	**0.0459**	**0.4948**	**0.3624**	**4.0000e-004**	**4.4300e-003**	**0.0252**	**0.0297**	**6.7000e-004**	**0.0236**	**0.0242**	**0.0000**	**37.7310**	**37.7310**	**0.0102**	**0.0000**	**37.9451**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5100e-003	0.0170	0.0118	3.0000e-005	0.0120	3.1000e-004	0.0123	2.9600e-003	2.9000e-004	3.2500e-003	0.0000	3.1019	3.1019	3.0000e-005	0.0000	3.1025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4900e-003	1.0900e-003	0.0114	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5709	1.5709	9.0000e-005	0.0000	1.5728
Total	**6.0000e-003**	**0.0181**	**0.0232**	**5.0000e-005**	**0.0136**	**3.2000e-004**	**0.0139**	**3.4000e-003**	**3.0000e-004**	**3.7000e-003**	**0.0000**	**4.6728**	**4.6728**	**1.2000e-004**	**0.0000**	**4.6753**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.2881	0.2148	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8508	18.8508	5.5700e-003	0.0000	18.9678
Total	**0.0265**	**0.2881**	**0.2148**	**2.0000e-004**	**0.0903**	**0.0157**	**0.1060**	**0.0497**	**0.0144**	**0.0641**	**0.0000**	**18.8508**	**18.8508**	**5.5700e-003**	**0.0000**	**18.9678**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive 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	2.0900e-003	6.6000e-004	6.8500e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9425	0.9425	6.0000e-005	0.0000	0.9437
Total	**2.0900e-003**	**6.6000e-004**	**6.8500e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9425**	**0.9425**	**6.0000e-005**	**0.0000**	**0.9437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2878	0.2146	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8284	18.8284	5.5600e-003	0.0000	18.9452
Total	**0.0264**	**0.2878**	**0.2146**	**2.0000e-004**	**0.0407**	**0.0157**	**0.0563**	**0.0223**	**0.0144**	**0.0368**	**0.0000**	**18.8284**	**18.8284**	**5.5600e-003**	**0.0000**	**18.9452**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive 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	2.0900e-003	6.6000e-004	6.8500e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9425	0.9425	6.0000e-005	0.0000	0.9437
Total	**2.0900e-003**	**6.6000e-004**	**6.8500e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9425**	**0.9425**	**6.0000e-005**	**0.0000**	**0.9437**

3.4 Grading - 2014

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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.4110	0.2675	3.0000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	28.6891	28.6891	8.4800e-003	0.0000	28.8671
Total	**0.0387**	**0.4110**	**0.2675**	**3.0000e-004**	**0.0655**	**0.0237**	**0.0892**	**0.0337**	**0.0218**	**0.0555**	**0.0000**	**28.6891**	**28.6891**	**8.4800e-003**	**0.0000**	**28.8671**

3.4 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4900e-003	1.0900e-003	0.0114	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5709	1.5709	9.0000e-005	0.0000	1.5728
Total	**3.4900e-003**	**1.0900e-003**	**0.0114**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5709**	**1.5709**	**9.0000e-005**	**0.0000**	**1.5728**

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					0.0295	0.0000	0.0295	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0386	0.4105	0.2672	3.0000e-004		0.0237	0.0237		0.0218	0.0218	0.0000	28.6549	28.6549	8.4700e-003	0.0000	28.8328
Total	**0.0386**	**0.4105**	**0.2672**	**3.0000e-004**	**0.0295**	**0.0237**	**0.0532**	**0.0152**	**0.0218**	**0.0369**	**0.0000**	**28.6549**	**28.6549**	**8.4700e-003**	**0.0000**	**28.8328**

3.4 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4900e-003	1.0900e-003	0.0114	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5709	1.5709	9.0000e-005	0.0000	1.5728
Total	**3.4900e-003**	**1.0900e-003**	**0.0114**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5709**	**1.5709**	**9.0000e-005**	**0.0000**	**1.5728**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.4081	3.2973	1.9971	2.8300e-003		0.2351	0.2351		0.2213	0.2213	0.0000	259.2918	259.2918	0.0659	0.0000	260.6763
Total	**0.4081**	**3.2973**	**1.9971**	**2.8300e-003**		**0.2351**	**0.2351**		**0.2213**	**0.2213**	**0.0000**	**259.2918**	**259.2918**	**0.0659**	**0.0000**	**260.6763**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.1153	0.6247	0.7331	1.1400e-003	0.0326	0.0120	0.0446	9.3300e-003	0.0111	0.0204	0.0000	105.7679	105.7679	9.3000e-004	0.0000	105.7875
Worker	0.3143	0.0984	1.0271	1.7500e-003	0.1481	1.2500e-003	0.1493	0.0393	1.1400e-003	0.0405	0.0000	141.4192	141.4192	8.4900e-003	0.0000	141.5974
Total	**0.4296**	**0.7231**	**1.7602**	**2.8900e-003**	**0.1807**	**0.0133**	**0.1940**	**0.0487**	**0.0122**	**0.0609**	**0.0000**	**247.1871**	**247.1871**	**9.4200e-003**	**0.0000**	**247.3849**

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	0.4076	3.2933	1.9947	2.8300e-003		0.2348	0.2348		0.2210	0.2210	0.0000	258.9833	258.9833	0.0659	0.0000	260.3662
Total	**0.4076**	**3.2933**	**1.9947**	**2.8300e-003**		**0.2348**	**0.2348**		**0.2210**	**0.2210**	**0.0000**	**258.9833**	**258.9833**	**0.0659**	**0.0000**	**260.3662**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.1153	0.6247	0.7331	1.1400e-003	0.0326	0.0120	0.0446	9.3300e-003	0.0111	0.0204	0.0000	105.7679	105.7679	9.3000e-004	0.0000	105.7875
Worker	0.3143	0.0984	1.0271	1.7500e-003	0.1481	1.2500e-003	0.1493	0.0393	1.1400e-003	0.0405	0.0000	141.4192	141.4192	8.4900e-003	0.0000	141.5974
Total	**0.4296**	**0.7231**	**1.7602**	**2.8900e-003**	**0.1807**	**0.0133**	**0.1940**	**0.0487**	**0.0122**	**0.0609**	**0.0000**	**247.1871**	**247.1871**	**9.4200e-003**	**0.0000**	**247.3849**

3.5 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	0.0348	0.2853	0.1781	2.5000e-004		0.0201	0.0201		0.0189	0.0189	0.0000	23.1795	23.1795	5.8200e-003	0.0000	23.3016
Total	**0.0348**	**0.2853**	**0.1781**	**2.5000e-004**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**23.1795**	**23.1795**	**5.8200e-003**	**0.0000**	**23.3016**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	8.6000e-003	0.0492	0.0597	1.0000e-004	2.9400e-003	8.3000e-004	3.7700e-003	8.4000e-004	7.6000e-004	1.6000e-003	0.0000	9.4709	9.4709	8.0000e-005	0.0000	9.4725
Worker	0.0260	7.8900e-003	0.0829	1.6000e-004	0.0133	1.1000e-004	0.0134	3.5400e-003	1.0000e-004	3.6400e-003	0.0000	12.3608	12.3608	7.0000e-004	0.0000	12.3755
Total	**0.0346**	**0.0571**	**0.1426**	**2.6000e-004**	**0.0163**	**9.4000e-004**	**0.0172**	**4.3800e-003**	**8.6000e-004**	**5.2400e-003**	**0.0000**	**21.8317**	**21.8317**	**7.8000e-004**	**0.0000**	**21.8480**

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	0.0347	0.2850	0.1779	2.5000e-004		0.0201	0.0201		0.0189	0.0189	0.0000	23.1519	23.1519	5.8100e-003	0.0000	23.2739
Total	**0.0347**	**0.2850**	**0.1779**	**2.5000e-004**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**23.1519**	**23.1519**	**5.8100e-003**	**0.0000**	**23.2739**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	8.6000e-003	0.0492	0.0597	1.0000e-004	2.9400e-003	8.3000e-004	3.7700e-003	8.4000e-004	7.6000e-004	1.6000e-003	0.0000	9.4709	9.4709	8.0000e-005	0.0000	9.4725
Worker	0.0260	7.8900e-003	0.0829	1.6000e-004	0.0133	1.1000e-004	0.0134	3.5400e-003	1.0000e-004	3.6400e-003	0.0000	12.3608	12.3608	7.0000e-004	0.0000	12.3755
Total	**0.0346**	**0.0571**	**0.1426**	**2.6000e-004**	**0.0163**	**9.4000e-004**	**0.0172**	**4.3800e-003**	**8.6000e-004**	**5.2400e-003**	**0.0000**	**21.8317**	**21.8317**	**7.8000e-004**	**0.0000**	**21.8480**

3.6 Paving - 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	0.0232	0.2518	0.1498	2.2000e-004		0.0142	0.0142		0.0130	0.0130	0.0000	21.2272	21.2272	6.3400e-003	0.0000	21.3603
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0232**	**0.2518**	**0.1498**	**2.2000e-004**		**0.0142**	**0.0142**		**0.0130**	**0.0130**	**0.0000**	**21.2272**	**21.2272**	**6.3400e-003**	**0.0000**	**21.3603**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2100e-003	9.7000e-004	0.0102	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5248	1.5248	9.0000e-005	0.0000	1.5266
Total	**3.2100e-003**	**9.7000e-004**	**0.0102**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5248**	**1.5248**	**9.0000e-005**	**0.0000**	**1.5266**

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	0.0231	0.2515	0.1496	2.2000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	21.2020	21.2020	6.3300e-003	0.0000	21.3349
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0231**	**0.2515**	**0.1496**	**2.2000e-004**		**0.0141**	**0.0141**		**0.0130**	**0.0130**	**0.0000**	**21.2020**	**21.2020**	**6.3300e-003**	**0.0000**	**21.3349**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2100e-003	9.7000e-004	0.0102	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5248	1.5248	9.0000e-005	0.0000	1.5266
Total	**3.2100e-003**	**9.7000e-004**	**0.0102**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5248**	**1.5248**	**9.0000e-005**	**0.0000**	**1.5266**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4345					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0700e-003	0.0257	0.0190	3.0000e-005		2.2100e-003	2.2100e-003		2.2100e-003	2.2100e-003	0.0000	2.5533	2.5533	3.3000e-004	0.0000	2.5602
Total	**0.4386**	**0.0257**	**0.0190**	**3.0000e-005**		**2.2100e-003**	**2.2100e-003**		**2.2100e-003**	**2.2100e-003**	**0.0000**	**2.5533**	**2.5533**	**3.3000e-004**	**0.0000**	**2.5602**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5700e-003	1.6900e-003	0.0177	3.0000e-005	2.8500e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.6429	2.6429	1.5000e-004	0.0000	2.6461
Total	**5.5700e-003**	**1.6900e-003**	**0.0177**	**3.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.6429**	**2.6429**	**1.5000e-004**	**0.0000**	**2.6461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4345					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0600e-003	0.0257	0.0190	3.0000e-005		2.2100e-003	2.2100e-003		2.2100e-003	2.2100e-003	0.0000	2.5502	2.5502	3.3000e-004	0.0000	2.5572
Total	**0.4386**	**0.0257**	**0.0190**	**3.0000e-005**		**2.2100e-003**	**2.2100e-003**		**2.2100e-003**	**2.2100e-003**	**0.0000**	**2.5502**	**2.5502**	**3.3000e-004**	**0.0000**	**2.5572**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5700e-003	1.6900e-003	0.0177	3.0000e-005	2.8500e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.6429	2.6429	1.5000e-004	0.0000	2.6461
Total	**5.5700e-003**	**1.6900e-003**	**0.0177**	**3.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8700e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.6429**	**2.6429**	**1.5000e-004**	**0.0000**	**2.6461**

APPENDIX B
OPERATIONAL MODELING RESULTS

Central Utility GHG Emissions

<u>CO_2 (provided by Goss Engineering, Inc)</u>

Existing Plant

Cogen Size: 10MW
Heat Rate: 8,876 Btu/Hp-hr
Operating Hours: 8,500 hours/year
Estimated NG usage: 1,011,747 dtherms
CO2 conversion: 117 lbs/day
CO2 produced: 118,374,440 lbs/year
Metric tons: 53,694 MT

Proposed Plant

Cogen Size: 22MW
Heat Rate: 10,290 Btu/Hp-hr
Operating Hours: 8,500 hours/year
Estimated NG usage: 1924,247 dtherms
CO2 conversion: 117 lbs/day
CO2 produced: 225,136,946 lbs/year
Metric tons: 102,121 MT

<u>CH_4</u>

Existing Plant

Emission Factor: 0.005 kg/MMBtu (California Climate Action Registry General Reporting Protocol, Table C.8)
0.005kg x 2.2 lbs=0.011 lbs/MMBtu
0.011 lbs/MMBTU x 1,011,747 dtherm (Goss Engineering) =11,129.2 lbs/MMBtu
11,129.2 lbs/MMBtu / 2,000 tons = 5.56 tons/MMBtu
5.56 tons/MMBtu

Proposed Plant

Emission Factor: 0.005 kg/MMBtu
0.005kg x 2.2 lbs=0.011 lbs/MMBtu
0.011 lbs/MMBTU x 1,924,247 dtherm (Goss Engineering) = 21,166.7 lbs/MMBtu
21,166.7 lbs/MMBtu / 2,000 tons = 10.58 tons/MMBtu
10.58 tons/MMBtu

N_2O

Existing Plant

Emission Factor: 0.001 kg/MMBtu (California Climate Action Registry General Reporting Protocol, Table C.8)
0.001kg x 2.2 lbs=0.002 lbs/MMBtu
0.002 lbs/MMBTU x 1,011,747 dtherm (Goss Engineering) =2,225.8 lbs/MMBtu
2,225.8 lbs/MMBtu / 2,000 tons = 1.1 tons/MMBtu
1.1 tons/MMBtu

Proposed Plant

Emission Factor: 0.001 kg/MMBtu
0.001kg x 2.2 lbs=0.002 lbs/MMBtu
0.002 lbs/MMBTU x 1,924,247 dtherm (Goss Engineering) = 3,848.5 lbs/MMBtu
3,848.5 lbs/MMBtu / 2,000 tons = 1.9 tons/MMBtu
1.9 tons/MMBtu

South Coast

AQMD

Annual Emission Report

Reporting Year: **2012**

Print Date: **2/20/2013**

Facility ID: **800234**
Facility Name: **LOMA LINDA UNIV**
Facility Type: **COGENERATION UNITS**

E1 - Permitted Annual Emissions from Power Generating Facilities

Device Description	Application Number	Equipment Code& Description	Fuel Code Description	Annual Usage	Organic Gases		Nitrogen Oxides		Sulfur Oxides		Carbon Monoxide		Particulate Matter	
					Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions
1. Turbine-Cogeneration	)391, 480393	12. Turbine	1. Natural Gas (mmscf).	1,094.33	7.0000	7,660.31	67.1600	73,495.20	0.6000	656.60	35.0000	38,301.55	7.5000	8,207.48

Total Emissions in Pounds:	**7,660.31**	**73,495.20**	**656.60**	**38,301.55**	**8,207.48**
Total Emissions in Tons:	**3.83**	**36.75**	**0.33**	**19.15**	**4.10**

GOSS ENGINEERING, INC. 320 S. Main Street, Corona, California 92882 Tel 951.340.1977 Fax 951.340.1090

August 9th, 2013

Mr. Ken Breyer
Assistant Vice President
Loma Linda University
11130 Anderson Street Suite 102,
Loma Linda, California 92350

Subject: Future CHP Emission Requirements

Dear Mr. Breyer,

Per Lilburn Company's request, the following information provides the recorded existing and the estimated future cogeneration plant emissions. The existing emissions were provided by Loma Linda University Environmental Health and Safety (EH&S). The estimated future emissions were based on discussions with SCAQMD permit specialists and were based on the following assumptions:

- 22 MW CHP plant consisting of three Taurus 70s with an individual natural gas (NG) consumption of 78 million British thermal units per hour (MMBtuh) each
- A future NOx limit of 2 ppm
- A future VOC limit of 2 ppm
- A future CO limit of 4 ppm at 15% O2
- 6.4 lbs of PM10 per million cubic feet of NG

Current Recorded Cogeneration Plant Emissions:

	Emissions (lbs)	Emissions (tons)
Reactive Organic Gases	7,660	3.83
nitrogen oxides	73,495	36.75
carbon monoxide	38,302	19.15
PM10	8,207	4.1

Estimate Future Emissions from 22 MW CHP

	Emissions (lbs)	Emissions (tons)
Reactive Organic Gases	12,000	6.00
nitrogen oxides	15,000	7.50
carbon monoxide	18,000	9.00
PM10	7,000	3.50

*Note: MW of Reactive organic gases assumed to be 140

As shown, the current CHP emissions produce 3.83 tons of ROG, 36.75 tons of NOx, 19.15 tons of CO, and 4.1 tons of PM10.

Based on the stated assumptions (which, of course, may change), the future estimated emissions 22MW CHP plant are 6 tons of ROG, 7.5 tons of NOx and 9 tons of CO, and 3.5 tons of PM10

Please call if you have any questions, comments or concerns regarding this analysis.

Best regards,

GOSS ENGINEERING, INC.

Lucas Hyman
President, M27829