Appendix B
Air Quality Assessment and Greenhouse Gas Emissions Assessment

Air Quality & Greenhouse Gas Assessment

Holy Name of Jesus Church Project

Redlands, California

Prepared For:

The Holy Name of Jesus Catholic Community
1201 East Highland Avenue,
San Bernardino, California 92404

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ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/m^3	Micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CH_4	Methane
City	City of Redlands
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalents
DPM	Diesel particulate matter
EO	Executive Order
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
LOS	Level of service
LST	Localized significance threshold
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide

LIST OF ACRONYMS AND ABBREVIATIONS

NOx	Nitrogen oxide
N_2O	Nitrous oxide
O_3	Ozone
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppm	Parts per million
RCPG	Regional Comprehensive Plan and Guide
ROG	Reactive organic gas
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SoCAB	South Coast Air Basin
SO_2	Sulfur dioxide
SRA	Source receptor area
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency

1.0 INTRODUCTION

ECORP Consulting, Inc., has completed an assessment of both air quality and greenhouse gas (GHG) emissions for the proposed Holy Name of Jesus Parish Campus Project, which consists of a church with a seating capacity of 1,454 and a Preschool-8th grade private school with an ultimate enrollment of 550 students. The Proposed Project is located at the northwest quadrant of the Lugonia Avenue/Dearborn Street intersection in the City of Redlands, California.

This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the South Coast Air Quality Management District (SCAQMD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

1.1 Project Location and Description

The Project site is located at the northwest corner of East Lugonia Avenue and Dearborn Street in the City of Redlands and encompasses approximately ±18.6 acres of land consisting of one parcel. The Project consists of approximately 101,273 square feet of building space, 403,316 square feet of open space, and 307,053 square feet of hardscape (including 543 parking spaces on the site). The main buildings are a 26,282-square-foot church building with a 1,454-seating capacity, a 33,925-square-foot parish hall center (great room, meeting rooms, offices and kitchen), and a 42,000-square-foot education center (pre-K to 8th grade).

The Project construction would occur in three phases if approved. The Parish Hall would be completed in 2022, the Sanctuary is proposed to be completed in 2028, and the school would be completed in 2030.

The Project site is bounded by residential development to the north, east, west and south, with . Agricultural uses border the Project site to the far southeast and on half of the northern Project border. To the west of the site is currently undeveloped, vacant land. Highway 38 is located directly adjacent to the Project site on its southern edge and Dearborn Street borders the eastern edge of the site. The Project site itself is currently graded and in use for agriculture.

The Project site is designated by the City of Redlands (City) General Plan (2017a) as *Very Low Density Residential*. According to the City of Redlands General Plan, land use classifications contained in the General Plan are intentionally broad enough to avoid duplicating the City's zoning regulations. The General Plan Land Use Map is to be utilized in conjunction with the policies contained in the General Plan as a guide to decision making. The City of Redlands Zoning Ordinance and the Zoning Map further delineate and prescribe specific uses of the land and associated development regulations. More than one zoning district may be consistent with a single General Plan land use category. For instance, the *Very Low Density Residential* designation allows for several different zoning districts including the *A-2 – Estate Agricultural District*, *R-R – Rural Residential District*, *R-A – Residential Estate District*, *R-E – Residential Estate District*, *R-S – Residential Suburban District*, *R-S – Suburban Residential District*, and the *R-1 – Single-Family Residential District*. The Project site is zoned *R-E – Residential Estate District*. The Redlands Zoning Code (Title 18 of the City Municipal Code) states that churches are allowed in the RE District, subject to a

conditional use permit issued by the City. Further, schools are also allowed in the RE District, subject to review and approval by the City Planning Commission. As such, the Project is proposing land uses consistent with the Zoning District applied to the site, and the Zoning District is in turn consistent with that allowed under the General Plan designation.

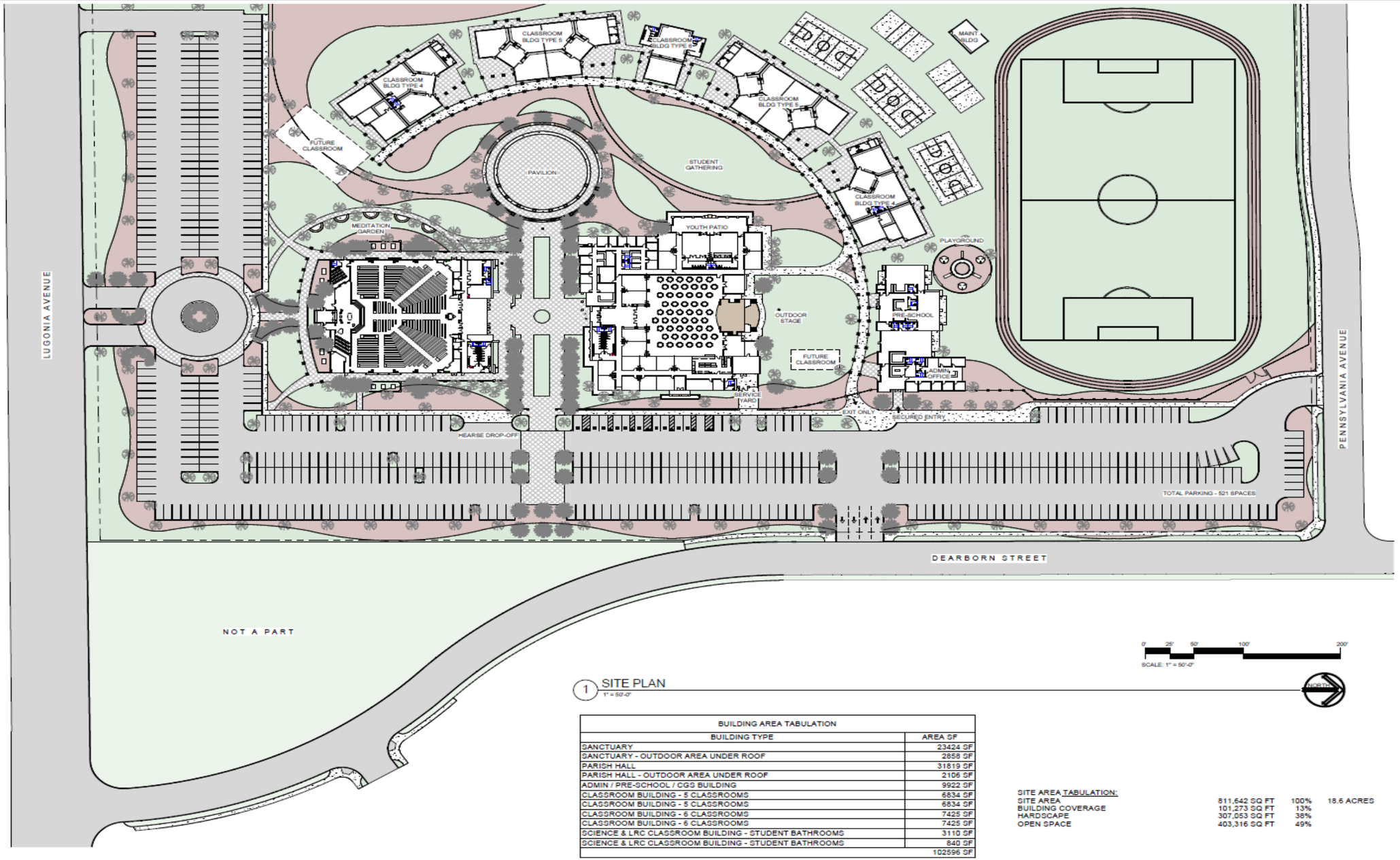
The Proposed Project includes several uses and is distinguished by three separate components (see Figure 1. *Project Site Plan*).

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the South Coast Air Basin (SoCAB), which encompasses the Project site, pursuant to the regulatory authority of the SCAQMD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.



1 SITE PLAN
1" = 50'-0"

BUILDING AREA TABULATION	
BUILDING TYPE	AREA SF
SANCTUARY	23424 SF
SANCTUARY - OUTDOOR AREA UNDER ROOF	2858 SF
PARISH HALL	31819 SF
PARISH HALL - OUTDOOR AREA UNDER ROOF	2106 SF
ADMIN / PRE-SCHOOL / CGS BUILDING	9922 SF
CLASSROOM BUILDING - 5 CLASSROOMS	6834 SF
CLASSROOM BUILDING - 5 CLASSROOMS	6834 SF
CLASSROOM BUILDING - 6 CLASSROOMS	7425 SF
CLASSROOM BUILDING - 6 CLASSROOMS	7425 SF
SCIENCE & LRC CLASSROOM BUILDING - STUDENT BATHROOMS	3110 SF
SCIENCE & LRC CLASSROOM BUILDING - STUDENT BATHROOMS	840 SF
	102596 SF

SITE AREA TABULATION:

SITE AREA	811,642 SQ FT	100%	18.6 ACRES
BUILDING COVERAGE	101,273 SQ FT	13%	
HARDSCAPE	307,053 SQ FT	38%	
OPEN SPACE	403,316 SQ FT	49%	

Map Date: *12/11/2019*
Photo (or Base) Source: *Miller Architecture Interiors Planning, 2019*

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Figure 1 Site Plan

2019-110

South Coast Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Redlands lies in the SoCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter (SCAQMD 1993).

Temperature and Precipitation

The air basin is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The annual average temperature varies little throughout the 6,645-square-mile SoCAB, ranging from the low 60s to the high 80s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas (SCAQMD 1993).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains.

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent, and low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 1993).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is higher during the dry summer months than during the rainy winter.

Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most

of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 1993).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two similarly distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality in the summer and generally good air quality in the winter in Redlands (SCAQMD 1993).

2.1.1 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROG) and nitrogen oxides (NOx) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

2.1.2 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

2.1.3 Ambient Air Quality

O_3, PM_{10}, and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. The Redlands-Dearborn air quality monitoring station (500 N. Dearborn, Redlands, CA), located approximately 0.9 mile south of the Project site, is the closest station to the site. The Redlands-Dearborn monitoring station monitors ambient concentrations of O_3 and PM_{10}. The nearest air quality monitoring station that monitors ambient concentrations of $PM_{2.5}$ is the San Bernardino-4th Street monitoring station (24302 4th St., San Bernardino, CA), 19 miles northwest of the Project site. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$, PM_{10} since 2016 from the Redlands-Dearborn and San Bernardino-4th street monitoring stations for each year that the monitoring data is provided. As previously described, O_3, $PM_{2.5}$, and PM_{10} are the pollutant species most potently affecting the Project region.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2016	2017	2018
O_3			
Max 1-hour concentration (ppm)	0.145	0.156	0.136
Max 8-hour concentration (ppm) (state/federal)	0.120 / 0.119	0.135 / 0.135	0.115 / 0.114
Number of days above 1-hour standard (state/federal)	55 / 3	79 / 9	53 / 4
Number of days above 8-hour standard (state/federal)	100 / 97	115 / 114	98 / 94
PM_{10}			
Max 24-hour concentration (µg/m^3) (state/federal)	72.8 / 72.0	77.0 / 77.0	70.1 / 74.2
Number of days above 24-hour standard (state/federal)	* / 0	11.3 / 0	11.5 / 0
$PM_{2.5}$			
Max 24-hour concentration (µg/m^3) (state/federal)	53.5 / 53.5	38.2 / 38.2	30.1 / 30.1
Number of days above federal 24-hour standard	3.0	3.3	0

Source: CARB 2019a
µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available
The federal 0.070 ppm standard for 8-hour ozone (O_3) concentration was utilized.

The U.S. Environmental Protection Agency (USEPA) and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the SoCAB is included in Table 2-3.

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$ (CARB 2018).

Table 2-3. Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2018

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the U.S. Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SoCAB for the criteria pollutants.

2.2.2 State

California Clean Air Act

The California CAA (CCAA) allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California,

consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the national ambient air quality standards revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The *2016 Air Quality Management Plan* (2016 AQMP) is the SIP for the SoCAB. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air in the SoCAB and those portions of the Salton Sea Air Basin that are under SCAQMD's jurisdiction. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. The AQMP relies on a regional and multi-level partnership of governmental agencies at the federal, state, regional, and local level. These agencies (USEPA, CARB, local governments, Southern California Association of Governments [SCAG] and the SCAQMD) are the primary agencies that implement the AQMP programs. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. The 2016 AQMP includes integrated strategies and measures to meet the NAAQS.

2.2.3 Local

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for San Bernardino County and the urban portions of Los Angeles, Riverside, and San Bernardino counties, including the Project site. The agency's primary responsibility is ensuring that the federal and state ambient air quality standards are attained and maintained in the SoCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and

conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the Proposed Project:

- **Rule 201 & Rule 203 (Permit to Construct & Permit to Operate)** – Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate.
- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

  a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
  b) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.
  c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
  d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
  e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.
- **Rule 1401 (New Source Review of Toxic Air Contaminants**) – This rule requires new source review of any new, relocated, or modified permit units that emit TACs. The rule establishes allowable risks for permit units requiring permits pursuant to Rules 201 and 203 discussed above.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would:

- Conflict with or obstruct implementation of any applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

South Coast Air Quality Management District Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (SCAQMD) may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 2-4.

Table 2-4. SCAQMD Regional Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
Reactive Organic Gas	75	55
Carbon Monoxide	550	550
Nitrogen Oxide	100	55
Sulfur Oxide	150	150
Coarse Particulate Matter	150	150
Fine Particulate Matter	55	55

Source: SCAQMD 1993 ($PM_{2.5}$ threshold adopted June 1, 2007)

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Localized Significance Thresholds

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). LSTs represent the maximum emissions that can be generated at a Project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb five acres or less on a single day. Redlands is located within SCAQMD SRA 35 (East San Bernardino Valley). Table 2-5 shows the LSTs for a one-acre, two-acre, and five-acre project site in SRA 35 with sensitive receptors located within 25 meters of the Project site.

Table 2-5. Local Significance Thresholds (Construction / Operations)

Project Size	Pollutant (pounds per day)			
	NO_X Construction/ Operations	CO Construction/ Operations	PM_{10} Construction/ Operations	$PM_{2.5}$ Construction/ Operations
1 Acre	118 / 118	775 / 775	4 / 1	4 / 1
2 Acres	170 / 170	1,174 / 1,174	7 / 2	5 / 2
5 Acres	270 / 270	2,075 / 2,075	14 / 4	9 / 3

Source: SCAQMD 2009

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults for San Bernardino County. Construction of the Proposed Project is anticipated to occur in three phases occurring over the course of ten years. Based on predictions from the Applicant, the Parish Hall is to be completed in 2022, the Sanctuary is to be completed in 2028, and the school is to be completed in 2031. For the purposes of modeling the Proposed Project emissions conservatively, a total Project buildout year of 2023 was utilized, as opposed to the year 2031. This is conservative as the CalEEMod modeling software accounts for greater energy-efficiency in future years associated with land use projects. Considering typical construction, it is likely that the Parish Hall will be completed and become operational in 2022. However, by employing a 2023 buildout year in the emissions model, CalEEMod will generate results utilizing construction and operation equipment and vehicles meeting current standards rather than more efficient standards anticipated for the future year, 2031. As such, the result is more conservative and gives adequate representation to earlier construction and operational years.

Operational air pollutant emissions were based on the Project site plans and the estimated traffic trip generation rates from Ganddini Group, Inc. (2020). Due to the nature of the Proposed Project as a church and a school, the county average vehicle fleet-mix default generated by CalEEMod was adjusted to reflect a maximum of two percent heavy duty trucks visiting the site.

2.3.3 Impact Analysis

Project Construction-Generated Criteria Air Quality Emissions

Regional Construction Significance Analysis

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive particulate matter emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust-control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to SCAQMD Rule 403, which requires taking reasonable precautions to prevent the emissions of fugitive dust. The following SCAQMD Rule 403 requirements were applied as mitigation measures in CalEEMod: apply soil stabilizers to unpaved roadways, replace groundcover on disturbed areas, water exposed soil surfaces three times per day, clean paved roadways, and reduce vehicle speeds on unpaved roads to 15 miles per hour (mph).

Construction-generated emissions associated with the Proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis. Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in Table 2-6. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

As shown in Table 2-6, emissions generated during Project construction would not exceed the SCAQMD's regional thresholds of significance. The SCAQMD's criteria pollutant significance thresholds were set at emission levels tied to the region's attainment status. Therefore, since the project's emissions do not exceed SCAQMD thresholds, no exceedance of the ambient air quality standards would occur, and no health effects from project criteria pollutants would occur. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

Table 2-6. Construction-Related Emissions (Regional Significance Analysis)

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction in 2021	9.76	46.46	53.01	0.14	20.31	11.87
Construction in 2022	9.24	41.51	51.11	0.13	7.091	2.91
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; watering exposed surfaces three times daily; watering all haul roads twice daily; applying soil stabilizers on unpaved roads; replacing groundcover on disturbed area; and limiting speeds on unpaved roads to 15 mph. Reduction percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

Building construction, paving, and painting assumed to occur simultaneously.

Localized Construction Significance Analysis

The nearest sensitive receptors to the Project site are the residences directly adjacent to the western boundary of the Project site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific level proposed projects.

For this Project, the appropriate SRA for the localized significance thresholds is the East San Bernardino Valley source receptor area (SRA 35) as this source receptor area includes the Project site. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The Proposed Project would disturb ±18.6 acres during construction. As previously described, the SCAQMD has produced look-up tables for projects that disturb ≤ five acres daily. The SCAQMD has also issued guidance on applying the CalEEMod emissions software to LSTs for projects greater than five acres. Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, Table 2-7 is used to determine the maximum daily disturbed-acreage for comparison to LSTs.

Table 2-7. Equipment-Specific Grading Rates

Construction Phase	Equipment Type	Acres Graded/Disturbed per 8-Hour Day	Equipment Quantity	Operating Hours per Day	Acres Graded per Day
Site Preparation	Rubber Tired Dozers	0.5	3	8	1.5
	Tractors/ Loaders/ Backhoes	0.5	4	8	2.0
				Total	3.5
Grading	Excavators	0.0	2	8	0.0
	Rubber Tired Dozer	0.5	1	8	0.5
	Graders	0.5	1	8	0.5
	Scraper	1.0	2	8	2.0
	Tractors/ Loaders/ Backhoes	0.5	2	8	1.0
				Total	4.0
				Maximum Total Acres Graded per Day	4.0

As shown in Table 2-7, Project implementation could potentially disturb up to 3.5 acres daily during the site preparation phase of construction, and 4.0 acres daily during the grading phase of construction. Thus, the LST threshold value for a 3.5-acre construction site were sourced from the LST lookup tables for site preparation and the LST threshold value for a 4.0-acre construction site were sourced from the LST lookup tables for Project grading activities.

The nearest sensitive receptors to the Project site are the residences directly adjacent and west of the Project site. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Notwithstanding, the SCAQMD Methodology explicitly states: *It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.* Therefore, LSTs for receptors located at 25 meters were utilized in this analysis.

The SCAQMD's methodology clearly states that "off-site mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "onsite" emissions outputs were considered. Table 2-8 presents the results of localized emissions during the grading phase of construction, which is construction activity that disturbs the most acreage daily. The LSTs reflect a maximum disturbance of 3.5 acres daily during site preparation and four acres daily during grading activities at 25 meters for the Proposed Project.

Table 2-8. Construction-Related Emissions (Localized Significance Analysis)

Activity	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Project Site Preparation	40.50	21.15	2.04	3.29
SCAQMD Localized Significance Threshold *(3.5 acres of disturbance)*	*220.00*	*1,624.50*	*10.50*	*7.00*
Project Site Grading	46.40	30.88	1.99	1.83
SCAQMD Localized Significance Threshold (4.0 acres of disturbance)	*236.67*	*1,774.67*	*11.67*	*7.67*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to **Attachment A** for Model Data Outputs.

Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; watering exposed surfaces three times daily; watering all haul roads twice daily; applying soil stabilizers on unpaved roads; replacing groundcover on disturbed area; and limiting speeds on unpaved roads to 15 mph. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.
Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.
Building construction, paving, and painting assumed to occur simultaneously.

Table 2-8 shows that the emissions of these pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during construction activities.

Project Operations Criteria Air Quality Emissions

Regional Operational Significance Analysis

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as ozone precursors such as ROG and NO_X. Project-generated increases in emissions would be predominantly associated with motor vehicle use.

Long-term operational emissions attributable to the Project are identified in Table 2-9 and compared to the regional operational significance thresholds promulgated by the SCAQMD.

Table 2-9. Operational-Related Emissions (Regional Significance Analysis)

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Emissions						
Area	2.61	0.00	0.08	0.00	0.00	0.00
Energy	0.05	0.41	0.35	0.00	0.03	0.03
Mobile	3.33	11.30	39.12	0.17	19.11	5.16
Total	**5.99**	**11.71**	**39.55**	**0.17**	**19.14**	**5.19**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	2.61	0.00	0.08	0.00	0.00	0.00
Energy	0.05	0.41	0.35	0.00	0.03	0.03
Mobile	2.82	11.37	33.64	0.15	19.11	5.17
Total	**5.47**	**11.78**	**34.07**	**0.16**	**19.14**	**5.19**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.
Vehicle fleet mix upon operation is anticipated to contain a maximum of two percent heavy-duty trucks.

As shown in Table 2-9, the Project's emissions would not exceed any SCAQMD thresholds for any criteria air pollutants during operation.

As identified in Table 2-3, the SoCAB is listed as a nonattainment area for federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$. O_3 is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. Particulate matter can adversely affect the human respiratory system. As shown in Table 2-9, the Proposed Project would result in increased emissions of the O_3 precursor pollutants ROG and NO_x, PM_{10}, and $PM_{2.5}$, however, the correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the SCAQMD is contained in the SCAQMD 2016 AQMP. The AQMP provides control measures that reduce emissions to attain federal ambient air quality standards by their applicable deadlines such as the application of available cleaner technologies, best management practices, incentive programs, as well as

development and implementation of zero and near-zero technologies and control methods. The CEQA thresholds of significance established by the SCAQMD are designed to meet the objectives of the AQMP and in doing so achieve attainment status with state and federal standards. As noted above, the Project would increase the emission of these pollutants, but would not exceed the thresholds of significance established by the SCAQMD for purposes of reducing air pollution and its deleterious health effects.

Localized Operational Significance Analysis

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project only if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Proposed Project does not include such uses. Therefore, in the case of the Proposed Project, the operational phase LST protocol does not need to be applied.

Conflict with the 2016 Air Quality Management Plan

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project site is located within the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SoCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, SCAG, and the USEPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans). The Project is subject to the SCAQMD's AQMP.

According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

As shown in Tables 2-6, 2-8, and 2-9, the Proposed Project would result in emissions that would be below the SCAQMD regional and localized thresholds during both construction and operations. These thresholds were developed to determine a level of individual project emissions which attainment would not be affected. Therefore, the Proposed Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards.

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As shown in Tables 2-6 and 2-9, the Proposed Project would be below the SCAQMD regional thresholds for construction and operations. Since the Project would result in less-than-significant regional emission impacts, it would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SoCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the Proposed Project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the 2016 AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions in Redlands. Specifically, SCAG's *Growth Management* Chapter of the Regional Comprehensive Plan and Guide (RCPG) provides regional population forecasts for the region and SCAG's 2016 RTP/SCS provides socioeconomic forecast projections of regional population growth. The City's General Plan is referenced by SCAG in order to assist forecasting future growth in Redlands.

The Proposed Project is consistent with the land use designation and development density presented in the General Plan. As previously stated, the Project site is designated by the General Plan as *Very Low Density Residential*. According to the City's General Plan, land use classifications contained in the General Plan are intentionally broad enough to avoid duplicating the City's zoning regulations. The City's Zoning Ordinance and the Zoning Map further delineate and prescribe specific uses of the land and associated development regulations. More than one zoning district may be consistent with a single General Plan land

use category. For instance, the *Very Low Density Residential* designation allows for several different zoning districts including the *A-2 – Estate Agricultural District*, *R-R – Rural Residential District*, *R-A – Residential Estate District*, *R-E – Residential Estate District*, *R-S – Residential Suburban District*, *R-S – Suburban Residential District*, and the *R-1 – Single-Family Residential District.* The Project site is zoned *R-E – Residential Estate District*. The Redlands Zoning Code (Title 18 of the City Municipal Code) states that churches are allowed in the RE District, subject to a conditional use permit issued by the City. Further, schools are also allowed in the RE District, subject to review and approval by the City Planning Commission. As such, the Project is proposing land uses consistent with the Zoning District applied to the site, and the Zoning District is in turn consistent with that allowed under the General Plan designation. Thus, the Proposed Project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan and RCPG. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City; and are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same projections into their air quality planning efforts, it can be concluded that the Proposed Project would be consistent with the projections.

b) Would the project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the Project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 402, 403, and 1113. SCAQMD Rule 402 prohibits the discharge, from any source whatsoever, in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. As such, the Proposed Project meets this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Proposed Project is consistent with the land use designation and development density presented in the City's General Plan and therefore would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. The Proposed Project would not result in a long-term impact on the region's

ability to meet state and federal air quality standards. The Proposed Project's long-term influence would also be consistent with the goals and policies of the SCAQMD's 2016 AQMP.

Exposure of Sensitive Receptors to Toxic Air Contaminants

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; application of architectural coatings; and other miscellaneous activities. For construction activity, DPM is the primary TAC of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted the maximum construction-related annual emissions of $PM_{2.5}$ exhaust, considered a surrogate for DPM, would be 1.88 pounds per day (see Attachment A) during construction activity. $PM_{2.5}$ is considered a surrogate for DPM because more than 90 percent of DPM is less than one microgram in diameter and therefore is a subset of PM under 2.5 microns in diameter (i.e., $PM_{2.5}$). Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles. Furthermore, even during the most intense month of construction, emissions of DPM would be generated from different locations on the Project site, rather than a single location, because different types of construction activities (e.g., site preparation, paving, building construction) would not occur at the same place at the same time.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-, 30-, or nine-year exposure period; further, such assessments should be limited to the period/duration of construction activities associated with the Proposed Project. Construction of the Proposed Project is anticipated to occur intermittently in three phases over the course of 10 years; however, would not occur continuously over this time period.

Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction, the fact that construction would not last as long as the minimum duration of exposure from which to calculate health risk, and the relatively short duration that construction activities would occur at a single location on the 18.6 -acre property, allowing for dispersion of air pollutants, construction-related TAC emissions would not expose sensitive receptors to substantial concentrations of air toxics.

Furthermore, the Project has been evaluated against the SCAQMD's LSTs for construction. As previously stated, LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative and can be used to assist lead agencies in analyzing localized impacts associated with Project-specific level of proposed projects. The SCAQMD Environmental Justice Enhancement Initiative program seeks to ensure that everyone has the right to equal protection from air pollution. The Environmental Justice Program is divided into three categories, with the LST protocol promulgated under Category I: *Further-Reduced Health Risk*. As shown in Table 2-8, the localized emissions of pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Thus, the fact that onsite Project construction emissions would be generated at rates below the LSTs for NO_2, CO, PM_{10}, and $PM_{2.5}$ demonstrates that the Project would likely not adversely impact the neighboring residential receptors.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project. Nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would not be a source of TACs and there would be no impact as a result of the Project during operations.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high-traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service (LOS) during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the SCAQMD *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County can be used to demonstrate the potential for CO exceedances. The SCAQMD CO hot-spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the LOS in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic (LOS E and F are the two least efficient traffic LOS ratings). Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

According to the estimated traffic trip generation rates from Ganddini Group, Inc. (2020), the Project is anticipated to generate 2,818 daily trips on average. Because the Proposed Project would not result in 100,000 vehicles per day at any intersection, there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant

reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

According to the SCAQMD, land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified by the SCAQMD as being associated with odors.

Further, the Proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Rule 402 prohibits the discharge from any source that causes nuisance, annoyance, or discomfort to a considerable number of persons.

Cumulative Air Quality Impacts

The cumulative setting for air quality includes Redlands and the SoCAB. The SoCAB is designated as a nonattainment area for state standards of O_3, PM_{10}, and $PM_{2.5}$. The region is also designated as a nonattainment area for federal standards of O_3 and $PM_{2.5}$ (CARB 2018). Cumulative growth in population, vehicle use, and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air quality standards. Thus, the setting for this cumulative analysis consists of the SoCAB and associated growth and development anticipated in the air basin.

The SCAQMD's approach to assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal CAA and CCAA. As discussed earlier, the Proposed Project would be consistent with the 2016 AQMP, which is intended to bring the SoCAB into attainment for all criteria pollutants. In addition, the SCAQMD recommends that any given project's potential contribution to cumulative impacts be assessed using the same significance criteria as for project-specific impacts. Therefore, individual projects that do not generate operational or construction emissions that exceed the SCAQMD's daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the air basin is in nonattainment and therefore would not be considered to have a significant, adverse air quality impact. Alternatively, individual Project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable. As previously noted, the Project will not exceed the applicable SCAQMD regional thresholds for construction or operational-source emissions.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much

lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	CO_2 is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	CH_4 is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH_4 is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	N_2O is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

3.1.1 Sources of Greenhouse Gas Emissions

In 2019, CARB released the 2019 edition of the California GHG inventory covering calendar year 2017 emissions. In 2017, California emitted 424.1 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for approximately 41 percent of total GHG emissions in the state. This sector was followed by the industrial sector (24 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2019b). Emissions of CO_2 are by-products of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing carbon dioxide from the atmosphere.

3.2 Regulatory Framework

3.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially

cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

While dated, this executive order remains relevant because a more recent California Appellate Court decision, *Cleveland National Forest Foundation v. San Diego Association of Governments* (November 24, 2014) 231 Cal.App.4th 1056, examined whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. While the California Supreme Court ruled that the San Diego Association of Governments did not abuse its discretion by declining "to adopt the 2050 goal as a measure of significance in light of the fact that the EO does not specify any plan or implementation measures to achieve its goal", the decision also recognized that the goal of a 40 percent reduction in 1990 GHG levels by 2030 is "widely acknowledged" as a "necessary interim target to ensure that California meets its longer-range goal of reducing greenhouse gas emissions 80 percent below 1990 levels by the year 2050."

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments and notes that successful implementation relies on local governments' land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which was re-approved by CARB on August 24, 2011, that outlines measures to meet the 2020 GHG reduction goals. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures for further study and possible state implementation, such as new fuel regulations. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, and forestry sectors and other sources could be achieved should the state implement all of the measures in the Scoping Plan.

The Scoping Plan is required by AB 32 to be updated at least every five years. The first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB. The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40-percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include: increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of CH_4 emissions from agricultural and other wastes.

Executive Order B-30-15

On April 20, 2015 Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly-owned utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewal Portfolio Standards.

3.2.2 Local

South Coast Air Quality Management District

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance

Thresholds. These thresholds have not been finalized and continue to be developed through the working group.

On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening level numeric "bright-line" threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 4.8 metric tons of CO_2e per service population (defined as the people that work, study, live, patronize and/or congregate on the Project site) per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the governing board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable only to boilers and process heaters, forestry, and manure management projects.

Southern California Association of Governments

On April 7, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS. The 2016 RTP/SCS charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions.

City of Redlands Climate Action Plan

The Redlands Climate Action Plan (CAP) is designed to reinforce the City's commitment to reducing GHG emissions and demonstrate how the City will comply with State of California's GHG emission reduction standards. As a Qualified GHG Reduction Strategy, the CAP enables streamlined environmental review of future development projects, in accordance with CEQA. The CAP has been prepared concurrently with the updated Redlands General Plan, reflecting the City's most current land use and transportation strategy, and GHG implications of various General Plan's goals and policies. The General Plan includes strategies such as transit-oriented and mixed-use development, integrated transportation and land use planning, promotion of bicycle and pedestrian movements, and parking and transportation demand management. It also includes goals and policies to promote energy efficiency, waste reduction, and resource conservation and recycling. These strategies, goals, and policies will result in GHG reduction compared to baseline trends. As a document adopted by the City of Redlands City Council, the CAP applies to the municipal limits of the City of Redlands.

Redlands Community Sustainability Plan

The Redlands Community Sustainability Plan was adopted in March 2011. This document is meant to guide the City of Redlands to become increasingly more sustainable. The plan identifies actions to increase sustainability through energy efficiency and conservation, water use, waste reduction, use of

renewable energy, efficient transportation, and more. Goals and policies applicable to the Project include the following:

Goal LU3: Encourage non-motorized transportation.

Policy LU3.2: In accordance with the General Plan, develop a city-wide comprehensive Non-Motorized Transportation Plan. Among its elements, the plan should consider bike lanes with "sharrows" for appropriate locations.

Policy LU3.3: Complete Santa Ana River Trail including connections to Redlands Citrus Valley High School, Mentone Senior Center/Library, and employment areas in northeast Redlands.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

South Coast Air Quality Management District Thresholds

On September 28, 2010, the SCAQMD recommended an interim screening level numeric, bright-line threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 4.8 metric tons of CO_2e per service population (Project employees + patrons + residents) per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035. These thresholds were developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The working group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the state Office of Planning and Research, CARB, the Attorney General's Office, a variety of city and county planning departments in the SoCAB, various utilities such as sanitation and power companies throughout the basin, industry groups, and environmental and professional organizations. The numeric bright-line and efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

For the purposes of this evaluation, the Proposed Project will first be compared to the SCAQMD interim screening level numeric bright-line threshold of 3,000 metric tons of CO_2e annually. If it is determined that the Proposed Project is estimated to exceed this screening threshold, it will then be compared to the SCAQMD-recommended efficiency-based threshold of 3.0 metric tons of CO_2e per service population per year in 2035, as the Project will be constructed after the year 2020.

The Project is also evaluated for compliance with the City CAP, which establishes an overall GHG target for the Project region consistent with long-term (beyond 2020) GHG reduction goals. Successful implementation of City CAP will enable the City to meet the standards outlined in California's 2017 Scoping Plan (Redlands 2017b). As previously described, the CAP has been prepared concurrently with the updated Redlands General Plan, reflecting the City's most current land use and transportation strategy, and GHG implications of various General Plan's goals and policies. Thus, according to the CAP, implementation of projects consistent with the General Plan would not require additional GHG analysis in accordance with CEQA (Redlands 2017b) and would be considered less than significant.

3.3.2 Methodology

GHG-related impacts were assessed in accordance with methodologies recommended by the SCAQMD and the City of Redlands. Where GHG emission quantification was required, emissions were modeled using the CalEEMod, version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults for San Bernardino County. As previously described, construction of the Proposed Project is anticipated to begin in the year 2020 and occur in three phases occurring over the course of ten years. The Project Applicant predicts the Parish Hall will be completed in 2022, the Sanctuary will be completed in 2028, and the school will be completed in 2031. For the purposes of modeling the Proposed Project emissions conservatively, a buildout year of 2023 was utilized, as opposed to the year 2031. This is conservative as the CalEEMod modeling software accounts for greater energy-efficiency in future years associated with land use projects. Considering typical construction, it is likely that the Parish Hall will be completed and become operational in 2023. However, by employing a 2023 buildout year in the emissions model, CalEEMod will generate results utilizing construction and operation equipment and vehicles meeting current standards rather than more efficient standards anticipated for the future year, 2031. As such, the result is more conservative and gives adequate representation to earlier construction and operational years.

Operational air pollutant emissions were based on the Project site plans and the estimated traffic trip generation rates from Ganddini Group, Inc. (2020). Due to the nature of the Proposed Project, a church and a school, the county average vehicle fleet mix generated by CalEEMod was edited to reflect a maximum of two percent heavy-duty trucks visiting the site during operation.

3.3.3 Impact Analysis

Contribution of Greenhouse Gas Emissions

Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction in 2021	1,169
Construction in 2022	701
Total	**1,870**

Source: CalEEMod version 2016.3.2. Refer to Attachment B for Model Data Outputs.
Notes: Construction worker and vendor trip generation rate identified by Ganddini Group, Inc., 2020.

As shown in Table 3-2, Project construction would result in the generation of approximately 1,870 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions as recommended by the SCAQMD GHG Significance Threshold Stakeholder Working Group

Operations

Operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project as a whole (Project site buildout) are identified in Table 3-3 and compared to SCAQMD's interim screening level numeric bright-line threshold of 3,000 metric tons of CO_2e annually.

Table 3-3. Operational-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction Emissions (amortized over the 30-year life of the Project)	62
Area Source Emissions	0
Energy Source Emissions	339
Mobile Source Emissions	1,875
Solid Waste Emissions	236
Water Emissions	26
Total Emissions	**2,538**
SCAQMD Screening Threshold	*3,000*
Exceed SCAQMD Threshold?	**No**

Source: CalEEMod version 2016.3.2. Refer to Attachment B for Model Data Outputs
Vehicle fleet mix upon operation is anticipated to contain a maximum of 2 percent heavy duty trucks.
The most recent (2017) CO_2 intensity factory for Southern California Edison was utilized- 549 lb./MWH (Edison International 2017)

As shown in Table 3-3, operational-generated emissions would not exceed the SCAQMD's interim screening level numeric bright-line threshold of 3,000 metric tons of CO_2e annually.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

Redlands Climate Action Plan

The Redlands CAP (2017b) is a strategic planning document that identifies sources of GHG emissions within the City's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic programs, policies, and projects to reduce emissions from the energy, transportation, land use, water use, and waste sectors. The GHG-reduction strategies in the CAP build on inventory results and key opportunities prioritized by City staff and members of the public. The CAP strategies consist of strategies that identify the steps the City will take to support reductions in GHG emissions. The City will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. All standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

The City CAP identifies the fact that successful implementation of City CAP will enable the City to meet the standards outlined in California's 2017 Scoping Plan (Redlands 2017b). The CAP has been prepared concurrently with the updated Redlands General Plan, reflecting the City's most current land use and transportation strategy, and GHG implications of various General Plan's goals and policies. Thus, according to the CAP, implementation of projects consistent with the General Plan would not require additional GHG analysis in accordance with CEQA (Redlands 2017b) and would be considered less than significant.

The Proposed Project is consistent with the land use designation and development density presented in the General Plan. As previously stated, the Project site is designated by the General Plan as *Very Low Density Residential*. According to the City of Redlands General Plan (Redlands 2017a), land use classifications contained in the General Plan are intentionally broad enough to avoid duplicating the City's zoning regulations. The City of Redlands Zoning Ordinance and the Zoning Map further delineate and prescribe specific uses of the land and associated development regulations. More than one zoning district may be consistent with a single General Plan land use category. For instance, the *Very Low Density Residential* designation allows for several different zoning districts including the *A-2 – Estate Agricultural District*, *R-R – Rural Residential District*, *R-A – Residential Estate District*, *R-E – Residential Estate District*, *R-S – Residential Suburban District*, *R-S – Suburban Residential District*, and the *R-1 – Single-Family Residential District*. The Project site is zoned *R-E – Residential Estate District*. The Redlands Zoning Code (Title 18 of the City Municipal Code) states that churches are allowed in the RE District, subject to a conditional use permit issued by the City. Further, schools are also allowed in the RE District, subject to review and approval by the City Planning Commission. As such, the Project is proposing land uses consistent with the Zoning District applied to the site, and the Zoning District is in turn consistent with that allowed under the General Plan designation. Thus, the Proposed Project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan. Since the Project is consistent with the City General Plan, it is consistent with the City CAP.

Cumulative Greenhouse Gas Impacts

Climate change is a global problem. And GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Proposed Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As previously discussed, the Proposed Project would not conflict with the City CAP. As a result, the Project would not conflict with any GHG reduction plans. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant and the Project's cumulative GHG impacts would also be less than cumulatively considerable.

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LIST OF ATTACHMENTS

Attachment A - CalEEMod Output Files – Criteria Air Pollutants

Attachment B - CalEEMod Output Files – Greenhouse Gas Emissions

ATTACHMENT A

CalEEMod Output Files – Criteria Air Pollutants

Holy Name of Jesus

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	42.39	1000sqft	0.97	42,390.00	0
Place of Worship	33.92	1000sqft	0.78	33,925.00	0
Place of Worship	26.28	1000sqft	0.60	26,282.00	0
Parking Lot	307.05	1000sqft	7.05	307,053.00	0
Other Non-Asphalt Surfaces	403.32	1000sqft	9.26	403,318.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Holy Name of Jesus - San Bernardino-South Coast County, Summer

Project Characteristics - Southern California Edison improved their CO2 emissions to 549 lb/MWH in 2017.

Land Use -

Construction Phase - Construction, paving, and painting occur simultaneously.

Vehicle Trips - Traffic study determined the Project as a whole would generate 2,818 trips per day.

Construction Off-road Equipment Mitigation - SCAQMD rule 403 mitigation measures applied to reduce PM10.

Water Mitigation -

Mobile Land Use Mitigation -

Fleet Mix - Reduced heavy duty trucks from 6.7% to 2%. Attributed the reduced 4.7% of traffic (0.047247) to LDA.

Holy Name of Jesus - San Bernardino-South Coast County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	PhaseEndDate	9/9/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	7/15/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	5/21/2021	4/23/2021
tblConstructionPhase	PhaseEndDate	8/12/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	4/9/2021	3/12/2021
tblConstructionPhase	PhaseStartDate	8/13/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	5/22/2021	4/24/2021
tblConstructionPhase	PhaseStartDate	4/10/2021	3/13/2021
tblConstructionPhase	PhaseStartDate	7/16/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	3/27/2021	3/1/2021
tblFleetMix	HHD	0.07	0.02
tblFleetMix	LDA	0.57	0.62
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblVehicleTrips	ST_TR	10.37	0.00
tblVehicleTrips	SU_TR	36.63	0.00
tblVehicleTrips	WD_TR	15.43	66.48
tblVehicleTrips	WD_TR	9.11	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	9.7642	46.4626	53.0124	0.1352	18.2675	2.0458	20.3132	9.9840	1.8821	11.8661	0.0000	13,465.9620	13,465.9620	1.9490	0.0000	13,508.9723
2022	9.2364	41.5107	51.1138	0.1332	5.5911	1.5065	7.0977	1.5022	1.4101	2.9123	0.0000	13,269.6470	13,269.6470	1.6936	0.0000	13,311.9874
Maximum	**9.7642**	**46.4626**	**53.0124**	**0.1352**	**18.2675**	**2.0458**	**20.3132**	**9.9840**	**1.8821**	**11.8661**	**0.0000**	**13,465.9620**	**13,465.9620**	**1.9490**	**0.0000**	**13,508.9723**

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					
2021	9.7642	46.4626	53.0124	0.1352	6.1202	2.0458	8.1659	3.3282	1.8821	5.2103	0.0000	13,465.9620	13,465.9620	1.9490	0.0000	13,508.9723
2022	9.2364	41.5107	51.1138	0.1332	3.7004	1.5065	5.2069	1.0381	1.4101	2.4482	0.0000	13,269.6470	13,269.6470	1.6936	0.0000	13,311.9874
Maximum	**9.7642**	**46.4626**	**53.0124**	**0.1352**	**6.1202**	**2.0458**	**8.1659**	**3.3282**	**1.8821**	**5.2103**	**0.0000**	**13,465.9620**	**13,465.9620**	**1.9490**	**0.0000**	**13,508.9723**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**58.84**	**0.00**	**51.21**	**61.99**	**0.00**	**48.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Energy	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
Mobile	3.4288	11.6576	41.8614	0.1803	20.5506	0.0961	20.6467	5.4866	0.0891	5.5757		18,276.8243	18,276.8243	0.5924		18,291.6331
Total	**6.0794**	**12.0695**	**42.2897**	**0.1828**	**20.5506**	**0.1276**	**20.6782**	**5.4866**	**0.1206**	**5.6072**		**18,770.3471**	**18,770.3471**	**0.6023**	**9.0400e-003**	**18,788.0993**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Energy	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
Mobile	3.3357	11.2951	39.1193	0.1677	19.0180	0.0897	19.1077	5.0774	0.0832	5.1606		16,999.2330	16,999.2330	0.5586		17,013.1982
Total	**5.9863**	**11.7070**	**39.5476**	**0.1701**	**19.0180**	**0.1213**	**19.1393**	**5.0774**	**0.1148**	**5.1922**		**17,492.7559**	**17,492.7559**	**0.5685**	**9.0400e-003**	**17,509.6644**

	ROG	NOx	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	**1.53**	**3.00**	**6.48**	**6.91**	**7.46**	**4.95**	**7.44**	**7.46**	**4.87**	**7.40**	**0.00**	**6.81**	**6.81**	**5.60**	**0.00**	**6.80**

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	3/1/2021	3/12/2021	5	10	
2	Grading	Grading	3/13/2021	4/23/2021	5	30	
3	Building Construction	Building Construction	4/24/2021	6/17/2022	5	300	
4	Paving	Paving	4/24/2021	6/17/2022	5	300	
5	Architectural Coating	Architectural Coating	4/24/2021	6/17/2022	5	300	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 16.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,896; Non-Residential Outdoor: 51,299; Striped Parking Area: 42,622 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	341.00	133.00	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	68.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 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					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 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	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	0.0915	0.0565	0.7452	1.9800e-003	0.2012	1.2900e-003	0.2025	0.0534	1.1900e-003	0.0545		196.9345	196.9345	5.6000e-003		197.0746
Total	**0.0915**	**0.0565**	**0.7452**	**1.9800e-003**	**0.2012**	**1.2900e-003**	**0.2025**	**0.0534**	**1.1900e-003**	**0.0545**		**196.9345**	**196.9345**	**5.6000e-003**		**197.0746**

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					5.9890	0.0000	5.9890	3.2920	0.0000	3.2920			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**5.9890**	**2.0445**	**8.0334**	**3.2920**	**1.8809**	**5.1729**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 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	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	0.0915	0.0565	0.7452	1.9800e-003	0.1312	1.2900e-003	0.1325	0.0362	1.1900e-003	0.0374		196.9345	196.9345	5.6000e-003		197.0746
Total	**0.0915**	**0.0565**	**0.7452**	**1.9800e-003**	**0.1312**	**1.2900e-003**	**0.1325**	**0.0362**	**1.1900e-003**	**0.0374**		**196.9345**	**196.9345**	**5.6000e-003**		**197.0746**

3.3 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 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	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	0.1016	0.0628	0.8280	2.2000e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606		218.8161	218.8161	6.2300e-003		218.9718
Total	**0.1016**	**0.0628**	**0.8280**	**2.2000e-003**	**0.2236**	**1.4300e-003**	**0.2250**	**0.0593**	**1.3200e-003**	**0.0606**		**218.8161**	**218.8161**	**6.2300e-003**		**218.9718**

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					2.8752	0.0000	2.8752	1.1922	0.0000	1.1922			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**2.8752**	**1.9853**	**4.8606**	**1.1922**	**1.8265**	**3.0188**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 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	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	0.1016	0.0628	0.8280	2.2000e-003	0.1458	1.4300e-003	0.1472	0.0402	1.3200e-003	0.0415		218.8161	218.8161	6.2300e-003		218.9718
Total	**0.1016**	**0.0628**	**0.8280**	**2.2000e-003**	**0.1458**	**1.4300e-003**	**0.1472**	**0.0402**	**1.3200e-003**	**0.0415**		**218.8161**	**218.8161**	**6.2300e-003**		**218.9718**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	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	0.3442	12.8262	2.4135	0.0359	0.8518	0.0220	0.8738	0.2453	0.0210	0.2663		3,785.0378	3,785.0378	0.2392		3,791.0177
Worker	1.7326	1.0710	14.1168	0.0375	3.8116	0.0244	3.8360	1.0109	0.0225	1.0333		3,730.8146	3,730.8146	0.1062		3,733.4692
Total	**2.0768**	**13.8971**	**16.5303**	**0.0734**	**4.6634**	**0.0464**	**4.7098**	**1.2561**	**0.0435**	**1.2996**		**7,515.8524**	**7,515.8524**	**0.3454**		**7,524.4869**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	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	0.3442	12.8262	2.4135	0.0359	0.6092	0.0220	0.6312	0.1857	0.0210	0.2067		3,785.0378	3,785.0378	0.2392		3,791.0177
Worker	1.7326	1.0710	14.1168	0.0375	2.4861	0.0244	2.5105	0.6855	0.0225	0.7080		3,730.8146	3,730.8146	0.1062		3,733.4692
Total	**2.0768**	**13.8971**	**16.5303**	**0.0734**	**3.0953**	**0.0464**	**3.1417**	**0.8712**	**0.0435**	**0.9147**		**7,515.8524**	**7,515.8524**	**0.3454**		**7,524.4869**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

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	0.3206	12.1644	2.2314	0.0356	0.8518	0.0185	0.8703	0.2453	0.0177	0.2629		3,754.6908	3,754.6908	0.2309		3,760.4638
Worker	1.6180	0.9629	12.9684	0.0361	3.8116	0.0237	3.8352	1.0109	0.0218	1.0326		3,596.1943	3,596.1943	0.0952		3,598.5753
Total	**1.9386**	**13.1273**	**15.1998**	**0.0717**	**4.6634**	**0.0421**	**4.7055**	**1.2561**	**0.0395**	**1.2956**		**7,350.8851**	**7,350.8851**	**0.3262**		**7,359.0391**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

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	0.3206	12.1644	2.2314	0.0356	0.6092	0.0185	0.6276	0.1857	0.0177	0.2034		3,754.6908	3,754.6908	0.2309		3,760.4638
Worker	1.6180	0.9629	12.9684	0.0361	2.4861	0.0237	2.5098	0.6855	0.0218	0.7073		3,596.1943	3,596.1943	0.0952		3,598.5753
Total	**1.9386**	**13.1273**	**15.1998**	**0.0717**	**3.0953**	**0.0421**	**3.1374**	**0.8712**	**0.0395**	**0.9107**		**7,350.8851**	**7,350.8851**	**0.3262**		**7,359.0391**

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3171**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 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	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	0.0762	0.0471	0.6210	1.6500e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		164.1121	164.1121	4.6700e-003		164.2289
Total	**0.0762**	**0.0471**	**0.6210**	**1.6500e-003**	**0.1677**	**1.0700e-003**	**0.1687**	**0.0445**	**9.9000e-004**	**0.0455**		**164.1121**	**164.1121**	**4.6700e-003**		**164.2289**

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3171**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 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	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	0.0762	0.0471	0.6210	1.6500e-003	0.1094	1.0700e-003	0.1104	0.0302	9.9000e-004	0.0311		164.1121	164.1121	4.6700e-003		164.2289
Total	**0.0762**	**0.0471**	**0.6210**	**1.6500e-003**	**0.1094**	**1.0700e-003**	**0.1104**	**0.0302**	**9.9000e-004**	**0.0311**		**164.1121**	**164.1121**	**4.6700e-003**		**164.2289**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1644**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

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	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951
Total	**0.0712**	**0.0424**	**0.5705**	**1.5900e-003**	**0.1677**	**1.0400e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**158.1904**	**158.1904**	**4.1900e-003**		**158.2951**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1644**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

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	0.0712	0.0424	0.5705	1.5900e-003	0.1094	1.0400e-003	0.1104	0.0302	9.6000e-004	0.0311		158.1904	158.1904	4.1900e-003		158.2951
Total	**0.0712**	**0.0424**	**0.5705**	**1.5900e-003**	**0.1094**	**1.0400e-003**	**0.1104**	**0.0302**	**9.6000e-004**	**0.0311**		**158.1904**	**158.1904**	**4.1900e-003**		**158.2951**

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	3.8288					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		281.9309
Total	**4.0477**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	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	0.3455	0.2136	2.8151	7.4700e-003	0.7601	4.8600e-003	0.7649	0.2016	4.4800e-003	0.2061		743.9748	743.9748	0.0212		744.5041
Total	**0.3455**	**0.2136**	**2.8151**	**7.4700e-003**	**0.7601**	**4.8600e-003**	**0.7649**	**0.2016**	**4.4800e-003**	**0.2061**		**743.9748**	**743.9748**	**0.0212**		**744.5041**

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	3.8288					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	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**4.0477**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	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	0.3455	0.2136	2.8151	7.4700e-003	0.4958	4.8600e-003	0.5006	0.1367	4.4800e-003	0.1412		743.9748	743.9748	0.0212		744.5041
Total	**0.3455**	**0.2136**	**2.8151**	**7.4700e-003**	**0.4958**	**4.8600e-003**	**0.5006**	**0.1367**	**4.4800e-003**	**0.1412**		**743.9748**	**743.9748**	**0.0212**		**744.5041**

3.6 Architectural Coating - 2022

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	3.8288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**4.0333**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.3227	0.1920	2.5861	7.2000e-003	0.7601	4.7200e-003	0.7648	0.2016	4.3500e-003	0.2059		717.1297	717.1297	0.0190		717.6045
Total	**0.3227**	**0.1920**	**2.5861**	**7.2000e-003**	**0.7601**	**4.7200e-003**	**0.7648**	**0.2016**	**4.3500e-003**	**0.2059**		**717.1297**	**717.1297**	**0.0190**		**717.6045**

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	3.8288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**4.0333**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.3227	0.1920	2.5861	7.2000e-003	0.4958	4.7200e-003	0.5005	0.1367	4.3500e-003	0.1410		717.1297	717.1297	0.0190		717.6045
Total	**0.3227**	**0.1920**	**2.5861**	**7.2000e-003**	**0.4958**	**4.7200e-003**	**0.5005**	**0.1367**	**4.3500e-003**	**0.1410**		**717.1297**	**717.1297**	**0.0190**		**717.6045**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3357	11.2951	39.1193	0.1677	19.0180	0.0897	19.1077	5.0774	0.0832	5.1606		16,999.2330	16,999.2330	0.5586		17,013.1982
Unmitigated	3.4288	11.6576	41.8614	0.1803	20.5506	0.0961	20.6467	5.4866	0.0891	5.5757		18,276.8243	18,276.8243	0.5924		18,291.6331

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	2,818.09	0.00	0.00	6,937,293	6,419,911
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	2,818.09	0.00	0.00	6,937,293	6,419,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.616343	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.020000	0.001373	0.001335	0.005375	0.000773	0.000603
Other Non-Asphalt Surfaces	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Parking Lot	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Place of Worship	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
NaturalGas Unmitigated	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1207.82	0.0130	0.1184	0.0995	7.1000e-004		9.0000e-003	9.0000e-003		9.0000e-003	9.0000e-003		142.0970	142.0970	2.7200e-003	2.6100e-003	142.9414
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1303.3	0.0141	0.1278	0.1073	7.7000e-004		9.7100e-003	9.7100e-003		9.7100e-003	9.7100e-003		153.3293	153.3293	2.9400e-003	2.8100e-003	154.2405
Place of Worship	1682.31	0.0181	0.1649	0.1385	9.9000e-004		0.0125	0.0125		0.0125	0.0125		197.9186	197.9186	3.7900e-003	3.6300e-003	199.0948
Total		**0.0452**	**0.4111**	**0.3453**	**2.4700e-003**		**0.0312**	**0.0312**		**0.0312**	**0.0312**		**493.3450**	**493.3450**	**9.4500e-003**	**9.0500e-003**	**496.2767**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1.20782	0.0130	0.1184	0.0995	7.1000e-004		9.0000e-003	9.0000e-003		9.0000e-003	9.0000e-003		142.0970	142.0970	2.7200e-003	2.6100e-003	142.9414
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.3033	0.0141	0.1278	0.1073	7.7000e-004		9.7100e-003	9.7100e-003		9.7100e-003	9.7100e-003		153.3293	153.3293	2.9400e-003	2.8100e-003	154.2405
Place of Worship	1.68231	0.0181	0.1649	0.1385	9.9000e-004		0.0125	0.0125		0.0125	0.0125		197.9186	197.9186	3.7900e-003	3.6300e-003	199.0948
Total		**0.0452**	**0.4111**	**0.3453**	**2.4700e-003**		**0.0312**	**0.0312**		**0.0312**	**0.0312**		**493.3450**	**493.3450**	**9.4500e-003**	**9.0500e-003**	**496.2767**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Unmitigated	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.6900e-003	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Total	**2.6054**	**7.6000e-004**	**0.0830**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**		**0.1779**	**0.1779**	**4.7000e-004**		**0.1896**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.6900e-003	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Total	**2.6054**	**7.6000e-004**	**0.0830**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**		**0.1779**	**0.1779**	**4.7000e-004**		**0.1896**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Holy Name of Jesus

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	42.39	1000sqft	0.97	42,390.00	0
Place of Worship	33.92	1000sqft	0.78	33,925.00	0
Place of Worship	26.28	1000sqft	0.60	26,282.00	0
Parking Lot	307.05	1000sqft	7.05	307,053.00	0
Other Non-Asphalt Surfaces	403.32	1000sqft	9.26	403,318.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison improved their CO2 emissions to 549 lb/MWH in 2017.

Land Use -

Construction Phase - Construction, paving, and painting occur simultaneously.

Vehicle Trips - Traffic study determined the Project as a whole would generate 2,818 trips per day.

Construction Off-road Equipment Mitigation - SCAQMD rule 403 mitigation measures applied to reduce PM10.

Water Mitigation -

Mobile Land Use Mitigation -

Fleet Mix - Reduced heavy duty trucks from 6.7% to 2%. Attributed the reduced 4.7% of traffic (0.047247) to LDA.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	PhaseEndDate	9/9/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	7/15/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	5/21/2021	4/23/2021
tblConstructionPhase	PhaseEndDate	8/12/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	4/9/2021	3/12/2021
tblConstructionPhase	PhaseStartDate	8/13/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	5/22/2021	4/24/2021
tblConstructionPhase	PhaseStartDate	4/10/2021	3/13/2021
tblConstructionPhase	PhaseStartDate	7/16/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	3/27/2021	3/1/2021
tblFleetMix	HHD	0.07	0.02
tblFleetMix	LDA	0.57	0.62
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblVehicleTrips	ST_TR	10.37	0.00
tblVehicleTrips	SU_TR	36.63	0.00
tblVehicleTrips	WD_TR	15.43	66.48
tblVehicleTrips	WD_TR	9.11	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	9.7899	46.4659	50.2663	0.1290	18.2675	2.0458	20.3132	9.9840	1.8821	11.8661	0.0000	12,841.5902	12,841.5902	1.9483	0.0000	12,884.8439
2022	9.2659	41.4291	48.5824	0.1272	5.5911	1.5071	7.0982	1.5022	1.4106	2.9128	0.0000	12,662.8091	12,662.8091	1.7046	0.0000	12,705.4235
Maximum	**9.7899**	**46.4659**	**50.2663**	**0.1290**	**18.2675**	**2.0458**	**20.3132**	**9.9840**	**1.8821**	**11.8661**	**0.0000**	**12,841.5902**	**12,841.5902**	**1.9483**	**0.0000**	**12,884.8439**

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					
2021	9.7899	46.4659	50.2663	0.1290	6.1202	2.0458	8.1659	3.3282	1.8821	5.2103	0.0000	12,841.5902	12,841.5902	1.9483	0.0000	12,884.8439
2022	9.2659	41.4291	48.5824	0.1272	3.7004	1.5071	5.2075	1.0381	1.4106	2.4487	0.0000	12,662.8091	12,662.8091	1.7046	0.0000	12,705.4235
Maximum	**9.7899**	**46.4659**	**50.2663**	**0.1290**	**6.1202**	**2.0458**	**8.1659**	**3.3282**	**1.8821**	**5.2103**	**0.0000**	**12,841.5902**	**12,841.5902**	**1.9483**	**0.0000**	**12,884.8439**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**58.84**	**0.00**	**51.21**	**61.99**	**0.00**	**48.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Energy	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
Mobile	2.9113	11.7520	35.8641	0.1651	20.5506	0.0962	20.6468	5.4866	0.0892	5.5758		16,763.9899	16,763.9899	0.5871		16,778.6680
Total	**5.5619**	**12.1638**	**36.2924**	**0.1676**	**20.5506**	**0.1278**	**20.6784**	**5.4866**	**0.1208**	**5.6074**		**17,257.5128**	**17,257.5128**	**0.5971**	**9.0400e-003**	**17,275.1343**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Energy	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
Mobile	2.8225	11.3709	33.6415	0.1535	19.0180	0.0899	19.1079	5.0774	0.0834	5.1608		15,590.8483	15,590.8483	0.5552		15,604.7282
Total	**5.4731**	**11.7828**	**34.0698**	**0.1560**	**19.0180**	**0.1214**	**19.1394**	**5.0774**	**0.1149**	**5.1923**		**16,084.3711**	**16,084.3711**	**0.5651**	**9.0400e-003**	**16,101.1944**

	ROG	NOx	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	**1.60**	**3.13**	**6.12**	**6.90**	**7.46**	**4.95**	**7.44**	**7.46**	**4.85**	**7.40**	**0.00**	**6.80**	**6.80**	**5.35**	**0.00**	**6.80**

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	3/1/2021	3/12/2021	5	10	
2	Grading	Grading	3/13/2021	4/23/2021	5	30	
3	Building Construction	Building Construction	4/24/2021	6/17/2022	5	300	
4	Paving	Paving	4/24/2021	6/17/2022	5	300	
5	Architectural Coating	Architectural Coating	4/24/2021	6/17/2022	5	300	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 16.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,896; Non-Residential Outdoor: 51,299; Striped Parking Area: 42,622 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	341.00	133.00	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	68.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 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					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 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	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	0.0917	0.0595	0.6112	1.7700e-003	0.2012	1.2900e-003	0.2025	0.0534	1.1900e-003	0.0545		176.6696	176.6696	4.9200e-003		176.7925
Total	**0.0917**	**0.0595**	**0.6112**	**1.7700e-003**	**0.2012**	**1.2900e-003**	**0.2025**	**0.0534**	**1.1900e-003**	**0.0545**		**176.6696**	**176.6696**	**4.9200e-003**		**176.7925**

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					5.9890	0.0000	5.9890	3.2920	0.0000	3.2920			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**5.9890**	**2.0445**	**8.0334**	**3.2920**	**1.8809**	**5.1729**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 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	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	0.0917	0.0595	0.6112	1.7700e-003	0.1312	1.2900e-003	0.1325	0.0362	1.1900e-003	0.0374		176.6696	176.6696	4.9200e-003		176.7925
Total	**0.0917**	**0.0595**	**0.6112**	**1.7700e-003**	**0.1312**	**1.2900e-003**	**0.1325**	**0.0362**	**1.1900e-003**	**0.0374**		**176.6696**	**176.6696**	**4.9200e-003**		**176.7925**

3.3 Grading - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 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	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	0.1018	0.0661	0.6791	1.9700e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606		196.2995	196.2995	5.4600e-003		196.4361
Total	**0.1018**	**0.0661**	**0.6791**	**1.9700e-003**	**0.2236**	**1.4300e-003**	**0.2250**	**0.0593**	**1.3200e-003**	**0.0606**		**196.2995**	**196.2995**	**5.4600e-003**		**196.4361**

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					2.8752	0.0000	2.8752	1.1922	0.0000	1.1922			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**2.8752**	**1.9853**	**4.8606**	**1.1922**	**1.8265**	**3.0188**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 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	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	0.1018	0.0661	0.6791	1.9700e-003	0.1458	1.4300e-003	0.1472	0.0402	1.3200e-003	0.0415		196.2995	196.2995	5.4600e-003		196.4361
Total	**0.1018**	**0.0661**	**0.6791**	**1.9700e-003**	**0.1458**	**1.4300e-003**	**0.1472**	**0.0402**	**1.3200e-003**	**0.0415**		**196.2995**	**196.2995**	**5.4600e-003**		**196.4361**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	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	0.3651	12.6896	2.8231	0.0345	0.8518	0.0226	0.8744	0.2453	0.0216	0.2669		3,638.0172	3,638.0172	0.2651		3,644.6454
Worker	1.7364	1.1264	11.5789	0.0336	3.8116	0.0244	3.8360	1.0109	0.0225	1.0333		3,346.9071	3,346.9071	0.0932		3,349.2361
Total	**2.1015**	**13.8161**	**14.4020**	**0.0681**	**4.6634**	**0.0470**	**4.7104**	**1.2561**	**0.0441**	**1.3002**		**6,984.9243**	**6,984.9243**	**0.3583**		**6,993.8815**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	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	0.3651	12.6896	2.8231	0.0345	0.6092	0.0226	0.6318	0.1857	0.0216	0.2073		3,638.0172	3,638.0172	0.2651		3,644.6454
Worker	1.7364	1.1264	11.5789	0.0336	2.4861	0.0244	2.5105	0.6855	0.0225	0.7080		3,346.9071	3,346.9071	0.0932		3,349.2361
Total	**2.1015**	**13.8161**	**14.4020**	**0.0681**	**3.0953**	**0.0470**	**3.1423**	**0.8712**	**0.0441**	**0.9153**		**6,984.9243**	**6,984.9243**	**0.3583**		**6,993.8815**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

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	0.3405	12.0214	2.6208	0.0342	0.8518	0.0190	0.8708	0.2453	0.0182	0.2635		3,607.7082	3,607.7082	0.2563		3,614.1166
Worker	1.6257	1.0123	10.6194	0.0324	3.8116	0.0237	3.8352	1.0109	0.0218	1.0326		3,226.3578	3,226.3578	0.0836		3,228.4482
Total	**1.9663**	**13.0337**	**13.2402**	**0.0666**	**4.6634**	**0.0427**	**4.7061**	**1.2561**	**0.0400**	**1.2961**		**6,834.0660**	**6,834.0660**	**0.3400**		**6,842.5648**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

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	0.3405	12.0214	2.6208	0.0342	0.6092	0.0190	0.6282	0.1857	0.0182	0.2039		3,607.7082	3,607.7082	0.2563		3,614.1166
Worker	1.6257	1.0123	10.6194	0.0324	2.4861	0.0237	2.5098	0.6855	0.0218	0.7073		3,226.3578	3,226.3578	0.0836		3,228.4482
Total	**1.9663**	**13.0337**	**13.2402**	**0.0666**	**3.0953**	**0.0427**	**3.1379**	**0.8712**	**0.0400**	**0.9112**		**6,834.0660**	**6,834.0660**	**0.3400**		**6,842.5648**

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3171**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 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	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	0.0764	0.0496	0.5093	1.4800e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		147.2247	147.2247	4.1000e-003		147.3271
Total	**0.0764**	**0.0496**	**0.5093**	**1.4800e-003**	**0.1677**	**1.0700e-003**	**0.1687**	**0.0445**	**9.9000e-004**	**0.0455**		**147.2247**	**147.2247**	**4.1000e-003**		**147.3271**

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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3171**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 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	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	0.0764	0.0496	0.5093	1.4800e-003	0.1094	1.0700e-003	0.1104	0.0302	9.9000e-004	0.0311		147.2247	147.2247	4.1000e-003		147.3271
Total	**0.0764**	**0.0496**	**0.5093**	**1.4800e-003**	**0.1094**	**1.0700e-003**	**0.1104**	**0.0302**	**9.9000e-004**	**0.0311**		**147.2247**	**147.2247**	**4.1000e-003**		**147.3271**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1644**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

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	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139
Total	**0.0715**	**0.0445**	**0.4671**	**1.4200e-003**	**0.1677**	**1.0400e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**141.9219**	**141.9219**	**3.6800e-003**		**142.0139**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1644**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

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	0.0715	0.0445	0.4671	1.4200e-003	0.1094	1.0400e-003	0.1104	0.0302	9.6000e-004	0.0311		141.9219	141.9219	3.6800e-003		142.0139
Total	**0.0715**	**0.0445**	**0.4671**	**1.4200e-003**	**0.1094**	**1.0400e-003**	**0.1104**	**0.0302**	**9.6000e-004**	**0.0311**		**141.9219**	**141.9219**	**3.6800e-003**		**142.0139**

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	3.8288					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		281.9309
Total	**4.0477**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	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	0.3463	0.2246	2.3090	6.7000e-003	0.7601	4.8600e-003	0.7649	0.2016	4.4800e-003	0.2061		667.4184	667.4184	0.0186		667.8829
Total	**0.3463**	**0.2246**	**2.3090**	**6.7000e-003**	**0.7601**	**4.8600e-003**	**0.7649**	**0.2016**	**4.4800e-003**	**0.2061**		**667.4184**	**667.4184**	**0.0186**		**667.8829**

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	3.8288					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	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**4.0477**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	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	0.3463	0.2246	2.3090	6.7000e-003	0.4958	4.8600e-003	0.5006	0.1367	4.4800e-003	0.1412		667.4184	667.4184	0.0186		667.8829
Total	**0.3463**	**0.2246**	**2.3090**	**6.7000e-003**	**0.4958**	**4.8600e-003**	**0.5006**	**0.1367**	**4.4800e-003**	**0.1412**		**667.4184**	**667.4184**	**0.0186**		**667.8829**

3.6 Architectural Coating - 2022

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	3.8288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**4.0333**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.3242	0.2019	2.1177	6.4600e-003	0.7601	4.7200e-003	0.7648	0.2016	4.3500e-003	0.2059		643.3793	643.3793	0.0167		643.7961
Total	**0.3242**	**0.2019**	**2.1177**	**6.4600e-003**	**0.7601**	**4.7200e-003**	**0.7648**	**0.2016**	**4.3500e-003**	**0.2059**		**643.3793**	**643.3793**	**0.0167**		**643.7961**

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	3.8288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**4.0333**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.3242	0.2019	2.1177	6.4600e-003	0.4958	4.7200e-003	0.5005	0.1367	4.3500e-003	0.1410		643.3793	643.3793	0.0167		643.7961
Total	**0.3242**	**0.2019**	**2.1177**	**6.4600e-003**	**0.4958**	**4.7200e-003**	**0.5005**	**0.1367**	**4.3500e-003**	**0.1410**		**643.3793**	**643.3793**	**0.0167**		**643.7961**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8225	11.3709	33.6415	0.1535	19.0180	0.0899	19.1079	5.0774	0.0834	5.1608		15,590.8483	15,590.8483	0.5552		15,604.7282
Unmitigated	2.9113	11.7520	35.8641	0.1651	20.5506	0.0962	20.6468	5.4866	0.0892	5.5758		16,763.9899	16,763.9899	0.5871		16,778.6680

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	2,818.09	0.00	0.00	6,937,293	6,419,911
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	2,818.09	0.00	0.00	6,937,293	6,419,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.616343	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.020000	0.001373	0.001335	0.005375	0.000773	0.000603
Other Non-Asphalt Surfaces	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Parking Lot	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Place of Worship	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767
NaturalGas Unmitigated	0.0452	0.4111	0.3453	2.4700e-003		0.0313	0.0313		0.0313	0.0313		493.3450	493.3450	9.4600e-003	9.0400e-003	496.2767

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1207.82	0.0130	0.1184	0.0995	7.1000e-004		9.0000e-003	9.0000e-003		9.0000e-003	9.0000e-003		142.0970	142.0970	2.7200e-003	2.6100e-003	142.9414
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1303.3	0.0141	0.1278	0.1073	7.7000e-004		9.7100e-003	9.7100e-003		9.7100e-003	9.7100e-003		153.3293	153.3293	2.9400e-003	2.8100e-003	154.2405
Place of Worship	1682.31	0.0181	0.1649	0.1385	9.9000e-004		0.0125	0.0125		0.0125	0.0125		197.9186	197.9186	3.7900e-003	3.6300e-003	199.0948
Total		**0.0452**	**0.4111**	**0.3453**	**2.4700e-003**		**0.0312**	**0.0312**		**0.0312**	**0.0312**		**493.3450**	**493.3450**	**9.4500e-003**	**9.0500e-003**	**496.2767**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1.20782	0.0130	0.1184	0.0995	7.1000e-004		9.0000e-003	9.0000e-003		9.0000e-003	9.0000e-003		142.0970	142.0970	2.7200e-003	2.6100e-003	142.9414
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.3033	0.0141	0.1278	0.1073	7.7000e-004		9.7100e-003	9.7100e-003		9.7100e-003	9.7100e-003		153.3293	153.3293	2.9400e-003	2.8100e-003	154.2405
Place of Worship	1.68231	0.0181	0.1649	0.1385	9.9000e-004		0.0125	0.0125		0.0125	0.0125		197.9186	197.9186	3.7900e-003	3.6300e-003	199.0948
Total		**0.0452**	**0.4111**	**0.3453**	**2.4700e-003**		**0.0312**	**0.0312**		**0.0312**	**0.0312**		**493.3450**	**493.3450**	**9.4500e-003**	**9.0500e-003**	**496.2767**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Unmitigated	2.6054	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.6900e-003	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Total	**2.6054**	**7.6000e-004**	**0.0830**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**		**0.1779**	**0.1779**	**4.7000e-004**		**0.1896**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3147					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.6900e-003	7.6000e-004	0.0830	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		0.1779	0.1779	4.7000e-004		0.1896
Total	**2.6054**	**7.6000e-004**	**0.0830**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**		**0.1779**	**0.1779**	**4.7000e-004**		**0.1896**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B

CalEEMod Output Files – Greenhouse Gas Emissions

Holy Name of Jesus

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	42.39	1000sqft	0.97	42,390.00	0
Place of Worship	33.92	1000sqft	0.78	33,925.00	0
Place of Worship	26.28	1000sqft	0.60	26,282.00	0
Parking Lot	307.05	1000sqft	7.05	307,053.00	0
Other Non-Asphalt Surfaces	403.32	1000sqft	9.26	403,318.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison improved their CO2 emissions to 549 lb/MWH in 2017.

Land Use -

Construction Phase - Construction, paving, and painting occur simultaneously.

Vehicle Trips - Traffic study determined the Project as a whole would generate 2,818 trips per day.

Construction Off-road Equipment Mitigation - SCAQMD rule 403 mitigation measures applied to reduce PM10.

Water Mitigation -

Mobile Land Use Mitigation -

Fleet Mix - Reduced heavy duty trucks from 6.7% to 2%. Attributed the reduced 4.7% of traffic (0.047247) to LDA.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	PhaseEndDate	9/9/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	7/15/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	5/21/2021	4/23/2021
tblConstructionPhase	PhaseEndDate	8/12/2022	6/17/2022
tblConstructionPhase	PhaseEndDate	4/9/2021	3/12/2021
tblConstructionPhase	PhaseStartDate	8/13/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	5/22/2021	4/24/2021
tblConstructionPhase	PhaseStartDate	4/10/2021	3/13/2021
tblConstructionPhase	PhaseStartDate	7/16/2022	4/24/2021
tblConstructionPhase	PhaseStartDate	3/27/2021	3/1/2021
tblFleetMix	HHD	0.07	0.02
tblFleetMix	LDA	0.57	0.62
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblVehicleTrips	ST_TR	10.37	0.00
tblVehicleTrips	SU_TR	36.63	0.00
tblVehicleTrips	WD_TR	15.43	66.48
tblVehicleTrips	WD_TR	9.11	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.9454	5.0662	5.1536	0.0129	0.7186	0.2005	0.9191	0.2376	0.1870	0.4246	0.0000	1,164.8852	1,164.8852	0.1723	0.0000	1,169.1927
2022	0.5434	2.5038	2.9430	7.7300e-003	0.3293	0.0904	0.4197	0.0886	0.0846	0.1732	0.0000	698.6696	698.6696	0.0922	0.0000	700.9738
Maximum	**0.9454**	**5.0662**	**5.1536**	**0.0129**	**0.7186**	**0.2005**	**0.9191**	**0.2376**	**0.1870**	**0.4246**	**0.0000**	**1,164.8852**	**1,164.8852**	**0.1723**	**0.0000**	**1,169.1927**

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					
2021	0.9454	5.0662	5.1536	0.0129	0.4033	0.2005	0.6038	0.1272	0.1870	0.3141	0.0000	1,164.8846	1,164.8846	0.1723	0.0000	1,169.1921
2022	0.5434	2.5038	2.9430	7.7300e-003	0.2183	0.0904	0.3087	0.0614	0.0846	0.1460	0.0000	698.6693	698.6693	0.0922	0.0000	700.9735
Maximum	**0.9454**	**5.0662**	**5.1536**	**0.0129**	**0.4033**	**0.2005**	**0.6038**	**0.1272**	**0.1870**	**0.3141**	**0.0000**	**1,164.8846**	**1,164.8846**	**0.1723**	**0.0000**	**1,169.1921**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.68**	**0.00**	**31.84**	**42.21**	**0.00**	**23.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2021	5-31-2021	1.7095	1.7095
2	6-1-2021	8-31-2021	1.8334	1.8334
3	9-1-2021	11-30-2021	1.8126	1.8126
4	12-1-2021	2-28-2022	1.6855	1.6855
5	3-1-2022	5-31-2022	1.6668	1.6668
6	6-1-2022	8-31-2022	0.3081	0.3081
		Highest	1.8334	1.8334

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4751	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215
Energy	8.2500e-003	0.0750	0.0630	4.5000e-004		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	337.3536	337.3536	0.0151	4.2900e-003	339.0094
Mobile	0.3707	1.5619	4.8467	0.0219	2.6213	0.0125	2.6338	0.7009	0.0116	0.7125	0.0000	2,013.8159	2,013.8159	0.0688	0.0000	2,015.5364
Waste						0.0000	0.0000		0.0000	0.0000	95.2292	0.0000	95.2292	5.6279	0.0000	235.9262
Water						0.0000	0.0000		0.0000	0.0000	0.9993	25.9664	26.9656	0.1040	2.7100e-003	30.3725
Total	**0.8540**	**1.6371**	**4.9201**	**0.0223**	**2.6213**	**0.0182**	**2.6396**	**0.7009**	**0.0173**	**0.7182**	**96.2284**	**2,377.1561**	**2,473.3845**	**5.8158**	**7.0000e-003**	**2,620.8660**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4751	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215
Energy	8.2500e-003	0.0750	0.0630	4.5000e-004		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	337.3536	337.3536	0.0151	4.2900e-003	339.0094
Mobile	0.3590	1.5108	4.5437	0.0203	2.4258	0.0117	2.4375	0.6487	0.0108	0.6595	0.0000	1,873.2817	1,873.2817	0.0650	0.0000	1,874.9070
Waste						0.0000	0.0000		0.0000	0.0000	95.2292	0.0000	95.2292	5.6279	0.0000	235.9262
Water						0.0000	0.0000		0.0000	0.0000	0.7994	22.9628	23.7622	0.0833	2.1900e-003	26.4977
Total	**0.8423**	**1.5859**	**4.6170**	**0.0208**	**2.4258**	**0.0174**	**2.4432**	**0.6487**	**0.0166**	**0.6652**	**96.0286**	**2,233.6184**	**2,329.6469**	**5.7913**	**6.4800e-003**	**2,476.3618**

	ROG	NOx	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	**1.37**	**3.12**	**6.16**	**6.85**	**7.46**	**4.50**	**7.44**	**7.46**	**4.39**	**7.38**	**0.21**	**6.04**	**5.81**	**0.42**	**7.43**	**5.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2021	3/12/2021	5	10	
2	Grading	Grading	3/13/2021	4/23/2021	5	30	
3	Building Construction	Building Construction	4/24/2021	6/17/2022	5	300	
4	Paving	Paving	4/24/2021	6/17/2022	5	300	
5	Architectural Coating	Architectural Coating	4/24/2021	6/17/2022	5	300	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 16.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,896; Non-Residential Outdoor: 51,299; Striped Parking Area: 42,622 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	341.00	133.00	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	68.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 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					
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	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 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	4.1000e-004	3.1000e-004	3.2100e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8189	0.8189	2.0000e-005	0.0000	0.8195
Total	**4.1000e-004**	**3.1000e-004**	**3.2100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8189**	**0.8189**	**2.0000e-005**	**0.0000**	**0.8195**

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					0.0299	0.0000	0.0299	0.0165	0.0000	0.0165	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0299**	**0.0102**	**0.0402**	**0.0165**	**9.4000e-003**	**0.0259**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 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	4.1000e-004	3.1000e-004	3.2100e-003	1.0000e-005	6.4000e-004	1.0000e-005	6.5000e-004	1.8000e-004	1.0000e-005	1.8000e-004	0.0000	0.8189	0.8189	2.0000e-005	0.0000	0.8195
Total	**4.1000e-004**	**3.1000e-004**	**3.2100e-003**	**1.0000e-005**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**1.8000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.8189**	**0.8189**	**2.0000e-005**	**0.0000**	**0.8195**

3.3 Grading - 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					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 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	1.3800e-003	1.0400e-003	0.0107	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7297	2.7297	8.0000e-005	0.0000	2.7316
Total	**1.3800e-003**	**1.0400e-003**	**0.0107**	**3.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.7297**	**2.7297**	**8.0000e-005**	**0.0000**	**2.7316**

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					0.0431	0.0000	0.0431	0.0179	0.0000	0.0179	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.0431**	**0.0298**	**0.0729**	**0.0179**	**0.0274**	**0.0453**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 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	1.3800e-003	1.0400e-003	0.0107	3.0000e-005	2.1500e-003	2.0000e-005	2.1700e-003	5.9000e-004	2.0000e-005	6.1000e-004	0.0000	2.7297	2.7297	8.0000e-005	0.0000	2.7316
Total	**1.3800e-003**	**1.0400e-003**	**0.0107**	**3.0000e-005**	**2.1500e-003**	**2.0000e-005**	**2.1700e-003**	**5.9000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**2.7297**	**2.7297**	**8.0000e-005**	**0.0000**	**2.7316**

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	0.1711	1.5689	1.4918	2.4200e-003		0.0863	0.0863		0.0811	0.0811	0.0000	208.4736	208.4736	0.0503	0.0000	209.7309
Total	**0.1711**	**1.5689**	**1.4918**	**2.4200e-003**		**0.0863**	**0.0863**		**0.0811**	**0.0811**	**0.0000**	**208.4736**	**208.4736**	**0.0503**	**0.0000**	**209.7309**

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	0.0317	1.1645	0.2370	3.1800e-003	0.0755	2.0000e-003	0.0775	0.0218	1.9200e-003	0.0237	0.0000	303.9941	303.9941	0.0205	0.0000	304.5061
Worker	0.1413	0.1068	1.0935	3.0900e-003	0.3365	2.1900e-003	0.3387	0.0894	2.0200e-003	0.0914	0.0000	279.2485	279.2485	7.8200e-003	0.0000	279.4439
Total	**0.1730**	**1.2713**	**1.3305**	**6.2700e-003**	**0.4120**	**4.1900e-003**	**0.4162**	**0.1112**	**3.9400e-003**	**0.1151**	**0.0000**	**583.2425**	**583.2425**	**0.0283**	**0.0000**	**583.9500**

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	0.1711	1.5689	1.4918	2.4200e-003		0.0863	0.0863		0.0811	0.0811	0.0000	208.4733	208.4733	0.0503	0.0000	209.7307
Total	**0.1711**	**1.5689**	**1.4918**	**2.4200e-003**		**0.0863**	**0.0863**		**0.0811**	**0.0811**	**0.0000**	**208.4733**	**208.4733**	**0.0503**	**0.0000**	**209.7307**

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	0.0317	1.1645	0.2370	3.1800e-003	0.0541	2.0000e-003	0.0561	0.0165	1.9200e-003	0.0185	0.0000	303.9941	303.9941	0.0205	0.0000	304.5061
Worker	0.1413	0.1068	1.0935	3.0900e-003	0.2198	2.1900e-003	0.2220	0.0607	2.0200e-003	0.0628	0.0000	279.2485	279.2485	7.8200e-003	0.0000	279.4439
Total	**0.1730**	**1.2713**	**1.3305**	**6.2700e-003**	**0.2739**	**4.1900e-003**	**0.2781**	**0.0773**	**3.9400e-003**	**0.0812**	**0.0000**	**583.2425**	**583.2425**	**0.0283**	**0.0000**	**583.9500**

3.4 Building Construction - 2022

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	0.1024	0.9369	0.9818	1.6200e-003		0.0485	0.0485		0.0457	0.0457	0.0000	139.0352	139.0352	0.0333	0.0000	139.8679
Total	**0.1024**	**0.9369**	**0.9818**	**1.6200e-003**		**0.0485**	**0.0485**		**0.0457**	**0.0457**	**0.0000**	**139.0352**	**139.0352**	**0.0333**	**0.0000**	**139.8679**

3.4 Building Construction - 2022

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	0.0197	0.7353	0.1463	2.1000e-003	0.0503	1.1200e-003	0.0514	0.0145	1.0700e-003	0.0156	0.0000	201.0118	201.0118	0.0132	0.0000	201.3415
Worker	0.0881	0.0640	0.6686	1.9900e-003	0.2243	1.4200e-003	0.2258	0.0596	1.3100e-003	0.0609	0.0000	179.4575	179.4575	4.6700e-003	0.0000	179.5744
Total	**0.1078**	**0.7993**	**0.8148**	**4.0900e-003**	**0.2747**	**2.5400e-003**	**0.2772**	**0.0741**	**2.3800e-003**	**0.0765**	**0.0000**	**380.4693**	**380.4693**	**0.0179**	**0.0000**	**380.9158**

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	0.1024	0.9369	0.9818	1.6200e-003		0.0485	0.0485		0.0457	0.0457	0.0000	139.0350	139.0350	0.0333	0.0000	139.8677
Total	**0.1024**	**0.9369**	**0.9818**	**1.6200e-003**		**0.0485**	**0.0485**		**0.0457**	**0.0457**	**0.0000**	**139.0350**	**139.0350**	**0.0333**	**0.0000**	**139.8677**

3.4 Building Construction - 2022

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	0.0197	0.7353	0.1463	2.1000e-003	0.0361	1.1200e-003	0.0372	0.0110	1.0700e-003	0.0121	0.0000	201.0118	201.0118	0.0132	0.0000	201.3415
Worker	0.0881	0.0640	0.6686	1.9900e-003	0.1466	1.4200e-003	0.1480	0.0405	1.3100e-003	0.0418	0.0000	179.4575	179.4575	4.6700e-003	0.0000	179.5744
Total	**0.1078**	**0.7993**	**0.8148**	**4.0900e-003**	**0.1826**	**2.5400e-003**	**0.1852**	**0.0515**	**2.3800e-003**	**0.0539**	**0.0000**	**380.4693**	**380.4693**	**0.0179**	**0.0000**	**380.9158**

3.5 Paving - 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	0.1130	1.1627	1.3188	2.0500e-003		0.0610	0.0610		0.0561	0.0561	0.0000	180.2113	180.2113	0.0583	0.0000	181.6684
Paving	5.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1185**	**1.1627**	**1.3188**	**2.0500e-003**		**0.0610**	**0.0610**		**0.0561**	**0.0561**	**0.0000**	**180.2113**	**180.2113**	**0.0583**	**0.0000**	**181.6684**

3.5 Paving - 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	6.2100e-003	4.7000e-003	0.0481	1.4000e-004	0.0148	1.0000e-004	0.0149	3.9300e-003	9.0000e-005	4.0200e-003	0.0000	12.2837	12.2837	3.4000e-004	0.0000	12.2923
Total	**6.2100e-003**	**4.7000e-003**	**0.0481**	**1.4000e-004**	**0.0148**	**1.0000e-004**	**0.0149**	**3.9300e-003**	**9.0000e-005**	**4.0200e-003**	**0.0000**	**12.2837**	**12.2837**	**3.4000e-004**	**0.0000**	**12.2923**

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	0.1130	1.1627	1.3188	2.0500e-003		0.0610	0.0610		0.0561	0.0561	0.0000	180.2111	180.2111	0.0583	0.0000	181.6682
Paving	5.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1185**	**1.1627**	**1.3188**	**2.0500e-003**		**0.0610**	**0.0610**		**0.0561**	**0.0561**	**0.0000**	**180.2111**	**180.2111**	**0.0583**	**0.0000**	**181.6682**

3.5 Paving - 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	6.2100e-003	4.7000e-003	0.0481	1.4000e-004	9.6700e-003	1.0000e-004	9.7700e-003	2.6700e-003	9.0000e-005	2.7600e-003	0.0000	12.2837	12.2837	3.4000e-004	0.0000	12.2923
Total	**6.2100e-003**	**4.7000e-003**	**0.0481**	**1.4000e-004**	**9.6700e-003**	**1.0000e-004**	**9.7700e-003**	**2.6700e-003**	**9.0000e-005**	**2.7600e-003**	**0.0000**	**12.2837**	**12.2837**	**3.4000e-004**	**0.0000**	**12.2923**

3.5 Paving - 2022

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	0.0662	0.6675	0.8748	1.3700e-003		0.0341	0.0341		0.0314	0.0314	0.0000	120.1653	120.1653	0.0389	0.0000	121.1369
Paving	3.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0699**	**0.6675**	**0.8748**	**1.3700e-003**		**0.0341**	**0.0341**		**0.0314**	**0.0314**	**0.0000**	**120.1653**	**120.1653**	**0.0389**	**0.0000**	**121.1369**

3.5 Paving - 2022

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	3.8700e-003	2.8100e-003	0.0294	9.0000e-005	9.8700e-003	6.0000e-005	9.9300e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	7.8940	7.8940	2.1000e-004	0.0000	7.8992
Total	**3.8700e-003**	**2.8100e-003**	**0.0294**	**9.0000e-005**	**9.8700e-003**	**6.0000e-005**	**9.9300e-003**	**2.6200e-003**	**6.0000e-005**	**2.6800e-003**	**0.0000**	**7.8940**	**7.8940**	**2.1000e-004**	**0.0000**	**7.8992**

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	0.0662	0.6675	0.8748	1.3700e-003		0.0341	0.0341		0.0314	0.0314	0.0000	120.1652	120.1652	0.0389	0.0000	121.1368
Paving	3.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0699**	**0.6675**	**0.8748**	**1.3700e-003**		**0.0341**	**0.0341**		**0.0314**	**0.0314**	**0.0000**	**120.1652**	**120.1652**	**0.0389**	**0.0000**	**121.1368**

3.5 Paving - 2022

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	3.8700e-003	2.8100e-003	0.0294	9.0000e-005	6.4500e-003	6.0000e-005	6.5100e-003	1.7800e-003	6.0000e-005	1.8400e-003	0.0000	7.8940	7.8940	2.1000e-004	0.0000	7.8992
Total	**3.8700e-003**	**2.8100e-003**	**0.0294**	**9.0000e-005**	**6.4500e-003**	**6.0000e-005**	**6.5100e-003**	**1.7800e-003**	**6.0000e-005**	**1.8400e-003**	**0.0000**	**7.8940**	**7.8940**	**2.1000e-004**	**0.0000**	**7.8992**

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	0.3446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0197	0.1374	0.1636	2.7000e-004		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	22.9793	22.9793	1.5800e-003	0.0000	23.0187
Total	**0.3643**	**0.1374**	**0.1636**	**2.7000e-004**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**22.9793**	**22.9793**	**1.5800e-003**	**0.0000**	**23.0187**

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	0.0282	0.0213	0.2181	6.2000e-004	0.0671	4.4000e-004	0.0675	0.0178	4.0000e-004	0.0182	0.0000	55.6859	55.6859	1.5600e-003	0.0000	55.7249
Total	**0.0282**	**0.0213**	**0.2181**	**6.2000e-004**	**0.0671**	**4.4000e-004**	**0.0675**	**0.0178**	**4.0000e-004**	**0.0182**	**0.0000**	**55.6859**	**55.6859**	**1.5600e-003**	**0.0000**	**55.7249**

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	0.3446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0197	0.1374	0.1636	2.7000e-004		8.4700e-003	8.4700e-003		8.4700e-003	8.4700e-003	0.0000	22.9793	22.9793	1.5800e-003	0.0000	23.0187
Total	**0.3643**	**0.1374**	**0.1636**	**2.7000e-004**		**8.4700e-003**	**8.4700e-003**		**8.4700e-003**	**8.4700e-003**	**0.0000**	**22.9793**	**22.9793**	**1.5800e-003**	**0.0000**	**23.0187**

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	0.0282	0.0213	0.2181	6.2000e-004	0.0438	4.4000e-004	0.0443	0.0121	4.0000e-004	0.0125	0.0000	55.6859	55.6859	1.5600e-003	0.0000	55.7249
Total	**0.0282**	**0.0213**	**0.2181**	**6.2000e-004**	**0.0438**	**4.4000e-004**	**0.0443**	**0.0121**	**4.0000e-004**	**0.0125**	**0.0000**	**55.6859**	**55.6859**	**1.5600e-003**	**0.0000**	**55.7249**

3.6 Architectural Coating - 2022

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	0.2297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.0845	0.1088	1.8000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	15.3195	15.3195	1.0000e-003	0.0000	15.3445
Total	**0.2420**	**0.0845**	**0.1088**	**1.8000e-004**		**4.9000e-003**	**4.9000e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**15.3195**	**15.3195**	**1.0000e-003**	**0.0000**	**15.3445**

3.6 Architectural Coating - 2022

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	0.0176	0.0128	0.1333	4.0000e-004	0.0447	2.8000e-004	0.0450	0.0119	2.6000e-004	0.0121	0.0000	35.7863	35.7863	9.3000e-004	0.0000	35.8096
Total	**0.0176**	**0.0128**	**0.1333**	**4.0000e-004**	**0.0447**	**2.8000e-004**	**0.0450**	**0.0119**	**2.6000e-004**	**0.0121**	**0.0000**	**35.7863**	**35.7863**	**9.3000e-004**	**0.0000**	**35.8096**

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	0.2297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.0845	0.1088	1.8000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	15.3195	15.3195	1.0000e-003	0.0000	15.3444
Total	**0.2420**	**0.0845**	**0.1088**	**1.8000e-004**		**4.9000e-003**	**4.9000e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**15.3195**	**15.3195**	**1.0000e-003**	**0.0000**	**15.3444**

3.6 Architectural Coating - 2022

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	0.0176	0.0128	0.1333	4.0000e-004	0.0292	2.8000e-004	0.0295	8.0700e-003	2.6000e-004	8.3300e-003	0.0000	35.7863	35.7863	9.3000e-004	0.0000	35.8096
Total	**0.0176**	**0.0128**	**0.1333**	**4.0000e-004**	**0.0292**	**2.8000e-004**	**0.0295**	**8.0700e-003**	**2.6000e-004**	**8.3300e-003**	**0.0000**	**35.7863**	**35.7863**	**9.3000e-004**	**0.0000**	**35.8096**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3590	1.5108	4.5437	0.0203	2.4258	0.0117	2.4375	0.6487	0.0108	0.6595	0.0000	1,873.2817	1,873.2817	0.0650	0.0000	1,874.9070
Unmitigated	0.3707	1.5619	4.8467	0.0219	2.6213	0.0125	2.6338	0.7009	0.0116	0.7125	0.0000	2,013.8159	2,013.8159	0.0688	0.0000	2,015.5364

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	2,818.09	0.00	0.00	6,937,293	6,419,911
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	2,818.09	0.00	0.00	6,937,293	6,419,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.616343	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.020000	0.001373	0.001335	0.005375	0.000773	0.000603
Other Non-Asphalt Surfaces	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Parking Lot	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603
Place of Worship	0.569096	0.033449	0.184865	0.102271	0.010477	0.004211	0.018923	0.067247	0.001373	0.001335	0.005375	0.000773	0.000603

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	255.6749	255.6749	0.0135	2.7900e-003	256.8452
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	255.6749	255.6749	0.0135	2.7900e-003	256.8452
NaturalGas Mitigated	8.2500e-003	0.0750	0.0630	4.5000e-004		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	81.6788	81.6788	1.5700e-003	1.5000e-003	82.1642
NaturalGas Unmitigated	8.2500e-003	0.0750	0.0630	4.5000e-004		5.7000e-003	5.7000e-003		5.7000e-003	5.7000e-003	0.0000	81.6788	81.6788	1.5700e-003	1.5000e-003	82.1642

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	440856	2.3800e-003	0.0216	0.0182	1.3000e-004		1.6400e-003	1.6400e-003		1.6400e-003	1.6400e-003	0.0000	23.5258	23.5258	4.5000e-004	4.3000e-004	23.6656
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	475704	2.5700e-003	0.0233	0.0196	1.4000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	25.3854	25.3854	4.9000e-004	4.7000e-004	25.5362
Place of Worship	614043	3.3100e-003	0.0301	0.0253	1.8000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	32.7677	32.7677	6.3000e-004	6.0000e-004	32.9624
Total		**8.2600e-003**	**0.0750**	**0.0630**	**4.5000e-004**		**5.7000e-003**	**5.7000e-003**		**5.7000e-003**	**5.7000e-003**	**0.0000**	**81.6788**	**81.6788**	**1.5700e-003**	**1.5000e-003**	**82.1642**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	440856	2.3800e-003	0.0216	0.0182	1.3000e-004		1.6400e-003	1.6400e-003		1.6400e-003	1.6400e-003	0.0000	23.5258	23.5258	4.5000e-004	4.3000e-004	23.6656
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	475704	2.5700e-003	0.0233	0.0196	1.4000e-004		1.7700e-003	1.7700e-003		1.7700e-003	1.7700e-003	0.0000	25.3854	25.3854	4.9000e-004	4.7000e-004	25.5362
Place of Worship	614043	3.3100e-003	0.0301	0.0253	1.8000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	32.7677	32.7677	6.3000e-004	6.0000e-004	32.9624
Total		**8.2600e-003**	**0.0750**	**0.0630**	**4.5000e-004**		**5.7000e-003**	**5.7000e-003**		**5.7000e-003**	**5.7000e-003**	**0.0000**	**81.6788**	**81.6788**	**1.5700e-003**	**1.5000e-003**	**82.1642**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	250949	62.4918	3.3000e-003	6.8000e-004	62.7779
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	107469	26.7621	1.4100e-003	2.9000e-004	26.8846
Place of Worship	291730	72.6473	3.8400e-003	7.9000e-004	72.9798
Place of Worship	376568	93.7737	4.9500e-003	1.0200e-003	94.2029
Total		**255.6749**	**0.0135**	**2.7800e-003**	**256.8452**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	250949	62.4918	3.3000e-003	6.8000e-004	62.7779
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	107469	26.7621	1.4100e-003	2.9000e-004	26.8846
Place of Worship	291730	72.6473	3.8400e-003	7.9000e-004	72.9798
Place of Worship	376568	93.7737	4.9500e-003	1.0200e-003	94.2029
Total		**255.6749**	**0.0135**	**2.7800e-003**	**256.8452**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4751	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215
Unmitigated	0.4751	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0574					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215
Total	**0.4750**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0202**	**0.0202**	**5.0000e-005**	**0.0000**	**0.0215**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0574					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.6000e-004	9.0000e-005	0.0104	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0202	0.0202	5.0000e-005	0.0000	0.0215
Total	**0.4750**	**9.0000e-005**	**0.0104**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0202**	**0.0202**	**5.0000e-005**	**0.0000**	**0.0215**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	23.7622	0.0833	2.1900e-003	26.4977
Unmitigated	26.9656	0.1040	2.7100e-003	30.3725

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.762039 / 1.95953	8.1340	0.0253	6.7000e-004	8.9656
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	2.38766 / 3.73454	18.8316	0.0788	2.0300e-003	21.4069
Total		**26.9656**	**0.1040**	**2.7000e-003**	**30.3725**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.609631 / 1.84	7.2608	0.0202	5.5000e-004	7.9295
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.91013 / 3.50673	16.5015	0.0631	1.6400e-003	18.5682
Total		**23.7622**	**0.0833**	**2.1900e-003**	**26.4977**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.2292	5.6279	0.0000	235.9262
Unmitigated	95.2292	5.6279	0.0000	235.9262

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	34.16	6.9342	0.4098	0.0000	17.1791
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	434.97	88.2950	5.2181	0.0000	218.7471
Total		**95.2292**	**5.6279**	**0.0000**	**235.9262**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	34.16	6.9342	0.4098	0.0000	17.1791
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	434.97	88.2950	5.2181	0.0000	218.7471
Total		**95.2292**	**5.6279**	**0.0000**	**235.9262**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation