Sunburst Avenue Bike Trial Project

Air Quality and Greenhouse Gas Assessment

San Bernardino County, California

Prepared For:

COUNTY OF SAN NERNARDINO
DEPARTMENT OF PUBLIC WORKS
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1.0 INTRODUCTION

This report documents the results of an assessment of both air quality and greenhouse gas emissions (GHG) completed for the Sunburst Avenue Bike Trail Project (Project). This includes the design and rehabilitation of an existing Class I bike path along with the design and construction of two new Class II bike lanes spanning two miles, from the intersection of Sunburst Avenue and State Route 62, in the unincorporated community of Joshua Tree, San Bernardino County (County). This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the Mojave Desert Air Quality Management District (MDAQMD). 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 Description and Location

The Project Site is located in the unincorporated community of Joshua Tree, located in southern San Bernardino County. The County proposes rehabilitation and construction of approximately 2 miles of bike lanes and paths spanning Sunburst Avenue from the intersection of Calle Los Amigos to State Route 62 (SR 62), for the purpose of accommodating an identified need for a non-vehicle trail to serve local residents in the community. Specifically, the Proposed Project would include the rehabilitation of the existing Class I bike path located along the east side of Sunburst Avenue from SR 62 north to Oleander Avenue, construction a new Class II bike lane on the east side of Sunburst Avenue from Oleander Avenue north to Calle Los Amigos, and constructing a new Class II bike lane on the west side of Sunburst Avenue from SR 62 north to Calle Los Amigos. The rehabilitation of the existing Class I bike path on the east side of Sunburst Avenue would include a 6.5-foot shoulder between Sunburst Avenue and the bike path, an 8-foot paved concrete bike path, and a two-foot shoulder along the eastern edge of the bike path. The new Class II bike lanes would be approximately four to five feet wide with two-foot shoulders on each side.

In general, construction activities associated with development of the trail would include excavation and grading; installation of signage; and painting of pavement striping and pavement markings.

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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 Mojave Desert Air Basin (MDAB), which encompasses the Project site, pursuant to the regulatory authority of the MDAQMD.

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.

Mojave Desert Air Basin

The MDAB is comprised of four air districts, the Kern County APCD, the Antelope Valley AQMD, the Mojave Desert AQMD, and the eastern portion of the South Coast AQMD. The Kern County APCD consists of the eastern portion of Kern County; the Antelope Valley AQMD consists of the northeastern portion of Los Angeles County; the Mojave Desert AQMD includes San Bernardino County and the most eastern portion of Riverside County; and the portion of the South Coast AQMD includes the eastern part of Riverside County.

Temperature and Climate

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley portion of the Mojave Desert is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriels by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley). The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse

by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.

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), course 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 (ROGs) and nitrous 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: CAPCOA 2013

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.

According to the California Air Resources Board's (CARB) *California Almanac of Emissions and Air Quality* (2013), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (diesel PM). Diesel PM has been identified as a human carcinogen and contains hundreds of different gaseous and particulate components, many of which are toxic. Diesel particles are so small that they penetrate deep into the lungs. Studies show that diesel PM concentrations are much higher near heavily traveled highways and intersections. Off-road construction equipment and heavy-duty trucks are considered major sources of diesel-related emissions.

Ambient Air Quality

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains over 60 monitoring stations throughout California. The Joshua Tree National Monument air quality monitoring station, located approximately 7 miles northwest of the Project site, monitors ambient concentrations of O_3; the Victorville- Park Avenue air quality monitoring station, located approximately 62 miles northwest of the Project site, monitors ambient concentrations of $PM_{2.5}$; and the Lucerne Valley- Middle School air quality monitoring station, located approximately 38 miles northwest of the Project site, monitors ambient concentrations of PM_{10}. 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 development area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$, PM_{10} since 2015 from the monitoring stations for each year that the monitoring data is provided.

Table 2-2. Summary of Ambient Air Quality Data			
Pollutant Standards	**2015**	**2016**	**2017**
O_3			
Max 1-hour concentration (ppm)	0.104	0.107	0.117
Max 8-hour concentration (ppm) (state/federal)	0.092 / 0.091	0.088 / 0.088	0.098 / 0.098
Number of days above state 1-hour standard	5 / 0	4 / 0	15 / 0
Number of days above 8-hour standard (state/federal)	46 / 38	40 / 38	56 / 52
PM_{10}			
Max 24-hour concentration (µg/m3) (state/federal)	16.6 / 79.5	* / 199.6	* / 135.7
Number of days above 24-hour standard (state/federal)	* / 0	* / 1.1	* / 0
$PM_{2.5}$			
Max 24-hour concentration (µg/m3) (state/federal)	50.2 / 50.2	41.5 / 41.5	29.3 / 50.2
Number of days above federal 24-hour standard	*	1	0

Source: CARB 2018
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million
** = Insufficient data available*

The U.S. Environment 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 for the San Bernardino portion of the MDAB 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_{10} standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$ standards (CARB 2017a).

Table 2-3. Attainment Status of Criteria Pollutants in the San Bernardino County Portion of Mojave Desert Air Basin		
Pollutant	**State Designation**	**Federal Designation**
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2017a

2.2 Regulatory Framework

Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the US Environmental Protection Agency (EPA) to establish the National Ambient Air Quality Standards (NAAQS), with states retaining the option to adopt more stringent standards or to include other specific pollutants. 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 EPA 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 MDAB for the criteria pollutants.

State

California Clean Air Act

The California Clean Air Act (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 California ambient air quality standards. 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 Clean Air Act (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 Clean Air Act. The EPA has the responsibility to review all State Implementation Plans 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 EPA for approval and publication in the Federal Register. The MDAQMD is the agency primarily responsible for ensuring that national and state ambient air quality standards are not exceeded and that air quality conditions are maintained in the air basin. MDAQMD responsibilities include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and implementing programs and regulations required by the federal Clean Air Act and the California Clean Air Act. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the air district has completed the following air quality attainment plans and reports:

- Searles Valley PM_{10} Attainment Plan
- Searles Valley PM_{10} Attainment Demonstration & Maintenance Plan
- Mojave Desert Planning Area PM_{10} Attainment Plan
- MDAQMD Ozone Attainment Plan 2004 (State & Federal)
- MDAQMD Reasonable Further Progress/Rate-of-Progress Plan
- MDAQMD Post 1996 Attainment Demonstration and Reasonable Further Progress Plan
- MDAQMD Schedule for District Measures to Reduce PM Pursuant to H&S Code 39614(d)

- MDAQMD 2006 8-Hour Ozone Reasonably Available Control Technology – State Implementation Plan Analysis
- MDAQMD 2014 Supplement to the 2006 8-Hour Ozone Reasonably Available Control Technology – State Implementation Plan Analysis
- MDAQMD 8-Hour Ozone Federal Negative Declarations for 44 Source Categories
- MDAQMD Smoke Management Program
- MDAQMD Ozone Attainment Plan 2008 (Western Mojave Desert Non-Attainment Area)
- MDAQMD 2015 8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis
- MDAQMD 2015 Federal Negative Declaration (8-Hour Ozone Standard) for Nineteen Control Technique Guideline Categories

Local

Mojave Desert Air Quality Management District

As previously described, the MDAQMD is the agency primarily responsible for ensuring that federal and state ambient air quality standards are not exceeded and that air quality conditions are maintained. Responsibilities of the MDAQMD include, but are not limited to, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the federal Clean Air Act and Clean Air Act Amendments. Provisions applicable to the Proposed Project are summarized as follows:

- **Rule 201 – Permits to Construct** applies to the construction of air emissions sources that are not otherwise exempt under Rule 219.
- **Rule 203 – Permit to Operate** requires air emissions sources that are not exempted by Rule 219 to obtain operating permit.
- **Rule 204 – Requirements** contains rule language describing New Source Review including Best Available Control Technology (BACT) and emissions offset requirements for stationary sources.
- **Rule 219 – Equipment Not Requiring a Permit** describes the type of equipment that does not require a permit pursuant to District Rules 201 and 203.
- **Rule 401 – Visible Emissions** limits visibility of fugitive dust to less than No. 1 on the Ringlemann Chart (i.e., 20 percent opacity).
- **Rule 402 – Nuisance** applies when complaints from the public are received by the district.

- **Rule 403 – Fugitive Dust** prohibits visible dust beyond the property line of the emission source, requires "every reasonable precaution" to minimize fugitive dust emissions and prevent trackout of materials onto public roadways, and prohibits greater than 100 µg/m3 difference between upwind and downwind particulate concentrations.
- **Rule 404 – Particulate Matter Concentration** sets concentration limits based on the flow rate of the discharge. The concentration limits would apply to discharge from a stack (e.g., baghouse).
- **Rule 405 – Solid Particulate Matter Weight** limits emissions based on the weight of material processed.
- **Rule 900 – New Source Performance Standards** incorporates federal regulation (40 CFR 60) that affects the construction of emissions units. Requirements may or may not apply depending on the size, construction, and manufacture date of equipment that will be used. Specifically, NSPS OOO (40 CFR 60.670) applies to equipment in nonmetallic mineral processing plants.
- **Regulation XIII – New Source Review** contains a number of rules that are applied to new and modified sources.
- **Rule 1520 – Control of Toxic Air Contaminants from Existing Sources** implements AB 2588 Air Toxics Hot Spots requirements.
- **Rule 2002 – General Federal Actions Conformity** requires federal actions to conform to the applicable implementation plan.

2.3 Air Quality Emissions Impact Assessment

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:

1) 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).

2) Conflict with or obstruct implementation of any applicable air quality plan.

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

Methodology

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the MDAQMD. 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 calculated using CalEEMod model defaults for San Bernardino County as well as the detailed Project specifications provided by the Project proponent and contained in the Initial Study completed for the Project, such as the length of construction activities and types of equipment.

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 construction worker commutes. 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.

Construction-generated emissions associated 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 2-4**. 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 MDAQMD's thresholds of significance.

Table 2-4. Construction-Related Emissions (Regional Significance Analysis)						
Construction Year	**Maximum Pollutants (pounds per day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Annual (Maximum Tons per Year)						
Construction - 2020	0.64	6.51	4.68	0.00	0.41	0.32
MDAQMD Annual Significance Threshold	*25*	*25*	*100*	*25*	*15*	*12*
Exceed MDAQMD Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Daily (Maximum Pounds per Day)						
Construction - 2020	11.57	112.26	85.54	0.17	7.84	5.31
MDAQMD Daily Significance Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Exceed MDAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2016.3.2. Refer to **Attachment A** for Model Data Outputs.*
Notes: Emission estimates account for the grading of 84,480 square feet as well as the removal of 1,016 tons of debris.

As shown in **Table 2-4**, emissions generated during construction would not exceed the MDAQMD's annual or daily regional thresholds of significance. This would be considered a less than significant impact.

PROJECT OPERATIONS CRITERIA AIR QUALITY EMISSIONS

Regional Operational Significance Analysis

The Proposed Project involves the construction of an approximately 2 miles of bike paths and lanes. The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable air quality emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Furthermore, the Project could be expected to reduce traffic trips in the area due to its ability meet the identified need for a non-vehicular trail to service local residents in the community. This potential reduction of automobile trips attributable to the Project would reduce the amount of daily criteria air pollutants currently being generated. Thus, there would be no operational impact related to air quality.

CONFLICT WITH MDAQMD AIR QUALITY ATTAINMENT PLANS

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (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 California Clean Air Act 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 MDAB, which is under the jurisdiction of the MDAQMD. The MDAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the air basin is in nonattainment. In order to reduce such emissions, the MDAQMD adopts and enforces rules and regulations concerning sources of air pollution, issues permits for stationary sources of air pollution, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act and Clean Air Act Amendments. The MDAQMD also assists CARB in preparing the SIP by preparing Attainment Plans that demonstrate how the ambient air quality standards will be achieved. The Attainment Plans describe the rules, policies, and other means by which the MDAQMD manages the emissions within its jurisdiction.

A project is conforming with the MDAQMD Attainment Plans if it complies with all applicable district rules and regulations, complies with all control measures from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). A project is nonconforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. Conformity with growth forecasts can be established by demonstrating that the Project is consistent with the land use plan that was used to generate the growth forecast. An example of a nonconforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

The Proposed Project would comply with all applicable district rules and regulations, including MDAQMD Rule 403 (Fugitive Dust) described above, and would comply with all proposed control measures from the applicable plans. As demonstrated above, the Proposed Project would not surpass any of the MDAQMD's significance thresholds for individual pollutants. Additionally, the Proposed Project would not be impacting the growth forecast used to inform MDAQMD air quality planning. Since the Project would not generate a significant amount of air pollutants and would not exceed the population or job growth projections used to develop MDAQMD's Attainment Plans, it would not result in a conflict.

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; 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 emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM, would be 4.67 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 1 microgram in diameter and therefore is a subset of particulate matter under 2.5 microns in diameter (i.e., $PM_{2.5}$), according to CARB. 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, grading, paving) would not occur at the same place at the same time and also due to the long length of the construction area.

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 (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-, 30-, or 9-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Proposed Project. Consequently, an important consideration is the fact that construction of the Proposed Project is not anticipated to last 9 consecutive years, the minimum duration of exposure from which to calculate health risk (Project construction is anticipated to last approximately 6 months), and that on a day-to-day basis construction activity generally spans eight hours as opposed to throughout the entire day. Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction and the relatively short duration of construction activities required to develop the site, construction-related TAC emissions would not expose sensitive receptors to substantial amounts of air toxics.

Operational Air Contaminants

The Proposed Project involves the construction of approximately 2 miles of bike paths and lanes. The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable air toxic emissions from Project 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 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* (1992 CO Plan) 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 level of service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be level of service (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).

The Project would not increase traffic volumes 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.

Construction

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, under CEQA, construction odors would result in a less than significant impact related to odor emissions.

Operations

The California Air Resources Board's (CARB's) *Air Quality and Land Use Handbook* (2005) identifies the sources of the most common operational odor complaints received by local air districts. Typical sources include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The Project does not contain any of the land uses identified as typically associated with emissions of objectionable odors. As such, a less than significant impact would occur.

CUMULATIVE AIR QUALITY IMPACTS

The cumulative setting for air quality includes San Bernardino County and the MDAB. The region is designated as a nonattainment area for the federal O_3 and PM_{10} standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$ standards (CARB 2017a). 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 MDAB and associated growth and development anticipated in the air basin.

The MDAQMD's approach to assessing cumulative impacts is based on whether a proposed project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations. In other words, the MDAQMD considers the impact of a project to be less than

cumulatively considerable if it does not exceed significance thresholds under project-level conditions and does not conflict with the MDAQMD's air quality plans. As identified above in **Table 2-4,** the Project would not exceed MDAQMD construction significance thresholds and would not be a source of operation air quality emissions. Additionally, as previously described the Project would not conflict with any MDAQMD air quality plans. Thus, the Project would result in less than significant cumulative air quality impacts.

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 carbon dioxide (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 (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 (GWP). 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 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 long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods 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).

Table 3-1. Greenhouse Gases	
Greenhouse Gas	**Description**
CO_2	Carbon dioxide 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	Methane 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. Methane 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	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide 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] EPA 2016a, [2] EPA 2016b, [3] EPA 2016c

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.

Sources of Greenhouse Gas Emissions

In June 2017, CARB released the 2017 edition of the California GHG inventory covering calendar year 2015 emissions. In 2015, California emitted 440.4 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 2015, accounting for approximately 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector (including both in-state and out-of-state sources) (19 percent) (CARB 2017b).

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

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 executive order 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 Executive Order 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, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "…shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The [Air Resources Board] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

Assembly Bill 32 Climate Change Scoping Plan and Updates

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons of CO_2e emissions, or approximately 21.7 percent from the State's projected 2020 emission level of 545 million metric tons of CO_2e under a business-as-usual scenario (this is a reduction of 47 million metric tons of CO_2e, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and subsequently adopted the First Update to the Climate Change Scoping Plan to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012. According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond

2020. The update also reports the trends in GHG emissions from various emissions sectors (e.g., transportation, building energy, agriculture).

In 2017, CARB released its 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update), which lays out the framework for achieving the 2030 reductions as established in more recent legislation (discussed below). The 2017 Scoping Plan Update identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level that is 40 percent below 1990 levels before 2030.

The update also identifies how GHGs associated with proposed projects could be evaluated under CEQA. Specifically, it states that achieving "no net increase" in GHG emissions is the correct overall objective of projects evaluated under CEQA if conformity with an applicable local GHG reduction plan cannot be demonstrated. CARB recognizes that it may not be appropriate or feasible for every development project to mitigate its GHG emissions to no net increase and that this may not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change.

Executive Order B-30-15

On April 20, 2015 Governor Brown signed Executive Order B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order 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 and Senate Bill 350 of 2015

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. SB X1-2 mandates that renewables from these sources make up at least 50

percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. 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.

Local

Mojave Desert Air Quality Management District

Under CEQA, the MDAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or impacting on its jurisdiction. The MDAQMD provides guidelines to assessing the significance of project specific GHG emissions and offers both daily and annual thresholds for GHG emissions.

County of San Bernardino Greenhouse Gas Emissions Reduction Plan

In September 2011, the County of San Bernardino adopted the San Bernardino GHG Reduction Plan (GHG Plan) based on the premise that the County and the community it represents are uniquely capable of addressing emissions associated with sources under the County's jurisdiction and that the County's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to reduce emissions in an efficient and cost-effective manner. This GHG Plan presents a comprehensive set of actions to reduce the County's internal and external GHG emissions to 15 percent below current levels by 2020, consistent with the AB 32 Scoping Plan. The GHG Plan identifies GHG emissions reduction goals, objectives, and strategies categorized in six sectors: Building Energy (addressing energy efficiency and alternative energy in buildings and renewable energy generation facilities), Transportation and Land Use, Solid Waste/Landfills, Stationary Sources, Agriculture and Resource Conservation, and Water Conservation. For each sector, reduction strategies have been developed to achieve the County's 2020 emissions reduction target.

The March 2015 update of the GHG Emissions Development Review Process updates the language the performance standard bringing it up to date with current code and improves upon the menu of options within the screening tables proportioning point values to more accurately account for expected GHG reductions and revised the descriptions of the energy efficiency related options to better describe the physical improvements that would be made in choosing that option.

3.3 Greenhouse Gas Emissions Impact Assessment

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 GHG emissions if it would:

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

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

Project GHG Thresholds

As noted earlier, AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the legislature determined the necessary GHG reductions for the state to make in order to sufficiently offset its contribution to the cumulative climate change problem. AB 32 is a legally mandated requirement for the reduction of GHGs. As such, compliance with AB 32 is the current adopted basis upon which an agency can base its significance threshold for evaluating a project's GHG impacts. However, it is acknowledged that the recently signed legislation of SB 32 has established in GHG emission reduction targets for years beyond 2020.

For the purposes of this evaluation, the Project is evaluated for consistency with the County of San Bernardino GHG Emissions Reduction Plan, previously described. The CAP is consistent with AB 32 and sets the County on a path to achieve a more substantial long-term reduction in the post-2020 period. In addition, the Project will also be compared to the interim screening level numeric bright-line threshold of 3,000 metric tons of CO_2e annually adopted in the GHG Emissions Reduction Plan. The numeric bright line threshold was 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.

Methodology

Where quantification was required, GHG 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 GHG 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. However, the specific construction equipment anticipated to be used has been provided by the Project proponent and accounted for in the emissions model predictions.

Impact Analysis

CONTRIBUTION OF GREENHOUSE GAS EMISSIONS

Construction

Construction-related activities that would generate GHGs 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). Projected GHG emissions from construction have been quantified and amortized over the life of the Project. **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)**
Year 2020	826
County of San Bernardino GHG Reduction Plan	3,000
Exceed Threshold?	**No**

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

Notes: Emission estimates account for the grading of 84,480 square feet as well as the removal of 1,016 tons of debris.

As shown in **Table 3-2**, Project construction would result in the generation of approximately 826 metric tons of CO_2e over the course of construction. Project emissions do not exceed the County of San Bernardino Greenhouse Gas Emissions Reduction Plan screening threshold of 3,000 metric tons of CO_2e per year. Therefore, the impact is less than significant.

Operations

In terms of operational GHG emissions, the Proposed Project involves the construction of 2 miles bike lanes and paths. The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable GHG emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Furthermore, the Project could be expected to reduce vehicle trips in the area due to its ability meet the identified need for a non-vehicular trail for the local residents in the community. This potential reduction of automobile trips attributable to the Project would reduce the amount of daily CO_2e emissions currently being generated. Thus, there would be no operational impact related to air quality.

CONFLICT WITH ANY APPLICABLE PLAN, POLICY, OR REGULATION OF AN AGENCY ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES

The County of San Bernardino GHG Reduction Plan establishes a GHG emissions reduction target for the year 2020 that is 15 percent below year 2007 emission levels. The GHG Plan is consistent with AB 32 and sets the County on a path to achieve a more substantial long-term reduction in the post-2020 period. Achieving this level of emissions would ensure that the contribution to GHG emissions from activities covered by the GHG Reduction Plan would not be cumulatively considerable. As described in Chapter 4.0 of the GHG Plan, all new development under the jurisdiction of the County is required to quantify a project's GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance.

The County GHG Reduction Plan identifies a review standard of 3,000 metric tons of CO_2e per year to identify and mitigate project emissions. Projects estimated to generated less than 3,000 metric tons of CO_2e per year are considered less than significant. For projects exceeding 3,000 metric tons of CO_2e per year, the developer may use the GHG Reduction Plan Screening Tables in the GHG Reduction Plan as a tool to assist with calculating GHG reduction measures and the determination of a significance finding.

Projects that garner 100 or more points on the Screening Tables are considered less than significant. (The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, would allow the County to meet its year 2020 target and support longer-term reductions in GHG emissions beyond year 2020.)

As shown in **Table 3-2**, above, the total amount of proposed GHG emissions would be 826 metric tons of CO_2e per year, which does not exceed the County's 3,000 metric tons of CO_2e per year screening threshold. Therefore, the Project does not conflict with the San Bernardino Greenhouse Gas Emissions Reduction Plan. No impact would occur.

CUMULATIVE GHG 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 1 day), GHGs have much longer atmospheric lifetimes of 1 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 exceed MDAQMD significance thresholds and would actually assist to reduce automobile-generated GHG emissions. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant.

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ATTACHMENT A

CalEEMod Output Files

Sunburst Avenue Bike Trail

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	84.48	1000sqft	1.94	84,480.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Sunburst Avenue Bike Trail - San Bernardino-Mojave Desert County, Annual

Project Characteristics -

Land Use -

Construction Phase - Time of construction updated to match that of the project.

Off-road Equipment - Equipment updated to match that of the project.

Off-road Equipment -

Off-road Equipment - Information updated to match that of the project.

Off-road Equipment -

Off-road Equipment - Equipment updated to match thatof the project.

Off-road Equipment -

Grading - Infomration updated to match that of the project

Demolition -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	200.00	90.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	PhaseEndDate	5/21/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	4/23/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	7/10/2019	5/28/2020
tblConstructionPhase	PhaseEndDate	7/18/2019	7/13/2020
tblConstructionPhase	PhaseEndDate	5/7/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	7/12/2019	6/1/2020
tblConstructionPhase	PhaseStartDate	5/8/2020	7/14/2020
tblConstructionPhase	PhaseStartDate	7/19/2019	7/14/2020
tblConstructionPhase	PhaseStartDate	6/13/2019	5/1/2020
tblConstructionPhase	PhaseStartDate	7/13/2019	6/2/2020

tblConstructionPhase	PhaseStartDate	4/24/2020	7/14/2020
tblConstructionPhase	PhaseStartDate	7/11/2019	5/29/2020
tblGrading	AcresOfGrading	112.50	1.50
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	20.00	18.00
tblTripsAndVMT	WorkerTripNumber	38.00	35.00

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					
2020	0.6499	6.5131	4.6815	9.4300e-003	0.1223	0.2889	0.4112	0.0519	0.2683	0.3202	0.0000	820.8041	820.8041	0.2341	0.0000	826.6553
Maximum	**0.6499**	**6.5131**	**4.6815**	**9.4300e-003**	**0.1223**	**0.2889**	**0.4112**	**0.0519**	**0.2683**	**0.3202**	**0.0000**	**820.8041**	**820.8041**	**0.2341**	**0.0000**	**826.6553**

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					
2020	0.6499	6.5131	4.6815	9.4300e-003	0.1223	0.2889	0.4112	0.0519	0.2683	0.3202	0.0000	820.8032	820.8032	0.2341	0.0000	826.6544
Maximum	**0.6499**	**6.5131**	**4.6815**	**9.4300e-003**	**0.1223**	**0.2889**	**0.4112**	**0.0519**	**0.2683**	**0.3202**	**0.0000**	**820.8032**	**820.8032**	**0.2341**	**0.0000**	**826.6544**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
4	3-13-2020	6-12-2020	0.7566	0.7566
5	6-13-2020	9-12-2020	3.5397	3.5397
6	9-13-2020	9-30-2020	0.7961	0.7961
		Highest	3.5397	3.5397

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	8.4700e-003	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.4700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.5100e-003**	**1.5100e-003**	**0.0000**	**0.0000**	**1.6100e-003**

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	8.4700e-003	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.4700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.5100e-003**	**1.5100e-003**	**0.0000**	**0.0000**	**1.6100e-003**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2020	5/28/2020	5	20	
2	Site Preparation	Site Preparation	5/29/2020	6/1/2020	5	2	
3	Grading	Grading	6/2/2020	7/13/2020	5	30	
4	Building Construction	Building Construction	7/14/2020	11/16/2020	5	90	
5	Paving	Paving	7/14/2020	11/16/2020	5	90	
6	Architectural Coating	Architectural Coating	7/14/2020	11/16/2020	5	90	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 5,069 (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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Signal Boards	2	8.00	6	0.82
Paving	Skid Steer Loaders	2	8.00	65	0.37
Paving	Surfacing Equipment	1	8.00	263	0.30
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	3	7.00	80	0.38
Grading	Crawler Tractors	2	8.00	212	0.43

Building Construction	Crawler Tractors	2	8.00	212	0.43
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	2	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Cranes	1	6.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Graders	1	8.00	187	0.41
Demolition	Scrapers	1	8.00	367	0.48
Demolition	Signal Boards	2	8.00	6	0.82
Grading	Off-Highway Tractors	1	8.00	124	0.44
Grading	Rollers	1	8.00	80	0.38
Grading	Scrapers	2	8.00	367	0.48
Grading	Signal Boards	2	8.00	6	0.82
Grading	Skid Steer Loaders	2	8.00	65	0.37
Grading	Trenchers	1	8.00	78	0.50
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Graders	2	8.00	187	0.41
Building Construction	Off-Highway Tractors	1	8.00	124	0.44
Building Construction	Pavers	1	8.00	130	0.42
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Rough Terrain Forklifts	1	8.00	100	0.40

Building Construction	Scrapers	2	8.00	367	0.48
Building Construction	Signal Boards	2	8.00	6	0.82
Building Construction	Skid Steer Loaders	2	8.00	65	0.37
Building Construction	Surfacing Equipment	1	8.00	263	0.30
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	18.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	35.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	26	35.00	14.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0110	0.0000	0.0110	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0354	0.3800	0.2329	4.6000e-004		0.0169	0.0169		0.0158	0.0158	0.0000	40.2523	40.2523	0.0114	0.0000	40.5379
Total	**0.0354**	**0.3800**	**0.2329**	**4.6000e-004**	**0.0110**	**0.0169**	**0.0280**	**1.6700e-003**	**0.0158**	**0.0174**	**0.0000**	**40.2523**	**40.2523**	**0.0114**	**0.0000**	**40.5379**

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	3.2000e-004	0.0126	1.9300e-003	4.0000e-005	8.6000e-004	4.0000e-005	9.0000e-004	2.4000e-004	4.0000e-005	2.7000e-004	0.0000	3.7357	3.7357	2.1000e-004	0.0000	3.7410
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.3000e-004	5.3900e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.2526	1.2526	4.0000e-005	0.0000	1.2535
Total	**1.0300e-003**	**0.0132**	**7.3200e-003**	**5.0000e-005**	**2.3100e-003**	**5.0000e-005**	**2.3600e-003**	**6.3000e-004**	**5.0000e-005**	**6.6000e-004**	**0.0000**	**4.9883**	**4.9883**	**2.5000e-004**	**0.0000**	**4.9946**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0110	0.0000	0.0110	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0354	0.3800	0.2329	4.6000e-004		0.0169	0.0169		0.0158	0.0158	0.0000	40.2522	40.2522	0.0114	0.0000	40.5378
Total	**0.0354**	**0.3800**	**0.2329**	**4.6000e-004**	**0.0110**	**0.0169**	**0.0280**	**1.6700e-003**	**0.0158**	**0.0174**	**0.0000**	**40.2522**	**40.2522**	**0.0114**	**0.0000**	**40.5378**

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	3.2000e-004	0.0126	1.9300e-003	4.0000e-005	8.6000e-004	4.0000e-005	9.0000e-004	2.4000e-004	4.0000e-005	2.7000e-004	0.0000	3.7357	3.7357	2.1000e-004	0.0000	3.7410
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.3000e-004	5.3900e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.2526	1.2526	4.0000e-005	0.0000	1.2535
Total	**1.0300e-003**	**0.0132**	**7.3200e-003**	**5.0000e-005**	**2.3100e-003**	**5.0000e-005**	**2.3600e-003**	**6.3000e-004**	**5.0000e-005**	**6.6000e-004**	**0.0000**	**4.9883**	**4.9883**	**2.5000e-004**	**0.0000**	**4.9946**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

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	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0557	0.0557	0.0000	0.0000	0.0557
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0557**	**0.0557**	**0.0000**	**0.0000**	**0.0557**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

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	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0557	0.0557	0.0000	0.0000	0.0557
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0557**	**0.0557**	**0.0000**	**0.0000**	**0.0557**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0685	0.0000	0.0685	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0902	1.0465	0.5812	1.2200e-003		0.0448	0.0448		0.0413	0.0413	0.0000	106.6857	106.6857	0.0342	0.0000	107.5409
Total	**0.0902**	**1.0465**	**0.5812**	**1.2200e-003**	**0.0685**	**0.0448**	**0.1133**	**0.0373**	**0.0413**	**0.0786**	**0.0000**	**106.6857**	**106.6857**	**0.0342**	**0.0000**	**107.5409**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.5500e-003	0.0157	4.0000e-005	4.2300e-003	3.0000e-005	4.2600e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.6534	3.6534	1.1000e-004	0.0000	3.6562
Total	**2.0700e-003**	**1.5500e-003**	**0.0157**	**4.0000e-005**	**4.2300e-003**	**3.0000e-005**	**4.2600e-003**	**1.1200e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.6534**	**3.6534**	**1.1000e-004**	**0.0000**	**3.6562**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0685	0.0000	0.0685	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0902	1.0465	0.5812	1.2200e-003		0.0448	0.0448		0.0413	0.0413	0.0000	106.6856	106.6856	0.0342	0.0000	107.5408
Total	**0.0902**	**1.0465**	**0.5812**	**1.2200e-003**	**0.0685**	**0.0448**	**0.1133**	**0.0373**	**0.0413**	**0.0786**	**0.0000**	**106.6856**	**106.6856**	**0.0342**	**0.0000**	**107.5408**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.5500e-003	0.0157	4.0000e-005	4.2300e-003	3.0000e-005	4.2600e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.6534	3.6534	1.1000e-004	0.0000	3.6562
Total	**2.0700e-003**	**1.5500e-003**	**0.0157**	**4.0000e-005**	**4.2300e-003**	**3.0000e-005**	**4.2600e-003**	**1.1200e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.6534**	**3.6534**	**1.1000e-004**	**0.0000**	**3.6562**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3863	4.1122	2.8657	5.7100e-003		0.1796	0.1796		0.1670	0.1670	0.0000	494.5515	494.5515	0.1478	0.0000	498.2467
Total	**0.3863**	**4.1122**	**2.8657**	**5.7100e-003**		**0.1796**	**0.1796**		**0.1670**	**0.1670**	**0.0000**	**494.5515**	**494.5515**	**0.1478**	**0.0000**	**498.2467**

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	2.0100e-003	0.0686	0.0144	1.8000e-004	4.2000e-003	3.2000e-004	4.5300e-003	1.2100e-003	3.1000e-004	1.5200e-003	0.0000	16.7427	16.7427	1.1200e-003	0.0000	16.7708
Worker	6.2100e-003	4.6500e-003	0.0472	1.2000e-004	0.0127	9.0000e-005	0.0128	3.3700e-003	8.0000e-005	3.4500e-003	0.0000	10.9600	10.9600	3.4000e-004	0.0000	10.9685
Total	**8.2200e-003**	**0.0733**	**0.0615**	**3.0000e-004**	**0.0169**	**4.1000e-004**	**0.0173**	**4.5800e-003**	**3.9000e-004**	**4.9700e-003**	**0.0000**	**27.7027**	**27.7027**	**1.4600e-003**	**0.0000**	**27.7393**

3.5 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3863	4.1122	2.8657	5.7100e-003		0.1796	0.1796		0.1670	0.1670	0.0000	494.5509	494.5509	0.1478	0.0000	498.2461
Total	**0.3863**	**4.1122**	**2.8657**	**5.7100e-003**		**0.1796**	**0.1796**		**0.1670**	**0.1670**	**0.0000**	**494.5509**	**494.5509**	**0.1478**	**0.0000**	**498.2461**

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	2.0100e-003	0.0686	0.0144	1.8000e-004	4.2000e-003	3.2000e-004	4.5300e-003	1.2100e-003	3.1000e-004	1.5200e-003	0.0000	16.7427	16.7427	1.1200e-003	0.0000	16.7708
Worker	6.2100e-003	4.6500e-003	0.0472	1.2000e-004	0.0127	9.0000e-005	0.0128	3.3700e-003	8.0000e-005	3.4500e-003	0.0000	10.9600	10.9600	3.4000e-004	0.0000	10.9685
Total	**8.2200e-003**	**0.0733**	**0.0615**	**3.0000e-004**	**0.0169**	**4.1000e-004**	**0.0173**	**4.5800e-003**	**3.9000e-004**	**4.9700e-003**	**0.0000**	**27.7027**	**27.7027**	**1.4600e-003**	**0.0000**	**27.7393**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0757	0.7874	0.7769	1.3700e-003		0.0412	0.0412		0.0380	0.0380	0.0000	118.3260	118.3260	0.0371	0.0000	119.2521
Paving	2.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0782**	**0.7874**	**0.7769**	**1.3700e-003**		**0.0412**	**0.0412**		**0.0380**	**0.0380**	**0.0000**	**118.3260**	**118.3260**	**0.0371**	**0.0000**	**119.2521**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3200e-003	3.9900e-003	0.0404	1.0000e-004	0.0109	8.0000e-005	0.0110	2.8900e-003	7.0000e-005	2.9600e-003	0.0000	9.3943	9.3943	2.9000e-004	0.0000	9.4016
Total	**5.3200e-003**	**3.9900e-003**	**0.0404**	**1.0000e-004**	**0.0109**	**8.0000e-005**	**0.0110**	**2.8900e-003**	**7.0000e-005**	**2.9600e-003**	**0.0000**	**9.3943**	**9.3943**	**2.9000e-004**	**0.0000**	**9.4016**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0757	0.7874	0.7769	1.3700e-003		0.0412	0.0412		0.0380	0.0380	0.0000	118.3258	118.3258	0.0371	0.0000	119.2520
Paving	2.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0782**	**0.7874**	**0.7769**	**1.3700e-003**		**0.0412**	**0.0412**		**0.0380**	**0.0380**	**0.0000**	**118.3258**	**118.3258**	**0.0371**	**0.0000**	**119.2520**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3200e-003	3.9900e-003	0.0404	1.0000e-004	0.0109	8.0000e-005	0.0110	2.8900e-003	7.0000e-005	2.9600e-003	0.0000	9.3943	9.3943	2.9000e-004	0.0000	9.4016
Total	**5.3200e-003**	**3.9900e-003**	**0.0404**	**1.0000e-004**	**0.0109**	**8.0000e-005**	**0.0110**	**2.8900e-003**	**7.0000e-005**	**2.9600e-003**	**0.0000**	**9.3943**	**9.3943**	**2.9000e-004**	**0.0000**	**9.4016**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.0758	0.0824	1.3000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	11.4896	11.4896	8.9000e-004	0.0000	11.5119
Total	**0.0403**	**0.0758**	**0.0824**	**1.3000e-004**		**4.9900e-003**	**4.9900e-003**		**4.9900e-003**	**4.9900e-003**	**0.0000**	**11.4896**	**11.4896**	**8.9000e-004**	**0.0000**	**11.5119**

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	1.2400e-003	9.3000e-004	9.4300e-003	2.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1920	2.1920	7.0000e-005	0.0000	2.1937
Total	**1.2400e-003**	**9.3000e-004**	**9.4300e-003**	**2.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**2.1920**	**2.1920**	**7.0000e-005**	**0.0000**	**2.1937**

3.7 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.0758	0.0824	1.3000e-004		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	11.4896	11.4896	8.9000e-004	0.0000	11.5119
Total	**0.0403**	**0.0758**	**0.0824**	**1.3000e-004**		**4.9900e-003**	**4.9900e-003**		**4.9900e-003**	**4.9900e-003**	**0.0000**	**11.4896**	**11.4896**	**8.9000e-004**	**0.0000**	**11.5119**

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	1.2400e-003	9.3000e-004	9.4300e-003	2.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1920	2.1920	7.0000e-005	0.0000	2.1937
Total	**1.2400e-003**	**9.3000e-004**	**9.4300e-003**	**2.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**2.1920**	**2.1920**	**7.0000e-005**	**0.0000**	**2.1937**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.549952	0.037123	0.179649	0.119457	0.017229	0.005267	0.017877	0.062669	0.001348	0.001607	0.006000	0.000812	0.001010

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	8.4700e-003	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003
Unmitigated	8.4700e-003	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003
Total	**8.4700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5100e-003**	**1.5100e-003**	**0.0000**	**0.0000**	**1.6100e-003**

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	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5100e-003	1.5100e-003	0.0000	0.0000	1.6100e-003
Total	**8.4700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5100e-003**	**1.5100e-003**	**0.0000**	**0.0000**	**1.6100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Sunburst Avenue Bike Trail

San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	84.48	1000sqft	1.94	84,480.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Sunburst Avenue Bike Trail - San Bernardino-Mojave Desert County, Summer

Project Characteristics -

Land Use -

Construction Phase - Time of construction updated to match that of the project.

Off-road Equipment - Equipment updated to match that of the project.

Off-road Equipment -

Off-road Equipment - Information updated to match that of the project.

Off-road Equipment -

Off-road Equipment - Equipment updated to match thatof the project.

Off-road Equipment -

Grading - Infomration updated to match that of the project

Demolition -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	200.00	90.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	PhaseEndDate	5/21/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	4/23/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	7/10/2019	5/28/2020
tblConstructionPhase	PhaseEndDate	7/18/2019	7/13/2020
tblConstructionPhase	PhaseEndDate	5/7/2020	11/16/2020
tblConstructionPhase	PhaseEndDate	7/12/2019	6/1/2020
tblConstructionPhase	PhaseStartDate	5/8/2020	7/14/2020
tblConstructionPhase	PhaseStartDate	7/19/2019	7/14/2020
tblConstructionPhase	PhaseStartDate	6/13/2019	5/1/2020
tblConstructionPhase	PhaseStartDate	7/13/2019	6/2/2020

tblConstructionPhase	PhaseStartDate	4/24/2020	7/14/2020
tblConstructionPhase	PhaseStartDate	7/11/2019	5/29/2020
tblGrading	AcresOfGrading	112.50	1.50
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	20.00	18.00
tblTripsAndVMT	WorkerTripNumber	38.00	35.00

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					
2020	11.5796	112.2624	85.5406	0.1703	5.8653	5.0287	7.8459	2.9711	4.6774	5.3166	0.0000	16,313.2238	16,313.2238	4.5949	0.0000	16,428.0967
Maximum	**11.5796**	**112.2624**	**85.5406**	**0.1703**	**5.8653**	**5.0287**	**7.8459**	**2.9711**	**4.6774**	**5.3166**	**0.0000**	**16,313.2238**	**16,313.2238**	**4.5949**	**0.0000**	**16,428.0967**

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					
2020	11.5796	112.2624	85.5406	0.1703	5.8653	5.0287	7.8459	2.9711	4.6774	5.3166	0.0000	16,313.2238	16,313.2238	4.5949	0.0000	16,428.0967
Maximum	**11.5796**	**112.2624**	**85.5406**	**0.1703**	**5.8653**	**5.0287**	**7.8459**	**2.9711**	**4.6774**	**5.3166**	**0.0000**	**16,313.2238**	**16,313.2238**	**4.5949**	**0.0000**	**16,428.0967**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0468	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0468**	**8.0000e-005**	**8.6600e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**		**0.0185**	**0.0185**	**5.0000e-005**	**0.0000**	**0.0197**

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	0.0468	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0468**	**8.0000e-005**	**8.6600e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**		**0.0185**	**0.0185**	**5.0000e-005**	**0.0000**	**0.0197**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2020	5/28/2020	5	20	
2	Site Preparation	Site Preparation	5/29/2020	6/1/2020	5	2	
3	Grading	Grading	6/2/2020	7/13/2020	5	30	
4	Building Construction	Building Construction	7/14/2020	11/16/2020	5	90	
5	Paving	Paving	7/14/2020	11/16/2020	5	90	
6	Architectural Coating	Architectural Coating	7/14/2020	11/16/2020	5	90	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 5,069 (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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Signal Boards	2	8.00	6	0.82

Paving	Skid Steer Loaders	2	8.00	65	0.37
Paving	Surfacing Equipment	1	8.00	263	0.30
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	3	7.00	80	0.38
Grading	Crawler Tractors	2	8.00	212	0.43
Building Construction	Crawler Tractors	2	8.00	212	0.43
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	2	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Cranes	1	6.00	231	0.29
Demolition	Excavators	1	8.00	158	0.38
Demolition	Graders	1	8.00	187	0.41
Demolition	Scrapers	1	8.00	367	0.48
Demolition	Signal Boards	2	8.00	6	0.82
Grading	Off-Highway Tractors	1	8.00	124	0.44
Grading	Rollers	1	8.00	80	0.38
Grading	Scrapers	2	8.00	367	0.48
Grading	Signal Boards	2	8.00	6	0.82
Grading	Skid Steer Loaders	2	8.00	65	0.37
Grading	Trenchers	1	8.00	78	0.50
Building Construction	Excavators	2	8.00	158	0.38

Building Construction	Graders	2	8.00	187	0.41
Building Construction	Off-Highway Tractors	1	8.00	124	0.44
Building Construction	Pavers	1	8.00	130	0.42
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Rough Terrain Forklifts	1	8.00	100	0.40
Building Construction	Scrapers	2	8.00	367	0.48
Building Construction	Signal Boards	2	8.00	6	0.82
Building Construction	Skid Steer Loaders	2	8.00	65	0.37
Building Construction	Surfacing Equipment	1	8.00	263	0.30
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	18.00	0.00	100.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	35.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	26	35.00	14.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1006	0.0000	1.1006	0.1667	0.0000	0.1667			0.0000			0.0000
Off-Road	3.5403	37.9959	23.2887	0.0463		1.6939	1.6939		1.5765	1.5765		4,437.0527	4,437.0527	1.2592		4,468.5337
Total	**3.5403**	**37.9959**	**23.2887**	**0.0463**	**1.1006**	**1.6939**	**2.7945**	**0.1667**	**1.5765**	**1.7431**		**4,437.0527**	**4,437.0527**	**1.2592**		**4,468.5337**

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	0.0311	1.2317	0.1818	3.9200e-003	0.0875	3.6700e-003	0.0912	0.0240	3.5100e-003	0.0275		416.3540	416.3540	0.0225		416.9158
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	0.0799	0.0480	0.6166	1.5100e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		150.5488	150.5488	4.6800e-003		150.6658
Total	**0.1110**	**1.2797**	**0.7984**	**5.4300e-003**	**0.2354**	**4.6700e-003**	**0.2400**	**0.0632**	**4.4300e-003**	**0.0676**		**566.9028**	**566.9028**	**0.0272**		**567.5815**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1006	0.0000	1.1006	0.1667	0.0000	0.1667			0.0000			0.0000
Off-Road	3.5403	37.9959	23.2887	0.0463		1.6939	1.6939		1.5765	1.5765	0.0000	4,437.0527	4,437.0527	1.2592		4,468.5337
Total	**3.5403**	**37.9959**	**23.2887**	**0.0463**	**1.1006**	**1.6939**	**2.7945**	**0.1667**	**1.5765**	**1.7431**	**0.0000**	**4,437.0527**	**4,437.0527**	**1.2592**		**4,468.5337**

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	0.0311	1.2317	0.1818	3.9200e-003	0.0875	3.6700e-003	0.0912	0.0240	3.5100e-003	0.0275		416.3540	416.3540	0.0225		416.9158
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	0.0799	0.0480	0.6166	1.5100e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		150.5488	150.5488	4.6800e-003		150.6658
Total	**0.1110**	**1.2797**	**0.7984**	**5.4300e-003**	**0.2354**	**4.6700e-003**	**0.2400**	**0.0632**	**4.4300e-003**	**0.0676**		**566.9028**	**566.9028**	**0.0272**		**567.5815**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

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	0.0355	0.0214	0.2741	6.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		66.9106	66.9106	2.0800e-003		66.9626
Total	**0.0355**	**0.0214**	**0.2741**	**6.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**66.9106**	**66.9106**	**2.0800e-003**		**66.9626**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

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	0.0355	0.0214	0.2741	6.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		66.9106	66.9106	2.0800e-003		66.9626
Total	**0.0355**	**0.0214**	**0.2741**	**6.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**66.9106**	**66.9106**	**2.0800e-003**		**66.9626**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5696	0.0000	4.5696	2.4884	0.0000	2.4884			0.0000			0.0000
Off-Road	6.0162	69.7632	38.7449	0.0813		2.9869	2.9869		2.7502	2.7502		7,840.0567	7,840.0567	2.5140		7,902.9061
Total	**6.0162**	**69.7632**	**38.7449**	**0.0813**	**4.5696**	**2.9869**	**7.5565**	**2.4884**	**2.7502**	**5.2386**		**7,840.0567**	**7,840.0567**	**2.5140**		**7,902.9061**

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	0.1553	0.0934	1.1990	2.9400e-003	0.2875	1.9400e-003	0.2895	0.0763	1.7900e-003	0.0781		292.7337	292.7337	9.1000e-003		292.9612
Total	**0.1553**	**0.0934**	**1.1990**	**2.9400e-003**	**0.2875**	**1.9400e-003**	**0.2895**	**0.0763**	**1.7900e-003**	**0.0781**		**292.7337**	**292.7337**	**9.1000e-003**		**292.9612**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5696	0.0000	4.5696	2.4884	0.0000	2.4884			0.0000			0.0000
Off-Road	6.0162	69.7632	38.7449	0.0813		2.9869	2.9869		2.7502	2.7502	0.0000	7,840.0567	7,840.0567	2.5140		7,902.9061
Total	**6.0162**	**69.7632**	**38.7449**	**0.0813**	**4.5696**	**2.9869**	**7.5565**	**2.4884**	**2.7502**	**5.2386**	**0.0000**	**7,840.0567**	**7,840.0567**	**2.5140**		**7,902.9061**

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	0.1553	0.0934	1.1990	2.9400e-003	0.2875	1.9400e-003	0.2895	0.0763	1.7900e-003	0.0781		292.7337	292.7337	9.1000e-003		292.9612
Total	**0.1553**	**0.0934**	**1.1990**	**2.9400e-003**	**0.2875**	**1.9400e-003**	**0.2895**	**0.0763**	**1.7900e-003**	**0.0781**		**292.7337**	**292.7337**	**9.1000e-003**		**292.9612**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.5833	91.3824	63.6831	0.1268		3.9918	3.9918		3.7113	3.7113		12,114.4377	12,114.4377	3.6207		12,204.9544
Total	**8.5833**	**91.3824**	**63.6831**	**0.1268**		**3.9918**	**3.9918**		**3.7113**	**3.7113**		**12,114.4377**	**12,114.4377**	**3.6207**		**12,204.9544**

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	0.0437	1.5058	0.2946	3.9500e-003	0.0948	7.1700e-003	0.1020	0.0273	6.8600e-003	0.0342		416.6528	416.6528	0.0263		417.3098
Worker	0.1553	0.0934	1.1990	2.9400e-003	0.2875	1.9400e-003	0.2895	0.0763	1.7900e-003	0.0781		292.7337	292.7337	9.1000e-003		292.9612
Total	**0.1990**	**1.5992**	**1.4936**	**6.8900e-003**	**0.3824**	**9.1100e-003**	**0.3915**	**0.1036**	**8.6500e-003**	**0.1122**		**709.3865**	**709.3865**	**0.0354**		**710.2710**

3.5 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.5833	91.3824	63.6831	0.1268		3.9918	3.9918		3.7113	3.7113	0.0000	12,114.4377	12,114.4377	3.6207		12,204.9544
Total	**8.5833**	**91.3824**	**63.6831**	**0.1268**		**3.9918**	**3.9918**		**3.7113**	**3.7113**	**0.0000**	**12,114.4377**	**12,114.4377**	**3.6207**		**12,204.9544**

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	0.0437	1.5058	0.2946	3.9500e-003	0.0948	7.1700e-003	0.1020	0.0273	6.8600e-003	0.0342		416.6528	416.6528	0.0263		417.3098
Worker	0.1553	0.0934	1.1990	2.9400e-003	0.2875	1.9400e-003	0.2895	0.0763	1.7900e-003	0.0781		292.7337	292.7337	9.1000e-003		292.9612
Total	**0.1990**	**1.5992**	**1.4936**	**6.8900e-003**	**0.3824**	**9.1100e-003**	**0.3915**	**0.1036**	**8.6500e-003**	**0.1122**		**709.3865**	**709.3865**	**0.0354**		**710.2710**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6818	17.4982	17.2649	0.0305		0.9148	0.9148		0.8447	0.8447		2,898.4903	2,898.4903	0.9075		2,921.1765
Paving	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7383**	**17.4982**	**17.2649**	**0.0305**		**0.9148**	**0.9148**		**0.8447**	**0.8447**		**2,898.4903**	**2,898.4903**	**0.9075**		**2,921.1765**

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	0.1332	0.0801	1.0277	2.5200e-003	0.2464	1.6700e-003	0.2481	0.0654	1.5400e-003	0.0669		250.9146	250.9146	7.8000e-003		251.1096
Total	**0.1332**	**0.0801**	**1.0277**	**2.5200e-003**	**0.2464**	**1.6700e-003**	**0.2481**	**0.0654**	**1.5400e-003**	**0.0669**		**250.9146**	**250.9146**	**7.8000e-003**		**251.1096**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6818	17.4982	17.2649	0.0305		0.9148	0.9148		0.8447	0.8447	0.0000	2,898.4903	2,898.4903	0.9075		2,921.1765
Paving	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7383**	**17.4982**	**17.2649**	**0.0305**		**0.9148**	**0.9148**		**0.8447**	**0.8447**	**0.0000**	**2,898.4903**	**2,898.4903**	**0.9075**		**2,921.1765**

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	0.1332	0.0801	1.0277	2.5200e-003	0.2464	1.6700e-003	0.2481	0.0654	1.5400e-003	0.0669		250.9146	250.9146	7.8000e-003		251.1096
Total	**0.1332**	**0.0801**	**1.0277**	**2.5200e-003**	**0.2464**	**1.6700e-003**	**0.2481**	**0.0654**	**1.5400e-003**	**0.0669**		**250.9146**	**250.9146**	**7.8000e-003**		**251.1096**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.6526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**0.8948**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

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	0.0311	0.0187	0.2398	5.9000e-004	0.0575	3.9000e-004	0.0579	0.0153	3.6000e-004	0.0156		58.5467	58.5467	1.8200e-003		58.5922
Total	**0.0311**	**0.0187**	**0.2398**	**5.9000e-004**	**0.0575**	**3.9000e-004**	**0.0579**	**0.0153**	**3.6000e-004**	**0.0156**		**58.5467**	**58.5467**	**1.8200e-003**		**58.5922**

3.7 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.6526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**0.8948**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

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	0.0311	0.0187	0.2398	5.9000e-004	0.0575	3.9000e-004	0.0579	0.0153	3.6000e-004	0.0156		58.5467	58.5467	1.8200e-003		58.5922
Total	**0.0311**	**0.0187**	**0.2398**	**5.9000e-004**	**0.0575**	**3.9000e-004**	**0.0579**	**0.0153**	**3.6000e-004**	**0.0156**		**58.5467**	**58.5467**	**1.8200e-003**		**58.5922**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.549952	0.037123	0.179649	0.119457	0.017229	0.005267	0.017877	0.062669	0.001348	0.001607	0.006000	0.000812	0.001010

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0468	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197
Unmitigated	0.0468	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197

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	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.1000e-004	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197
Total	**0.0468**	**8.0000e-005**	**8.6600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0185**	**0.0185**	**5.0000e-005**		**0.0197**

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	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0299					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.1000e-004	8.0000e-005	8.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0185	0.0185	5.0000e-005		0.0197
Total	**0.0468**	**8.0000e-005**	**8.6600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0185**	**0.0185**	**5.0000e-005**		**0.0197**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 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