Appendix C

Air Quality and Greenhouse Gas

Air Quality

Technical Memorandum

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DATE: January 31, 2019

**RE: Los Angeles River Valley Bikeway and Greenway Project -
Van Alden Avenue to Balboa Boulevard – Air Quality Technical Memorandum**

Summary

The purpose of this Technical Memorandum is to evaluate potential air quality impacts associated with the Los Angeles (LA) River Valley Bikeway and Greenway Project – Van Alden Avenue to Balboa Boulevard (Project). The Project includes the installation of bicycle and pedestrian pathways and the construction of undercrossings and river parks. The Project also includes on-street improvements to increase access to the LA River Bikeway and improve local connectivity for bicyclists. The Project would not result in a significant air quality impact in the context of the California Environmental Quality Act (CEQA) Appendix G Environmental Checklist criteria during construction or operational activities. This Technical Memorandum also includes a General Conformity assessment to satisfy federal requirements.

Project Description

The Project is located along the LA River extending from Van Alden Avenue to Balboa Boulevard and goes through the communities of Reseda, Lake Balboa, and Encino in the City of Los Angeles. The LA River Bikeway between Van Alden Avenue and Balboa Boulevard would include a Class I bicycle path, bikeway undercrossings, fencing and protective barriers, lighting, landscaping, drainage improvements and bioswales, way-finding signage, and interpretive elements. The Project would include on-street improvements at several streets adjacent to the LA River to increase access to the LA River trail. On-street improvements would vary for each location and would generally include signalized pedestrian crossings, striping for new crosswalks, striping of existing roadways for bike lanes, painting existing roadways with green-backed sharrows, construction of new mini traffic circles, and ramp restructuring for Americans with Disabilities Act (ADA) compliance. The regional location of the Project is shown in **Figure 1**. **Figure 2** shows the location of LA River Bikeway and various components.

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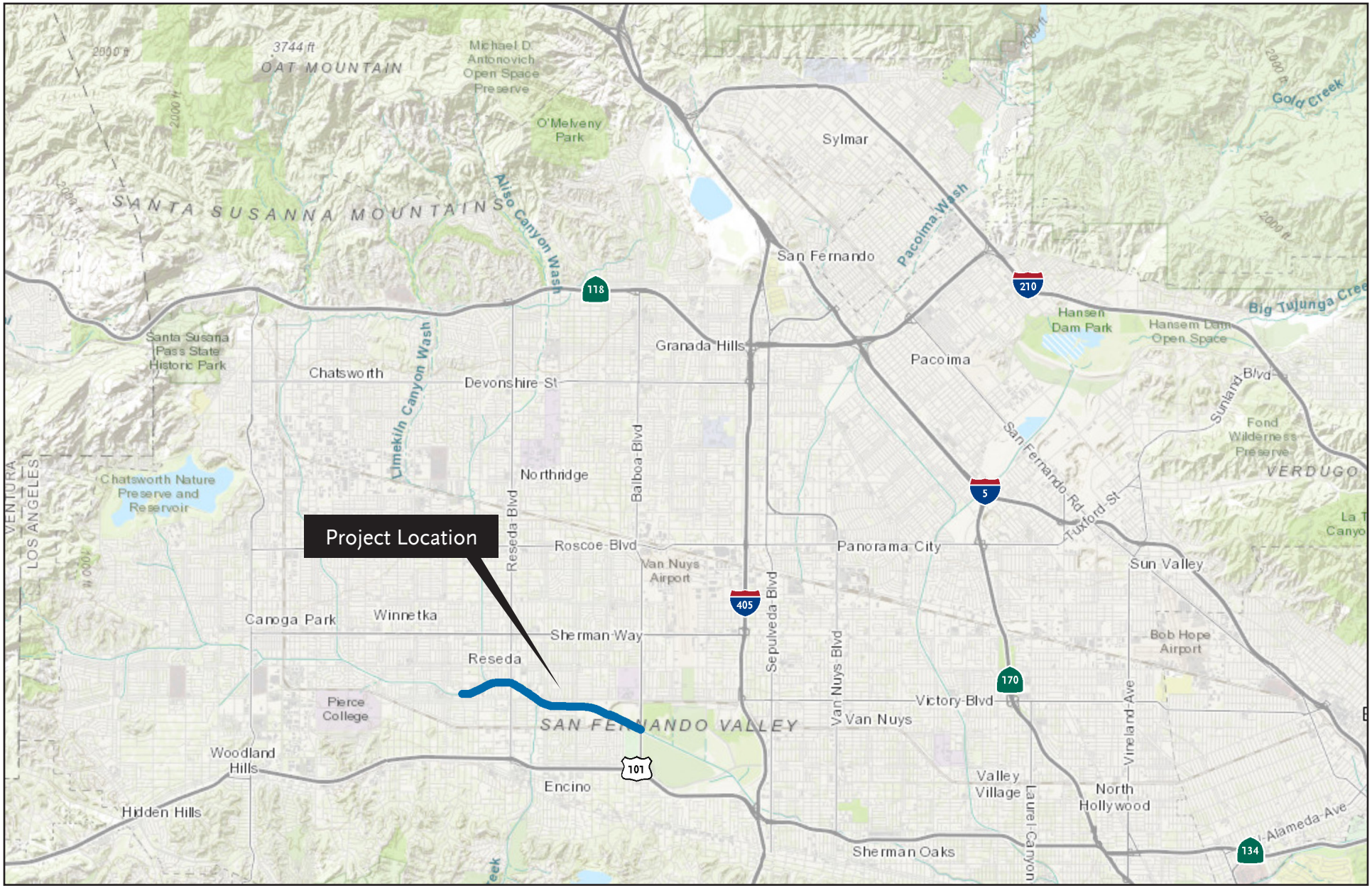

Source: TAHA, 2018.

Los Angeles River Valley Bikeway and Greenway Project
Vanalden Avenue to Balboa Boulevard

TAHA 2016-026 CITY OF LOS ANGELES

FIGURE 1

REGIONAL PROJECT LOCATION

Source: Gruen Associates, 2018.

taha environmental planners

Los Angeles River Valley Bikeway and Greenway Project
Vanalden Avenue to Balboa Boulevard

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FIGURE 2

LOCAL PROJECT LOCATION

Air Quality Fundamentals

Air quality is characterized by ambient air concentrations of seven specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. These specific pollutants, known as criteria air pollutants, are pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. These pollutants are common byproducts of human activities and have been documented through scientific research to cause adverse health effects. The federal ambient concentration criteria are known as the National Ambient Air Quality Standards (NAAQS), and the California ambient concentration criteria are referred to as the California Ambient Air Quality Standards (CAAQS). Federal criteria air pollutants include ground-level ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter ten microns or less in diameter (PM_{10}), fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead. In addition to the federal criteria pollutants, the State regulates visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Air toxics are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. Air toxics are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Air toxics include, but are not limited to, diesel PM, metals, gases absorbed by particles, and certain vapors from fuels and other sources.

Regulatory Framework

Federal

The Clean Air Act (CAA) governs air quality at the national level and the USEPA is responsible for enforcing the regulations provided in the CAA. The USEPA is authorized to establish the NAAQS that set protective limits on concentrations of air pollutants in ambient air. Enforcement of the NAAQS is required under the 1977 CAA and subsequent amendments. The CAA grants the USEPA authority to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS concentrations have been met on a regional scale relying upon air monitoring data from the most recent three-year period. The USEPA 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, using a combination of performance standards and market-based programs within the timeframe identified in the SIP. The NAAQS and the attainment status of each criteria pollutant are summarized in **Table 1**. The South Coast Air Basin (SCAB) does not meet the NAAQS for O_3 and $PM_{2.5}$.

State

Air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). The CCAA is administered by the California Air Resources Board (CARB) at the State level and by the air quality management districts at the regional and local levels. The CCAA requires all areas of the state to achieve and maintain the CAAQS by the earliest feasible date, which is determined in the most recent SIP based on existing emissions and reasonably foreseeable control measures that will be implemented in the future. The CAAQS are also summarized in **Table 1**, which also presents the attainment status designations for the Los Angeles County portion of the SCAB. The SCAB does not meet the CAAQS for ozone, PM_{10}, and $PM_{2.5}$.

TABLE 1: AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS DESIGNATIONS

Pollutant	Averaging Period	California		Federal	
		Standards (CAAQS)	Attainment Status	Standards (NAAQS)	Attainment Status
Ozone (O_3)	1-Hour Average	0.09 ppm (180 µg/m^3)	Nonattainment	--	--
	8-Hour Average	0.070 ppm (137 µg/m^3)	Nonattainment	0.070 ppm (137 µg/m^3)	Nonattainment
Carbon Monoxide (CO)	1-Hour Average	20 ppm (23 mg/m^3)	Attainment	35.0 ppm (40 mg/m^3)	Attainment
	8-Hour Average	9.0 ppm (10 mg/m^3)	Attainment	9.0 ppm (10 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	1-Hour Average	0.18 ppm (338 µg/m^3)	Attainment	0.10 ppm (188 µg/m^3)	Attainment
	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
Sulfur Dioxide (SO_2)	1-Hour Average	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	Attainment
	24-Hour Average	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m^3)	Attainment
Respirable Particulate Matter (PM_{10})	24-Hour Average	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment
	Annual Arithmetic Mean	20 µg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-Hour Average	--	--	35 µg/m^3	Nonattainment
	Annual Arithmetic Mean	12 µg/m^3	Nonattainment	12.0 µg/m^3	Nonattainment
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	1.5 µg/m^3	Attainment (Project Area)
	Rolling 3-Month Average	--	--	0.15 µg/m^3	Attainment (Project Area)
Sulfates	24-Hour Average	25 µg/m^3	Attainment	**No Federal Standards**	
Hydrogen Sulfide	1-Hour Average	0.03 ppm (42 µg/m^3)	Attainment		
Vinyl Chloride	24-Hour Average	0.01 ppm (26 µg/m^3)	Attainment		

ppm = Parts per million; µg/m^3 = micrograms per cubic meter.
SOURCE: CARB, *Air Quality Standards and Area Designations*, January 8, 2019.

The California Toxic Air Contaminant Identification and Control Act created a program to reduce exposure to air toxics. The CARB is required to prioritize the identification and control of air toxics emissions. In selecting substances for review, the CARB must consider criteria relating to the risk of harm to public health, such as amount or potential amount of emissions, manner of and exposure to usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community.

Regional

The South Coast Air Quality Management District (SCAQMD) was created to coordinate air quality planning efforts in non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, the Riverside County portion of the Salton Sea and Mojave Desert Air Basins, and Orange County. The SCAQMD is tasked with preparing regional programs and policies designed to improve air quality within the SCAB, which are assessed and published in the form of the Air Quality Management Plan (AQMP). The AQMP is updated every four years to evaluate the effectiveness of the adopted programs and policies and to forecast attainment dates for nonattainment pollutants to support the SIP based on measured regional air quality and anticipated implementation of new technologies and emissions reductions. The most recent publication is the 2016 AQMP, which is intended to serve as a regional blueprint for achieving the federal air quality standards and healthful air. The AQMP includes strategies to ensure that attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the air quality standards are not met by the established date.

The AQMP also includes an element that is related to transportation and sustainable communities planning. Pursuant to California Health and Safety Code Section 40450, the Southern California Association of Governments (SCAG)—the Metropolitan Planning Organization (MPO) for Southern California—has the responsibility of preparing and approving the portions of the AQMP relating to regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. The analysis incorporated into the 2016 AQMP is based on the forecasts contained within the SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Land use strategies outlined in the 2016–2040 RTP/SCS that will contribute to regional air quality improvements include: focusing new growth around transit/high quality transit areas, planning for growth around livable corridors, providing more options for short trips/neighborhood mobility areas, and supporting local sustainability planning.

The SCAQMD has also established various rules to manage and improve air quality in the SCAB. The City would be required to comply with all applicable SCAQMD Rules and Regulations pertaining to construction activities, including, but not limited to:

- Rule 402 (Nuisance) states that a person should not emit air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- Rule 403 (Fugitive Dust) controls fugitive dust through various requirements including, but not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, limiting vehicle speeds on unpaved roads to 15 miles per hour (mph), and maintaining effective cover over exposed areas. Rule 403 also prohibits the release of fugitive dust emissions from any active operation, open storage piles, or disturbed surface area beyond the property line of the emission source and prohibits particulate matter deposits on public roadways.

Existing Conditions

Local Climate

The SCAB is subject to high levels of air pollution due to the immense magnitude of emissions sources and the combination of topography, low mean atmospheric mixing height, and abundant sunshine. Although the SCAB has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The mountains and hills surrounding the SCAB contribute to the variation of rainfall, temperature, and winds throughout the region. During the spring and early summer, pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the Earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants become more concentrated in urbanized areas with pollution sources of greater magnitude.

Monitored Pollutant Concentrations

Air quality within the SCAB region is characterized by concentrations of air pollutants measured at 40 monitoring stations located throughout the SCAQMD jurisdiction. The SCAB is divided geographically into 38 source receptors areas (SRAs), each of which contains an air quality monitoring station. The SRA boundaries were drawn based on the local emission inventories and surrounding topography. The Project is located in SRA 6 (West San Fernando Valley). The monitoring station that collects ambient air quality data in SRA 6 is the Reseda Monitoring Station located at 18330 Gault Street in the City of Los Angeles.[1] This location is approximately 0.6 miles north of the corridor at the nearest point. The Reseda Monitoring Station records ozone, $PM_{2.5}$, and NO_2 concentrations. Concentrations exceeded the NAAQS and/or the CAAQS for ozone and $PM_{2.5}$ over the last five years.[2]

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The CARB has identified the following groups who are most likely to experience adverse health effects due to exposure to air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, land uses that constitute sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The Project Area is surrounded primarily by medium- and low-residential communities in addition to open space and recreational areas, including the Reseda Park and Recreation Center, Sepulveda Basin Recreation area, Lake Balboa/Anthony C. Beilenson Park, Balboa Sports Center, and Balboa & Encino Gold Course. There are also education uses such as Reseda Charter High School, Magnolia Science Academy 5 School, and Zane Grey Continuation School. Religious institutions such as the Islamic Center of Reseda and day care centers such as ONEgeneration Child Daycare are also located near the Project Area.

[1]CARB, *Quality Assurance Air Monitoring Site Information*, January 9, 2019.
[2]CARB, *iADAM: Air Quality Data Statistics*, January 9, 2019.

Significance Thresholds

The assessment has considered the potential to result in significant environmental impacts related to air quality in the context of the Appendix G Environmental Checklist criteria of the CEQA Statute and Guidelines. Implementation of the Project may result in a significant environmental impact related to air quality if the Project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) 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;

c) Expose sensitive receptors to substantial pollutant concentrations; and/or

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

The SCAQMD published a CEQA Air Quality Handbook to guide air quality assessments for CEQA projects within its jurisdiction. SCAQMD methodologies recommend that air pollutant emissions be analyzed in both regional and local contexts. Regional emissions refer to all emissions that would be associated with construction and operation of a project, while localized emissions refer to only those emissions that would be produced by sources located on the project site. To assist in the assessment of air pollutant emissions, the SCAQMD established maximum daily threshold values for air pollutant emissions from CEQA projects within the SCAB. The mass daily thresholds were derived using regional emissions modeling techniques to prevent the occurrence of air quality violations that would obstruct implementation of the regional AQMP and hinder efforts to improve regional air quality.

Table 2 presents the SCAQMD mass daily air quality significance thresholds for regional and localized emissions of regulated pollutants resulting from construction activities.[3] The localized air quality significance thresholds are specific to SCAQMD SRA 6 for a one-acre construction site with sensitive receptors within 25 meters and were obtained from the SCAQMD localized significance threshold (LST) guidance document.[4,5] The LST values were derived from regionally-specific modeling of pollutant emissions and designed to prevent localized pollutant concentrations from exceeding applicable ambient air quality standards near construction sites.

TABLE 2: SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS – MASS DAILY EMISSIONS

Pollutant	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
CONSTRUCTION						
Regional Threshold (lb/day)	75	100	550	150	150	55
Localized Threshold (lb/day)	--	103	426	--	4	3
OPERATION						
Regional Threshold (lb/day)	55	55	550	150	150	55

Note: LST values selected for one-acre daily disturbance based on equipment inventory and 25-meter receptor distance in SRA 6.
SOURCE: SCAQMD, 2019.

[3]SCAQMD, *SCAQMD Air Quality Significance Thresholds – Mass Daily Thresholds*, March 2015.
[4]SCAQMD, *Final Localized Significance Threshold Methodology Appendix C Mass Rate Lookup Tables*, October 21, 2009.
[5]SCAQMD, *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, 2008.

Furthermore, SCAQMD is tasked with managing exposure of sensitive receptors to air toxics and carcinogenic risk. According to SCAQMD methodology, health effects from carcinogenic air toxics are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of toxic air contaminants (TACs) over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. SCAQMD has stated that the incremental cancer risk should not exceed 10 persons in one million, and the chronic and acute risks should not exceed a calculated Hazard Index value of 1.0.

Methodology

Construction

Construction of the Project is anticipated to begin in the spring of 2021 and last for approximately three years. An overview of the construction activities, schedule, material displacement and movement, and construction crew size is presented in **Table 3**, below. Generally, construction of the Project will involve demolition of existing structures in the right-of-way, clearing and grading of the pathway corridor and surrounding areas, paving of the asphalt bikeway and granite composite pedestrian path as well as accessibility features, and installation of landscaping and pocket parks and architectural finishing. At this time, precise start and end dates are not known, and it is possible that some overlap of construction phases may occur.

Emissions of air pollutants that would be generated by construction activities were calculated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2). CalEEMod is the preferred regulatory tool for estimating air pollutant emissions associated with land use developments in California. The information presented in **Table 3** was used in conjunction with a project-specific equipment inventory to estimate maximum daily emissions of air pollutants that would be released by sources involved in Project construction. Detailed construction modeling data can be found in the technical **Appendix**.

TABLE 3: PROJECT CONSTRUCTION PARAMETERS

Phase	Start Date	End Date	Approximate Work Days /a/	Daily Crew Size	Daily Truck Trips	Total Material Export	Total Material Import
Mobilization /b/	Spring 2021	Spring 2021	10	—	—	—	—
Demolition	Spring 2021	Summer 2021	88	8	10	7,000 cy	—
Site Preparation	Summer 2021	Summer 2021	44	8	2	—	—
Site Grading	Fall 2021	Winter 2021	88	8	10	8,500 cy	—
Site Construction	Winter 2022	Fall 2023	455	10	5	2,800 cy	16,560 cy
Architectural Finishing, Landscaping/Pocket Parks	Fall 2023	Winter 2024	174	6	4	—	—

cy = cubic yards
/a/ Approximate work days does not include overlapping construction days.
/b/ No construction would take place during this phase.
SOURCE: Gruen Associates, 2018.

Operations

A transportation analysis prepared for the Project determined that VMT would be reduced by 457,918 miles per year. The CARB publishes its statewide mobile source emissions inventory in the form of the EMFAC model, the most recent version currently approved by the United States Environmental Protection Agency being EMFAC2017. To quantify the annual reduction in emissions, emission factors were obtained from the EMFAC2017 database for light duty vehicles traveling at an average speed of 40 mph in the scenario year 2035. The average speed of 40 mph was selected as a conservative reference speed. Although average speeds may be slower than 40 mph, emission rates at 20 and 30 mph are higher than those at 40 mph, and therefore using 40 mph produces a conservative estimate in the incremental reduction in regional GHG emissions. If average speeds are lower in 2035 upon project implementation, the emissions reductions would be even greater than the quantities estimated in this analysis.

Impact Assessment

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan? (No Impact)

Construction

According to the SCAQMD, there are two key indicators of consistency with the AQMP: 1) whether the Project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plan; and 2) whether the Project would exceed the forecasted growth incorporated into the AQMP. Construction activity would not affect forecasted growth assumptions. The following analysis assesses the first consistency criterion, which is related to violations of the CAAQS and NAAQS. Short-term, temporary emissions associated with construction activities would not conflict with the AQMP so long as no SCAQMD air quality mass daily thresholds of significance are exceeded. As shown in **Table 4**, below, maximum daily emissions associated with Project construction would not exceed any applicable SCAQMD significance threshold for ozone precursors and criteria pollutants.

TABLE 4: ESTIMATED DAILY EMISSIONS – PROJECT CONSTRUCTION

PHASE	Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
DEMOLITION						
On-Site Emissions	3.0	31.2	20.1	<0.1	3.9	2.6
Off-Site Emissions	0.2	5.5	1.9	<0.1	0.5	0.2
Total	***3.2***	***36.7***	***22.0***	***<0.1***	***4.5***	***2.8***
SITE PREPARATION						
On-Site Emissions	1.0	10.4	7.0	<0.1	0.4	0.4
Off-Site Emissions	0.1	1.1	0.9	<0.1	0.3	<0.1
Total	***1.1***	***11.5***	***7.8***	***<0.1***	***0.6***	***0.4***
GRADING						
On-Site Emissions	2.1	21.6	14.6	<0.1	3.4	2.2
Off-Site Emissions	0.2	5.5	1.9	<0.1	0.5	0.2
Total	***2.4***	***27.1***	***16.5***	***<0.1***	***3.9***	***2.4***
CONSTRUCTION						
On-Site Emissions	0.9	9.0	13.4	<0.1	0.4	0.4
Off-Site Emissions	0.4	8.5	3.0	<0.1	0.9	0.3
Total	***1.3***	***17.4***	***16.4***	***<0.1***	***1.3***	***0.7***
ARCHITECTURAL COATING + LANDSCAPING						
On-Site Emissions	2.0	15.0	19.4	<0.1	0.7	0.7
Off-Site Emissions	0.1	1.4	0.8	<0.1	0.4	0.1
Total	***2.1***	***16.4***	***20.3***	***<0.1***	***1.1***	***0.8***
REGIONAL ANALYSIS						
Maximum Regional Daily Emissions	**3.2**	**36.7**	**22.0**	**0.1**	**4.5**	**2.8**
Regional Significance Threshold	75	100	550	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
LOCALIZED ANALYSIS						
Maximum Localized Daily Emissions	**--**	**31.2**	**20.1**	**--**	**3.9**	**2.6**
Localized Significance Threshold	--	103	426	--	4	3
Exceed Localized Threshold?	**--**	**No**	**No**	**--**	**No**	**No**

Note: Emissions modeling files can be found in the technical **Appendix**.
SOURCE: TAHA, 2019.

Given schedule uncertainty and the linear configuration of the Project corridor, it is possible that multiple activities may be taking place concurrently at different locations and there could be some overlap of the emissions disclosed above. Taking this possibility into consideration, potential combinations of regional activity emissions are presented below in **Table 5**. The analysis includes all combinations of sequential construction activities in the schedule. The analysis does not include a localized element, as it is anticipated that these construction activities would not be occurring at the same localized site due to accessibility constraints. Results of the combined activity analysis shown in **Table 5**, below, demonstrate that regional emissions would remain below the applicable SCAQMD thresholds at all times during construction of the Project. Construction of the Project would not conflict with or obstruct implementation of the applicable air quality plan.

TABLE 5: ESTIMATED DAILY EMISSIONS – SEQUENTIAL ACTIVITY ANALYSIS

PHASE	Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
DEMOLITION + SITE PREPARATION						
On-Site Emissions	4.0	41.6	27.1	<0.1	4.3	3.0
Off-Site Emissions	0.4	6.6	2.8	<0.1	0.8	0.2
Total	***4.3***	***48.2***	***29.9***	***<0.1***	***5.1***	***3.2***
SITE PREPARATION + GRADING						
On-Site Emissions	3.1	32.0	21.6	<0.1	3.8	2.6
Off-Site Emissions	0.4	6.6	2.8	<0.1	0.8	0.2
Total	***3.4***	***38.6***	***24.3***	***<0.1***	***4.6***	***2.8***
GRADING + CONSTRUCTION						
On-Site Emissions	3.0	30.5	27.9	<0.1	3.8	2.6
Off-Site Emissions	0.6	14.0	5.0	<0.1	1.5	0.4
Total	***3.7***	***44.5***	***32.9***	***<0.1***	***5.3***	***3.1***
CONSTRUCTION + ARCHITECTURAL COATING/LANDSCAPING						
On-Site Emissions	2.9	24.0	32.8	<0.1	1.1	1.1
Off-Site Emissions	0.5	9.8	3.9	<0.1	1.3	0.4
Total	***3.4***	***33.8***	***36.7***	***<0.1***	***2.5***	***1.5***
REGIONAL ANALYSIS						
Maximum Overlap Daily Emissions	**4.3**	**48.2**	**36.7**	**<0.1**	**5.3**	**3.2**
Regional Significance Threshold	75	100	550	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in the technical **Appendix**.
SOURCE: TAHA, 2017.

In addition, construction activities associated with the Project would comply with State and local strategies designed to control air pollution, such as SCAQMD Rules 402 and 403. By adhering to the stringent SCAQMD rules and regulations pertaining to fugitive dust control and maintaining maximum daily emissions below the SCAQMD mass daily thresholds, Project construction activities would be consistent with the goals and objectives of the AQMP to improve air quality in the SCAB and would not result in an air quality violation.

Operations

The potential to interfere with the attainment of State and federal air quality standards is related to permanent source of Project-related emissions. The Project would include a stationary source of emissions associated with landscaping of the green space. Regarding mobile source emissions, the Project would decrease automobile VMT by providing expanded active transportation options with new access to transit, homes, schools, jobs, nature, recreation, and other community-serving amenities. It is anticipated that annual VMT would be reduced by 457,918 miles per year. **Table 6** shows the anticipated reduction in regional pollutant emissions. By reducing emissions, the Project would be consistent with the goals and objectives of the AQMP to improve air quality in the SCAB and would not conflict with or obstruct implementation of the air quality plan.

TABLE 6: ESTIMATED DAILY OPERATIONAL EMISSIONS						
	Daily Emissions (Pounds Per Day)					
SOURCE	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Regional Transportation Mode Shift	(-0.04)	(-0.10)	(-1.22)	(0.0)	(-0.26)	(-0.07)
Proposed Project Stationary Source	0.11	<0.01	0.02	0.0	<0.01	<0.01
Net Change	***0.07***	***(-0.10)***	***(-1.20)***	***0.00***	***(-0.25)***	***(-0.06)***
Regional Significance Threshold	55	55	550	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
SOURCE: TAHA, 2018.						

Regarding growth forecasts, implementation of the Project would not introduce any new residential or commercial land uses to the Project area, and therefore population and employment projections for the region would not be affected. The Project would have no potential to result in growth that would exceed the projections incorporated into the AQMP.

b) Would the Project 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? (No Impact)

Construction

The SCAB is designated as nonattainment of the CAAQS and NAAQS for O_3, PM_{10}, and $PM_{2.5}$. Therefore, there is an ongoing regional cumulative impact associated with these air pollutants. Taking into account the existing environmental conditions, the SCAQMD propagated guidance that an individual project can emit allowable quantities of these pollutants on a regional scale without significantly contributing to the cumulative impacts. As discussed above and shown in **Table 4**, air pollutant emissions associated with construction of the Project would not exceed any applicable SCAQMD air quality thresholds of significance. Despite the region being in nonattainment of the ambient air quality standards for O_3, PM_{10}, and $PM_{2.5}$, the SCAQMD does not consider individual project emissions of lesser magnitude than the mass daily thresholds to be cumulatively considerable. Therefore, the Project would not result in a cumulatively considerable net increase of nonattainment pollutants.

Operations

Implementation of the Project would expand active transportation options and reduce regional VMT. As shown in **Table 4**, there would be a corresponding decrease in pollutant emissions. The VMT reduction is a Project benefit to regional air quality conditions. There is no potential for the Project to result in a cumulatively considerable net increase of nonattainment pollutants.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations? (No Impact)

Construction

The SCAQMD devised its LST values to prevent the occurrence of localized hot spots of criteria pollutant concentrations at sensitive receptor locations surrounding the project site. The LST values were determined using emissions modeling based on ambient air quality measured throughout the SCAB. If maximum daily emissions remain below the LST values during construction activities, it is highly unlikely that air pollutant concentrations in ambient air would reach substantial levels sufficient to create public health concerns for sensitive receptors. As shown in **Table 3**, maximum daily emissions of criteria pollutants and ozone precursors

would not exceed any applicable LST values. Therefore, construction of the Project would not result in exposure of sensitive receptors to substantial concentrations of criteria pollutants.

With regards to emissions of air toxics, carcinogenic risks, and non-carcinogenic hazards, the use of heavy-duty construction equipment and haul trucks during construction activities would release diesel PM to the atmosphere through exhaust emissions. Diesel PM is a known carcinogen, and extended exposure to elevated concentrations of diesel PM can increase excess cancer risks in individuals. However, carcinogenic risks are typically assessed over timescales of several years to decades, as the carcinogenic dose response is cumulative in nature. Short-term exposures to diesel PM would have to involve extremely high concentrations in order to exceed the SCAQMD Air Quality Significance Threshold of 10 excess cancers per million.

Over the course of construction activities, average diesel PM emissions from on-site equipment would be approximately 0.64 pounds per day on work days, and 0.48 pounds per day including non-work days. Therefore, it is highly unlikely that diesel PM concentrations would be of any public health concern during the 38-month construction period, and diesel PM emissions would cease upon completion of construction activities. Therefore, the Project would result in a less than significant impact related to construction toxic air contaminants.

Operations

The Project would expand active transportation options in the Project Area. The Project does not include an industrial component that would constitute a new substantial stationary source of operational air pollutant emissions, nor does it include a land use that would generate a substantial number of heavy-duty truck trips within the region. There would be no substantial source of air toxic emissions.

d) Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (No Impact)

Construction

The only source of potentially impactful construction emissions other than criteria pollutants, ozone precursors, and TACs would be emissions leading to odors. Potential sources that may produce objectionable odors during construction activities include equipment exhaust, application of asphalt and architectural coatings, and other interior and exterior finishes. Odors from these sources would be localized and generally confined to the immediate area surrounding the Project site, would be temporary in nature, and would not persist beyond the termination of construction activities. The Project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. In addition, as construction-related emissions dissipate away from the construction area, the odors associated with these emissions would also decrease and would be quickly diluted. There is no potential for a construction-related odor impact.

Operations

The only source of potentially impactful construction emissions other than criteria pollutants, ozone precursors, and TACs would be emissions leading to odors. According to the SCAQMD CEQA Air Quality Handbook, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Project would not include a land use typically associated with odor impacts. Trash receptacles along the bicycle and pedestrian pathways and in the parks would have the potential to create adverse odors. Trash receptacles would be located and maintained in a manner that promotes odor control in

accordance with the Los Angeles Clean Streets program. There is no potential for an operational-related odor impact.

General Conformity

General Conformity ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality. Established under the CAA (Section 176(c)(4)), the General Conformity rule plays an important role in helping states and tribes improve air quality in those areas that do not meet the NAAQS. Pursuant to Section 176(c) of the CAA (40 United State Code 7506(c)), if the Project would occur in a nonattainment area and pollutant emissions generated by the federal action associated with the Project would equal or exceed a specified annual *de minimis* emission rate, a General Conformity Determination must be performed by the lead federal agency to ensure that it conforms with the CAA before the federal action can be approved.

Construction and operational emissions along with the applicable *de minimis* thresholds are shown in **Table 7**. Project emissions would be below all *de minimis* thresholds. A General Conformity determination is not necessary, and no further action is required.

TABLE 7: GENERAL CONFORMITY *de minimis* ANALYSIS

Pollutant	Federal Attainment Status	Nonattainment Severity (if Applicable)	Thresholds of Significance for SCAB (Tons/Year)	Estimated Construction Emissions (Tons/Year)	Estimated Operation Emissions (Tons/Year)
Ozone Precursors:					
NO_X	Nonattainment	Extreme	10	2.7	<0.1
VOC			10	0.2	<0.1
Carbon Monoxide (CO)	Maintenance	Serious	100	2.4	<0.1
Nitrogen Dioxide (NO_2)	Maintenance	None	100	2.7	<0.1
Sulfur Dioxide (SO_2)	Attainment	Not Applicable	Not Applicable	<0.1	<0.1
Particulate Matter (PM_{10})	Maintenance	Serious	100	0.3	<0.1
Particulate Matter ($PM_{2.5}$):					
$PM_{2.5}$ (Directly Emitted)	Nonattainment	Serious	70	0.1	<0.1
SO_X			70	<0.1	<0.1
NO_X			70	<0.1	<0.1
VOC			70	<0.1	<0.1
Lead (Pb)	Nonattainment	None	25	0.0	0.0

NO_X = Nitrogen Oxides; VOC = Volatile Organic Compounds; SO_X = Sulfur Oxides
SOURCE: TAHA, 2019.

References

California Air Resources Board, *iADAM: Air Quality Data Statistics, January 9*, 2019.

California Air Resources Board, *Quality Assurance Air Monitoring Site Information*, January 9, 2019.

South Coast Air Quality Management District & BREEZE Software, *California Emissions Estimator Model (CalEEMod, Version 2016.3.2)*, October 2017.

South Coast Air Quality Management District, *Air Quality Management Plan*, 2016.

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

South Coast Air Quality Management District, *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, 2008.

South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology Appendix C Mass Rate Lookup Tables*, October 21, 2009.

South Coast Air Quality Management District, *SCAQMD Air Quality Significance Thresholds*, March 2015.

Southern California Association of Governments, *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*, April 2016.

Air Quality Appendix – Technical Calculations

- CalEEMod Output File – Daily Emissions
- Regional VMT Operational Emissions Worksheet

LA River Valley Bikeway & Greenway Project

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	159.29	1000sqft	3.66	159,292.00	0
Other Non-Asphalt Surfaces	82.61	1000sqft	1.90	82,613.00	0
City Park	0.90	Acre	0.90	39,204.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

LA River Valley Bikeway & Greenway Project - Los Angeles-South Coast County, Winter

Project Characteristics -

Land Use - Total Asphalt = 159,292 square feet
Total Granite/Bioswale = 82,613 square feet
Total Green Space = 0.9 acres

Construction Phase - LARB Project Description - Construction Schedule

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Off-road Equipment - Project Description Info

Off-road Equipment - Placeholder for Material Export.

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Trips and VMT - Project Description Info

Grading - Grading = 1 bulldozer x 0.5 acres/day = 5 acres.

Architectural Coating -

Area Coating -

Water And Wastewater -

Solid Waste -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	174.00
tblConstructionPhase	NumDays	20.00	88.00
tblConstructionPhase	NumDays	20.00	455.00
tblConstructionPhase	NumDays	10.00	88.00

tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	10.00	455.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	AcresOfGrading	0.00	5.00
tblGrading	AcresOfGrading	88.00	44.00
tblGrading	MaterialExported	0.00	8,500.00
tblGrading	MaterialExported	0.00	7,000.00
tblGrading	MaterialExported	0.00	2,800.00
tblGrading	MaterialImported	0.00	16,560.00
tblLandUse	LandUseSquareFeet	159,290.00	159,292.00
tblLandUse	LandUseSquareFeet	82,610.00	82,613.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,760.00
tblTripsAndVMT	HaulingTripNumber	0.00	176.00
tblTripsAndVMT	HaulingTripNumber	1,063.00	1,760.00
tblTripsAndVMT	HaulingTripNumber	2,420.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,550.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,392.00
tblTripsAndVMT	VendorTripNumber	0.00	64.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	24.00	12.00
tblVehicleTrips	ST_TR	22.75	0.00

tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2456	36.7209	22.0266	0.0590	7.0899	1.4038	8.4937	3.5121	1.3059	4.8181	0.0000	5,887.9577	5,887.9577	1.2775	0.0000	5,919.8949
2022	1.3072	17.4234	16.4066	0.0471	0.9121	0.4360	1.3481	0.2503	0.4135	0.6638	0.0000	4,798.0945	4,798.0945	0.6695	0.0000	4,814.8323
2023	2.0860	16.3654	20.2905	0.0461	0.9893	0.7337	1.3735	0.2692	0.7013	0.8072	0.0000	4,703.7284	4,703.7284	0.6497	0.0000	4,719.9702
2024	1.9945	15.4246	20.2796	0.0388	0.3600	0.6583	1.0183	0.0950	0.6283	0.7233	0.0000	3,800.9584	3,800.9584	0.6073	0.0000	3,816.1410
Maximum	**3.2456**	**36.7209**	**22.0266**	**0.0590**	**7.0899**	**1.4038**	**8.4937**	**3.5121**	**1.3059**	**4.8181**	**0.0000**	**5,887.9577**	**5,887.9577**	**1.2775**	**0.0000**	**5,919.8949**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2456	36.7209	22.0266	0.0590	3.0875	1.4038	4.4913	1.4571	1.3059	2.7631	0.0000	5,887.9577	5,887.9577	1.2775	0.0000	5,919.8949
2022	1.3072	17.4234	16.4066	0.0471	0.9092	0.4360	1.3452	0.2498	0.4135	0.6634	0.0000	4,798.0945	4,798.0945	0.6695	0.0000	4,814.8323
2023	2.0860	16.3654	20.2905	0.0461	0.9863	0.7337	1.3706	0.2688	0.7013	0.8072	0.0000	4,703.7284	4,703.7284	0.6497	0.0000	4,719.9702
2024	1.9945	15.4246	20.2796	0.0388	0.3600	0.6583	1.0183	0.0950	0.6283	0.7233	0.0000	3,800.9584	3,800.9584	0.6073	0.0000	3,816.1410
Maximum	**3.2456**	**36.7209**	**22.0266**	**0.0590**	**3.0875**	**1.4038**	**4.4913**	**1.4571**	**1.3059**	**2.7631**	**0.0000**	**5,887.9577**	**5,887.9577**	**1.2775**	**0.0000**	**5,919.8949**

	ROG	NOx	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**	**42.86**	**0.00**	**32.76**	**49.82**	**0.00**	**29.31**	**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	0.1084	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566
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	**0.1084**	**2.2000e-004**	**0.0248**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**		**0.0531**	**0.0531**	**1.4000e-004**	**0.0000**	**0.0566**

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	0.1084	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566
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	**0.1084**	**2.2000e-004**	**0.0248**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**		**0.0531**	**0.0531**	**1.4000e-004**	**0.0000**	**0.0566**

	ROG	NOx	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	Site Preparation	3/1/2021	6/30/2021	5	88	
2	Site Preparation	Site Preparation	7/1/2021	8/31/2021	5	44	
3	Grading	Grading	9/1/2021	12/31/2021	5	88	
4	Building Construction (2)	Site Preparation	1/3/2022	9/29/2023	5	455	
5	Building Construction (1)	Paving	1/3/2022	9/29/2023	5	455	
6	Architectural Coating, Landscaping, Pocket Parks	Architectural Coating	10/2/2023	4/20/2024	6	174	Architectural Finishing, Landscaping, Pocket Parks, River Street End Parks

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 5.56

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 14,514 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Other Material Handling Equipment	1	8.00	168	0.40
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Scrapers	1	8.00	367	0.48
Site Preparation	Other Material Handling Equipment	1	8.00	168	0.40
Site Preparation	Rubber Tired Loaders	2	8.00	203	0.36
Grading	Excavators	1	8.00	158	0.38
Grading	Other Material Handling Equipment	1	8.00	168	0.40
Grading	Rollers	1	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Building Construction (2)	Crawler Tractors	1	0.00	212	0.43
Building Construction (1)	Aerial Lifts	1	8.00	63	0.31
Building Construction (1)	Generator Sets	1	8.00	84	0.74
Building Construction (1)	Other Material Handling Equipment	1	8.00	168	0.40
Building Construction (1)	Paving Equipment	1	8.00	132	0.36
Building Construction (1)	Rough Terrain Forklifts	1	8.00	100	0.40
Architectural Coating, Landscaping, Pocket Parks	Air Compressors	1	6.00	78	0.48
Architectural Coating, Landscaping, Pocket Parks	Generator Sets	2	8.00	84	0.74
Architectural Coating, Landscaping, Pocket Parks	Other Construction Equipment	2	8.00	172	0.42
Architectural Coating, Landscaping, Pocket Parks	Rough Terrain Forklifts	1	8.00	100	0.40

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	5	16.00	0.00	1,760.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	16.00	0.00	176.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	16.00	0.00	1,760.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (2)	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (1)	5	20.00	64.00	4,550.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating, Landscaping, Pocket	6	12.00	0.00	1,392.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5613	0.0000	6.5613	3.3688	0.0000	3.3688			0.0000			0.0000
Off-Road	2.9985	31.2381	20.1036	0.0420		1.3856	1.3856		1.2886	1.2886		4,052.8313	4,052.8313	1.1535		4,081.6689
Total	**2.9985**	**31.2381**	**20.1036**	**0.0420**	**6.5613**	**1.3856**	**7.9470**	**3.3688**	**1.2886**	**4.6575**		**4,052.8313**	**4,052.8313**	**1.1535**		**4,081.6689**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1708	5.4306	1.3339	0.0153	0.3497	0.0167	0.3664	0.0959	0.0160	0.1119		1,663.5662	1,663.5662	0.1189		1,666.5396
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.2471**	**5.4828**	**1.9231**	**0.0171**	**0.5286**	**0.0182**	**0.5467**	**0.1433**	**0.0173**	**0.1606**		**1,835.1264**	**1,835.1264**	**0.1240**		**1,838.2260**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5589	0.0000	2.5589	1.3139	0.0000	1.3139			0.0000			0.0000
Off-Road	2.9985	31.2381	20.1036	0.0420		1.3856	1.3856		1.2886	1.2886	0.0000	4,052.8313	4,052.8313	1.1535		4,081.6689
Total	**2.9985**	**31.2381**	**20.1036**	**0.0420**	**2.5589**	**1.3856**	**3.9445**	**1.3139**	**1.2886**	**2.6025**	**0.0000**	**4,052.8313**	**4,052.8313**	**1.1535**		**4,081.6689**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1708	5.4306	1.3339	0.0153	0.3497	0.0167	0.3664	0.0959	0.0160	0.1119		1,663.5662	1,663.5662	0.1189		1,666.5396
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.2471**	**5.4828**	**1.9231**	**0.0171**	**0.5286**	**0.0182**	**0.5467**	**0.1433**	**0.0173**	**0.1606**		**1,835.1264**	**1,835.1264**	**0.1240**		**1,838.2260**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9809	10.3899	6.9857	0.0183		0.3925	0.3925		0.3611	0.3611		1,770.1292	1,770.1292	0.5725		1,784.4416
Total	**0.9809**	**10.3899**	**6.9857**	**0.0183**	**0.0000**	**0.3925**	**0.3925**	**0.0000**	**0.3611**	**0.3611**		**1,770.1292**	**1,770.1292**	**0.5725**		**1,784.4416**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0342	1.0861	0.2668	3.0700e-003	0.0699	3.3400e-003	0.0733	0.0192	3.2000e-003	0.0224		332.7132	332.7132	0.0238		333.3079
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.1104**	**1.1383**	**0.8560**	**4.7900e-003**	**0.2488**	**4.7900e-003**	**0.2536**	**0.0666**	**4.5300e-003**	**0.0711**		**504.2734**	**504.2734**	**0.0288**		**504.9943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9809	10.3899	6.9857	0.0183		0.3925	0.3925		0.3611	0.3611	0.0000	1,770.1292	1,770.1292	0.5725		1,784.4416
Total	**0.9809**	**10.3899**	**6.9857**	**0.0183**	**0.0000**	**0.3925**	**0.3925**	**0.0000**	**0.3611**	**0.3611**	**0.0000**	**1,770.1292**	**1,770.1292**	**0.5725**		**1,784.4416**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0342	1.0861	0.2668	3.0700e-003	0.0699	3.3400e-003	0.0733	0.0192	3.2000e-003	0.0224		332.7132	332.7132	0.0238		333.3079
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.1104**	**1.1383**	**0.8560**	**4.7900e-003**	**0.2488**	**4.7900e-003**	**0.2536**	**0.0666**	**4.5300e-003**	**0.0711**		**504.2734**	**504.2734**	**0.0288**		**504.9943**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0933	0.0000	6.0933	3.3184	0.0000	3.3184			0.0000			0.0000
Off-Road	2.1029	21.5751	14.5771	0.0284		1.0182	1.0182		0.9367	0.9367		2,746.5360	2,746.5360	0.8883		2,768.7432
Total	**2.1029**	**21.5751**	**14.5771**	**0.0284**	**6.0933**	**1.0182**	**7.1115**	**3.3184**	**0.9367**	**4.2551**		**2,746.5360**	**2,746.5360**	**0.8883**		**2,768.7432**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1708	5.4306	1.3339	0.0153	0.3497	0.0167	0.3664	0.0959	0.0160	0.1119		1,663.5662	1,663.5662	0.1189		1,666.5396
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.2471**	**5.4828**	**1.9231**	**0.0171**	**0.5286**	**0.0182**	**0.5467**	**0.1433**	**0.0173**	**0.1606**		**1,835.1264**	**1,835.1264**	**0.1240**		**1,838.2260**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3764	0.0000	2.3764	1.2942	0.0000	1.2942			0.0000			0.0000
Off-Road	2.1029	21.5751	14.5771	0.0284		1.0182	1.0182		0.9367	0.9367	0.0000	2,746.5360	2,746.5360	0.8883		2,768.7432
Total	**2.1029**	**21.5751**	**14.5771**	**0.0284**	**2.3764**	**1.0182**	**3.3946**	**1.2942**	**0.9367**	**2.2309**	**0.0000**	**2,746.5360**	**2,746.5360**	**0.8883**		**2,768.7432**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1708	5.4306	1.3339	0.0153	0.3497	0.0167	0.3664	0.0959	0.0160	0.1119		1,663.5662	1,663.5662	0.1189		1,666.5396
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	0.0763	0.0522	0.5892	1.7200e-003	0.1788	1.4500e-003	0.1803	0.0474	1.3300e-003	0.0488		171.5602	171.5602	5.0500e-003		171.6864
Total	**0.2471**	**5.4828**	**1.9231**	**0.0171**	**0.5286**	**0.0182**	**0.5467**	**0.1433**	**0.0173**	**0.1606**		**1,835.1264**	**1,835.1264**	**0.1240**		**1,838.2260**

3.5 Building Construction (2) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.8100e-003	0.0000	4.8100e-003	7.3000e-004	0.0000	7.3000e-004			0.0000			0.0000
Off-Road	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**	**4.8100e-003**	**0.0000**	**4.8100e-003**	**7.3000e-004**	**0.0000**	**7.3000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction (2) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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 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					1.8800e-003	0.0000	1.8800e-003	2.8000e-004	0.0000	2.8000e-004			0.0000			0.0000
Off-Road	0.0000	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**	**1.8800e-003**	**0.0000**	**1.8800e-003**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction (2) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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**

3.5 Building Construction (2) - 2023

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					4.8100e-003	0.0000	4.8100e-003	7.3000e-004	0.0000	7.3000e-004			0.0000			0.0000
Off-Road	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**	**4.8100e-003**	**0.0000**	**4.8100e-003**	**7.3000e-004**	**0.0000**	**7.3000e-004**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction (2) - 2023

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	0.0000	0.0000	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 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					1.8800e-003	0.0000	1.8800e-003	2.8000e-004	0.0000	2.8000e-004			0.0000			0.0000
Off-Road	0.0000	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**	**1.8800e-003**	**0.0000**	**1.8800e-003**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction (2) - 2023

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	0.0000	0.0000	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**

3.6 Building Construction (1) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9236	8.9511	13.3686	0.0216		0.4155	0.4155		0.3940	0.3940		2,073.5540	2,073.5540	0.4987		2,086.0222
Paving	0.0211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9446**	**8.9511**	**13.3686**	**0.0216**		**0.4155**	**0.4155**		**0.3940**	**0.3940**		**2,073.5540**	**2,073.5540**	**0.4987**		**2,086.0222**

3.6 Building Construction (1) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0813	2.5203	0.6588	7.5600e-003	0.2740	7.2700e-003	0.2813	0.0723	6.9500e-003	0.0792		821.8167	821.8167	0.0585		823.2795
Vendor	0.1917	5.8931	1.7009	0.0159	0.4098	0.0115	0.4212	0.1180	0.0110	0.1289		1,695.8098	1,695.8098	0.1066		1,698.4742
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.3626**	**8.4723**	**3.0381**	**0.0255**	**0.9073**	**0.0205**	**0.9278**	**0.2495**	**0.0195**	**0.2691**		**2,724.5404**	**2,724.5404**	**0.1708**		**2,728.8101**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9236	8.9511	13.3686	0.0216		0.4155	0.4155		0.3940	0.3940	0.0000	2,073.5540	2,073.5540	0.4987		2,086.0222
Paving	0.0211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9446**	**8.9511**	**13.3686**	**0.0216**		**0.4155**	**0.4155**		**0.3940**	**0.3940**	**0.0000**	**2,073.5540**	**2,073.5540**	**0.4987**		**2,086.0222**

3.6 Building Construction (1) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0813	2.5203	0.6588	7.5600e-003	0.2740	7.2700e-003	0.2813	0.0723	6.9500e-003	0.0792		821.8167	821.8167	0.0585		823.2795
Vendor	0.1917	5.8931	1.7009	0.0159	0.4098	0.0115	0.4212	0.1180	0.0110	0.1289		1,695.8098	1,695.8098	0.1066		1,698.4742
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.3626**	**8.4723**	**3.0381**	**0.0255**	**0.9073**	**0.0205**	**0.9278**	**0.2495**	**0.0195**	**0.2691**		**2,724.5404**	**2,724.5404**	**0.1708**		**2,728.8101**

3.6 Building Construction (1) - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8740	8.3477	13.3633	0.0216		0.3740	0.3740		0.3544	0.3544		2,073.6017	2,073.6017	0.4966		2,086.0154
Paving	0.0211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8951**	**8.3477**	**13.3633**	**0.0216**		**0.3740**	**0.3740**		**0.3544**	**0.3544**		**2,073.6017**	**2,073.6017**	**0.4966**		**2,086.0154**

3.6 Building Construction (1) - 2023

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	0.0534	1.6555	0.5926	7.2300e-003	0.3512	3.0600e-003	0.3542	0.0912	2.9300e-003	0.0941		787.6382	787.6382	0.0542		788.9924
Vendor	0.1424	4.4633	1.5114	0.0153	0.4098	5.4500e-003	0.4152	0.1180	5.2100e-003	0.1232		1,643.1444	1,643.1444	0.0938		1,645.4900
Worker	0.0844	0.0533	0.6235	2.0000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5700e-003	0.0609		199.3441	199.3441	5.1300e-003		199.4724
Total	**0.2802**	**6.1720**	**2.7275**	**0.0246**	**0.9845**	**0.0102**	**0.9947**	**0.2685**	**9.7100e-003**	**0.2782**		**2,630.1267**	**2,630.1267**	**0.1531**		**2,633.9548**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8740	8.3477	13.3633	0.0216		0.3740	0.3740		0.3544	0.3544	0.0000	2,073.6017	2,073.6017	0.4966		2,086.0154
Paving	0.0211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8951**	**8.3477**	**13.3633**	**0.0216**		**0.3740**	**0.3740**		**0.3544**	**0.3544**	**0.0000**	**2,073.6017**	**2,073.6017**	**0.4966**		**2,086.0154**

3.6 Building Construction (1) - 2023

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	0.0534	1.6555	0.5926	7.2300e-003	0.3512	3.0600e-003	0.3542	0.0912	2.9300e-003	0.0941		787.6382	787.6382	0.0542		788.9924
Vendor	0.1424	4.4633	1.5114	0.0153	0.4098	5.4500e-003	0.4152	0.1180	5.2100e-003	0.1232		1,643.1444	1,643.1444	0.0938		1,645.4900
Worker	0.0844	0.0533	0.6235	2.0000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5700e-003	0.0609		199.3441	199.3441	5.1300e-003		199.4724
Total	**0.2802**	**6.1720**	**2.7275**	**0.0246**	**0.9845**	**0.0102**	**0.9947**	**0.2685**	**9.7100e-003**	**0.2782**		**2,630.1267**	**2,630.1267**	**0.1531**		**2,633.9548**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	0.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6060	15.0091	19.4423	0.0319		0.7302	0.7302		0.6980	0.6980		3,057.8440	3,057.8440	0.5666		3,072.0088
Total	**1.9927**	**15.0091**	**19.4423**	**0.0319**		**0.7302**	**0.7302**		**0.6980**	**0.6980**		**3,057.8440**	**3,057.8440**	**0.5666**		**3,072.0088**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	0.0427	1.3244	0.4741	5.7900e-003	0.2701	2.4500e-003	0.2725	0.0703	2.3400e-003	0.0726		630.1106	630.1106	0.0433		631.1939
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	0.0506	0.0320	0.3741	1.2000e-003	0.1341	1.0200e-003	0.1352	0.0356	9.4000e-004	0.0365		119.6065	119.6065	3.0800e-003		119.6834
Total	**0.0933**	**1.3563**	**0.8482**	**6.9900e-003**	**0.4042**	**3.4700e-003**	**0.4077**	**0.1059**	**3.2800e-003**	**0.1092**		**749.7170**	**749.7170**	**0.0464**		**750.8774**

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	0.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.6060	15.0091	19.4423	0.0319		0.7302	0.7302		0.6980	0.6980	0.0000	3,057.8440	3,057.8440	0.5666		3,072.0088
Total	**1.9927**	**15.0091**	**19.4423**	**0.0319**		**0.7302**	**0.7302**		**0.6980**	**0.6980**	**0.0000**	**3,057.8440**	**3,057.8440**	**0.5666**		**3,072.0088**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	0.0427	1.3244	0.4741	5.7900e-003	0.2701	2.4500e-003	0.2725	0.0703	2.3400e-003	0.0726		630.1106	630.1106	0.0433		631.1939
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	0.0506	0.0320	0.3741	1.2000e-003	0.1341	1.0200e-003	0.1352	0.0356	9.4000e-004	0.0365		119.6065	119.6065	3.0800e-003		119.6834
Total	**0.0933**	**1.3563**	**0.8482**	**6.9900e-003**	**0.4042**	**3.4700e-003**	**0.4077**	**0.1059**	**3.2800e-003**	**0.1092**		**749.7170**	**749.7170**	**0.0464**		**750.8774**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	0.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.5171	14.0801	19.4525	0.0319		0.6549	0.6549		0.6251	0.6251		3,057.7426	3,057.7426	0.5612		3,071.7722
Total	**1.9037**	**14.0801**	**19.4525**	**0.0319**		**0.6549**	**0.6549**		**0.6251**	**0.6251**		**3,057.7426**	**3,057.7426**	**0.5612**		**3,071.7722**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	0.0428	1.3154	0.4788	5.7500e-003	0.2258	2.4200e-003	0.2283	0.0595	2.3100e-003	0.0618		627.3194	627.3194	0.0433		628.4018
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	0.0480	0.0292	0.3483	1.1600e-003	0.1341	1.0100e-003	0.1351	0.0356	9.3000e-004	0.0365		115.8965	115.8965	2.8200e-003		115.9670
Total	**0.0908**	**1.3445**	**0.8270**	**6.9100e-003**	**0.3600**	**3.4300e-003**	**0.3634**	**0.0950**	**3.2400e-003**	**0.0983**		**743.2159**	**743.2159**	**0.0461**		**744.3688**

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	0.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.5171	14.0801	19.4525	0.0319		0.6549	0.6549		0.6251	0.6251	0.0000	3,057.7426	3,057.7426	0.5612		3,071.7722
Total	**1.9037**	**14.0801**	**19.4525**	**0.0319**		**0.6549**	**0.6549**		**0.6251**	**0.6251**	**0.0000**	**3,057.7426**	**3,057.7426**	**0.5612**		**3,071.7722**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	0.0428	1.3154	0.4788	5.7500e-003	0.2258	2.4200e-003	0.2283	0.0595	2.3100e-003	0.0618		627.3194	627.3194	0.0433		628.4018
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	0.0480	0.0292	0.3483	1.1600e-003	0.1341	1.0100e-003	0.1351	0.0356	9.3000e-004	0.0365		115.8965	115.8965	2.8200e-003		115.9670
Total	**0.0908**	**1.3445**	**0.8270**	**6.9100e-003**	**0.3600**	**3.4300e-003**	**0.3634**	**0.0950**	**3.2400e-003**	**0.0983**		**743.2159**	**743.2159**	**0.0461**		**744.3688**

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
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	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
City Park	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Other Asphalt Surfaces	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Other Non-Asphalt Surfaces	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

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					
City Park	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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**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					
City Park	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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**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	0.1084	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566
Unmitigated	0.1084	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566

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	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0877					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2900e-003	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566
Total	**0.1084**	**2.2000e-004**	**0.0248**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0531**	**0.0531**	**1.4000e-004**		**0.0566**

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	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0877					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2900e-003	2.2000e-004	0.0248	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0531	0.0531	1.4000e-004		0.0566
Total	**0.1084**	**2.2000e-004**	**0.0248**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**		**0.0531**	**0.0531**	**1.4000e-004**		**0.0566**

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

Regional VMT Mobile Source Emissions Calculations

	g/mi (2014)	ΔVMT (Annual)	Emission Reduction (lb/year) & (MTCO2e/year)*			Daily (lb/day)
CO	0.44168482	-457918	(445.9)			(1.22)
NOx	0.034617669	-457918	(34.9)			(0.10)
SOx	0.001730321	-457918	(1.7)			(0.00)
ROG	0.014641549	-457918	(14.8)	**Dust**		(0.04)
PM10	0.04716204	-457918	(47.6)		-46.2	(0.26)
PM2_5	0.019181846	-457918	(19.4)		-6.9	(0.07)

Re-Entrained Dust Calcs (CARB, 2018)

E = [k*(sL)^(0.91)*(W)^(1.02)]*(1-(P/4N))

PM2.5 = PM10x0.15

E		lb/VMT		lbs/year
P	32.4	days/year	PM10/year	-46.2
N	365	days/year	PM2.5/year	-6.9
k	0.0022	lbPM10/lbPM		
sL	0.013	g/m2		Annual VMT
W	2.4	tons		-457918

EMFAC2014 Mobile Source Emission Rates

calendar_y	season_mo	sub_area	vehicle_cla	temperatu	relative_hu	process	speed_tim	pollutant	emission_rate				g/mi
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	CO	0.441685				0.441685
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	NOx	0.034618				0.034618
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	SOx	0.00173				0.00173
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	ROG	0.014642				0.014642
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	PM10	0.000809	0.008002	0.038352	0.047162	0.047162
2035	Annual	Los Angele	NonTruck	65	58	RUNEX	40	PM2_5	0.000745	0.002	0.016436	0.019182	0.019182
2035	Annual	Los Angele	NonTruck			PMTW		PM10	0.008002	PMTW	PMBW	Total PM	
2035	Annual	Los Angele	NonTruck			PMTW		PM2_5	0.002				
2035	Annual	Los Angele	NonTruck			PMBW		PM10	0.038352				
2035	Annual	Los Angele	NonTruck			PMBW		PM2_5	0.016436				

Greenhouse Gas

Technical Memorandum

TO: Nur D. Malhis, M.S., P.E., Project Manager/Civil Engineer
City of Los Angeles, Bureau of Engineering, Architectural Division

FROM: Terry A. Hayes Associates Inc.
Sam Silverman, Senior Associate
Anders Sutherland, Environmental Scientist

DATE: January 31, 2019

**RE: Los Angeles River Valley Bikeway and Greenway Project -
Van Alden Avenue to Balboa Boulevard – Climate Change Technical Memorandum**

Summary

The purpose of this Technical Memorandum is to evaluate potential climate change and greenhouse gas (GHG) emissions impacts in accordance with California Environmental Quality Act (CEQA) requirements. The Los Angeles (LA) River Valley Bikeway and Greenway Project – Van Alden Avenue to Balboa Boulevard (Project) includes the installation of bicycle and pedestrian pathways and the construction of undercrossings and river parks. The Project also includes on-street improvements to enhance access to the LA River Bikeway and improve local connectivity for bicyclists. The Project would not result in a significant climate change impact in the context of the Appendix G Environmental Checklist criteria during construction or operational activities.

Project Description

The Project is located along the Los Angeles (LA) River extending from Van Alden Avenue to Balboa Boulevard and goes through the communities of Reseda, Lake Balboa, and Encino in the City of Los Angeles. The LA River Bikeway between Van Alden Avenue and Balboa Boulevard would include a Class I bicycle path, bikeway undercrossings, fencing and protective barriers, lighting, landscaping, drainage improvements and bioswales, way-finding signage, and interpretive elements. The Project would include on-street improvements at several streets adjacent to the LA River to enhance access to the LA River trail. On-street improvements would vary for each location and would generally include signalized pedestrian crossings, striping for new crosswalks, striping of existing roadways for bike lanes, painting existing roadways with green-backed sharrows, construction of new mini traffic circles, and ramp restructuring for Americans with Disabilities Act (ADA) compliance. The regional location of the Project is shown in **Figure 1**. **Figure 2** shows the location of LA River Bikeway and various components.

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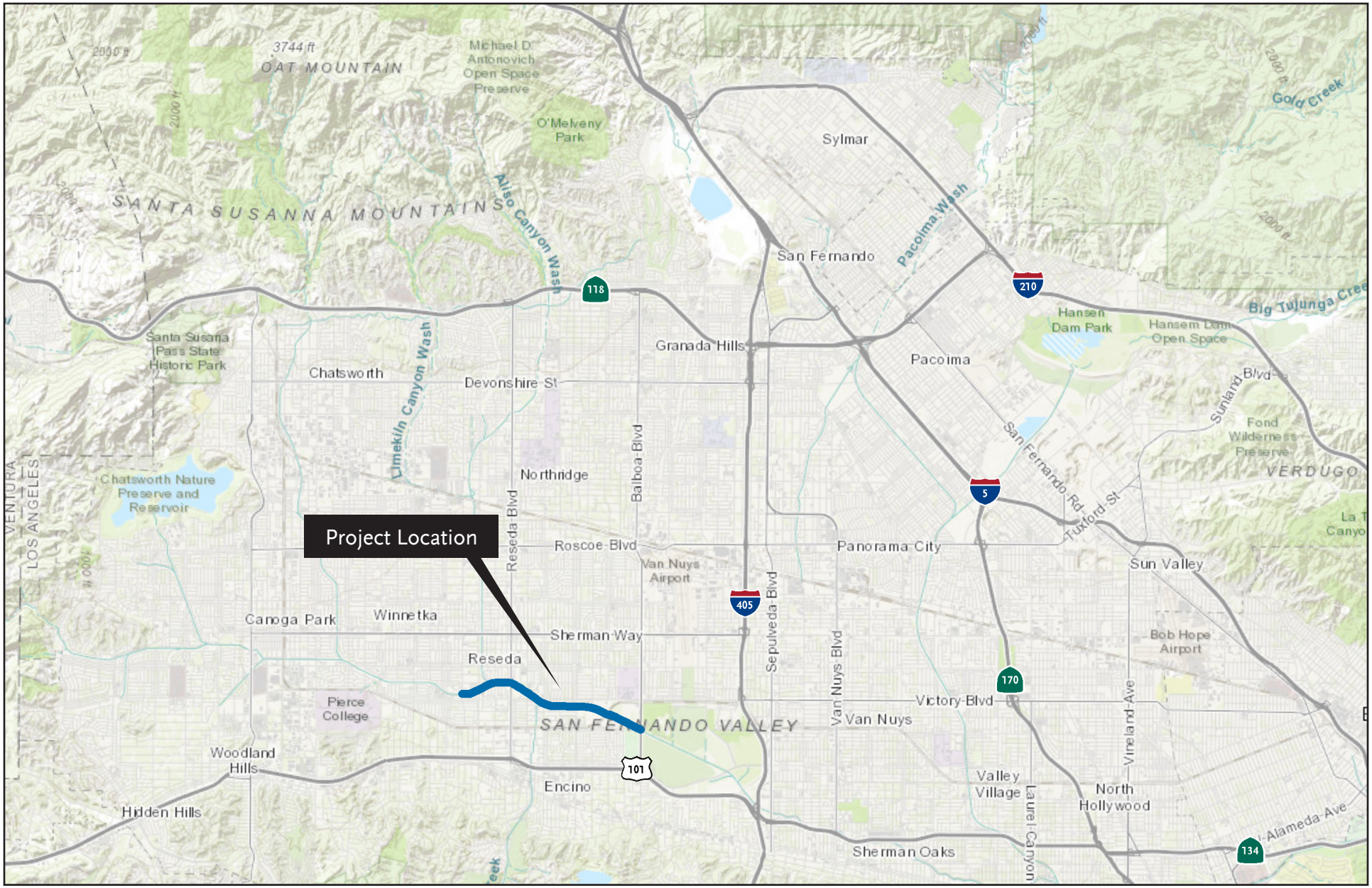

Source: TAHA, 2018.

Los Angeles River Valley Bikeway and Greenway Project
Vanalden Avenue to Balboa Boulevard

TAHA 2016-026 CITY OF LOS ANGELES

FIGURE 1

REGIONAL PROJECT LOCATION

Source: Gruen Associates, 2018.

taha environmental planners

Los Angeles River Valley Bikeway and Greenway Project
Vanalden Avenue to Balboa Boulevard

TAHA 2016-026 CITY OF LOS ANGELES

FIGURE 2

LOCAL PROJECT LOCATION

GHG Fundamentals

GHGs are a class of air pollutants that are generally understood to contribute to climate change through a natural atmospheric mechanism referred to as the "greenhouse effect". Simply put, the greenhouse effect characterizes the Earth's atmosphere as a paned greenhouse that allows heat energy to enter but is capable of trapping some of that energy and preventing it from emanating back out into space. The gases in the atmosphere that contribute to this natural phenomenon are GHGs, the most common of which include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Emissions of these chemicals are stringently regulated in California, as the State has undertaken a firm commitment to mitigating the effects of climate change resulting from GHG emissions.

In addition to CO_2, CH_4, and N_2O, GHGs include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. Of all the GHGs, CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e, which is calculated by multiplying mass quantities of a GHG compound by its Global Warming Potential (GWP) value. **Table 1** displays the GWP for the three most common GHG pollutants. This technical memo focuses on emissions of CO_2, CH_4, and N_2O as they represent a vast majority of GHG emissions from mobile sources and fossil fuel combustion within California.

TABLE 1: GLOBAL WARMING POTENTIAL FOR SELECTED GREENHOUSE GASES

Pollutant	Lifetime (Years) /a/	Global Warming Potential (20-Year) /b/	Global Warming Potential (100-Year) /b/
Carbon Dioxide (CO_2)	100	1	1
Methane (CH_4)	12	84	28
Nitrous Oxide (N_2O)	121	264	265

/a/ Lifetime refers to the approximate amount of time it would take for the anthropogenic increment to an atmospheric pollutant concentration to return to its natural level as a result of either being converted to another chemical compound or being taken out of the atmosphere via a sink.
/b/ The United States primarily uses the 100-year GWP as a measure of the relative impact of different GHGs. However, the scientific community has developed a number of other metrics that could be used for comparing one GHG to another. These metrics may differ based on timeframe, the climate endpoint measured, or the method of calculation. For example, the 20-year GWP is sometimes used as an alternative to the 100-year GWP. Just like the 100-year GWP is based on the energy absorbed by a gas over 100 years, the 20-year GWP is based on the energy absorbed over 20 years. This 20-year GWP prioritizes gases with shorter lifetimes, because it does not consider impacts that happen more than 20 years after the emissions occur. Because all GWPs are calculated relative to CO_2, GWPs based on a shorter timeframe will be larger for gases with lifetimes shorter than that of CO_2, and smaller for gases with lifetimes longer than CO_2.
SOURCE: California Air Resources Board, *First Update to the Climate Change Scoping Plan*, May 2014.

Regulatory Framework

Federal

The federal government's stance on climate change regulation is in flux under the current Presidential administration. For example, President Trump has signed an executive order announcing a plan to withdraw the U.S. from the Paris Climate Accord at the earliest possible date (although under the terms of the Paris Climate Accord, the withdrawal process can take no less than four years from the initial date of adoption). The following list briefly summarizes key federal regulations and policies that are relevant to reducing GHG emissions from on-road passenger vehicles.

- **Energy Independence and Security Act**. This 2007 legislation included key provisions to increase energy efficiency and the availability of renewable energy.

- **National Fuel Efficiency Policy**. On May 19, 2009, President Barack Obama announced a new National Fuel Efficiency Policy aimed at increasing fuel economy and reducing GHG pollution.

- **Fuel Economy Standards**. April 1, 2010, the U.S. Environmental Protection Agency and Department of Transportation established fuel standards for passenger cars and light-duty trucks.

State

The following list briefly summarizes key State regulations and policies that are relevant to reducing GHG emissions from on-road passenger vehicles.

- **Executive Order (EO) S-3-05**. On June 1, 2005, EO S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The California Climate Action Team was created in response to the EO S-3-05.

- **Assembly Bill (AB) 32**. In September 2006, the California Global Warming Solutions Act of 2006, also known as AB 32, was signed into law. AB 32 focused on achieving GHG emission reductions equivalent to statewide levels in 1990 by 2020. In a Scoping Plan, CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_2e. The 2020 target reduction was estimated to be 174 million metric tons of CO_2e. As part of the First Update to the Scoping Plan published in 204, CARB revised the 2020 statewide limit to 431 million metric tons of CO_2e, an approximately one percent increase from the original estimate.

- **Senate Bill (SB) 375**. Adopted in September 30, 2008, SB 375 provided a means for achieving AB 32 goals through the reduction in emissions by cars and light trucks.

- **SB 743**. Adopted on September 27, 2013, SB 743 encourages land use and transportation planning decisions and investments that reduce VMT.

- **EO B-30-15**. On April 29, 2015, Governor Brown issued EO B-30-15, stating a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030 trucks.

- **SB 32**. On September 8, 2016, California signed into law SB 32, which added Section 38566 to the Health and Safety Code and required a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels.

Regional

Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) for the six-county region that includes Los Angeles, Orange, Riverside, Ventura, San Bernardino and Imperial counties. The 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) includes commitments to reduce emissions from transportation sources to comply with SB 375. Goals and policies included in the 2016–2040 RTP/SCS to reduce GHG emissions consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling). SB 375 required that each MPO prepare a Sustainable Community Strategy as part of the RTP to reduce CO_2 by better aligning transportation, land use, and housing. For SCAG, the

targets are to reduce per capita emissions by 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035. The 2016–2040 RTP/SCS states that the region will meet or exceed the SB 375 per capita targets, lowering regional per capita GHG emissions (below 2005 levels) by eight percent by 2020 and 18 percent by 2035. The 2016–2040 RTP/SCS also states that regional 2040 per capita emissions would be reduced by 22 percent, although CARB has not established a 2040 per capita emissions target.

Local

The following list briefly summarizes key City policies that are relevant to reducing GHG emissions from on-road passenger vehicles.

- **GreenLA Climate Action Plan**. In May 2007, the City of Los Angeles has issued guidance promoting green building to reduce GHG emissions. The goal of the GreenLA Climate Action Plan is to reduce GHG emissions 35 percent below 1990 levels by 2030. Focus areas include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions.

- **Sustainable City pLAn (pLAn)**. On April 8, 2015, Mayor Eric Garcetti released Los Angeles's first-ever pLAn. The pLAn is a roadmap to achieving short-term results and sets a path to strengthen and transform the City in future decades. Recognizing the risks posed by climate change, Mayor Garcetti set time-bound outcomes on climate action, most notably to reduce GHG emissions by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050, all against a 1990 baseline.

- **Zero Emissions 2028 Roadmap**. In September 2018, the Transportation Electrification Partnership, established by the Los Angeles Cleantech Incubator, released the Zero Emissions 2028 Roadmap Version 1.0. This roadmap sets the goal to move toward an additional 25 percent reduction in GHG emissions and air pollution beyond current commitments through accelerating transportation electrification by the time the world arrives in Los Angeles for the 2028 Olympic and Paralympic Games.

Existing Conditions

Climate change is a statewide concern and existing conditions are best addressed at the State and regional levels. The largest source of California GHG emissions is attributed to automobile exhaust associated with the transportation sector, including public and private vehicles, which accounts for approximately 41 percent of statewide emissions as of 2016. According to the emission inventory prepared by the California Air Resources Board (CARB), transportation emissions declined from 189 million metric tons of CO_2e ($MTCO_2e$) to 169 $MTCO_2e$ between 2007 and 2016. Between October 23, 2015 and February 18, 2016, an exceptional natural gas leak event occurred at the Aliso Canyon natural gas storage facility that resulted in unexpected GHG emissions of considerable magnitude. The exceptional incident released approximately 109,000 metric tons of methane, which equated to approximately 1.96 $MTCO_2e$ of unanticipated emissions in 2015 and an additional 0.52 $MTCO_2e$ in 2016. The exceptional event is an isolated incident and is not representative of long-term trends in statewide GHG emissions inventory reductions achieved through programmatic planning efforts.

The 2016-2040 RTP/SCS estimated an existing condition for regional GHG emissions at 230 $MTCO_2e$. The sectors contributing most to existing emissions were transportation (40 percent), electricity (25 percent), and industrial (19 percent). Because Los Angeles County is the largest county in SCAG, it can reasonably be assumed that the local existing conditions are primarily influenced by the same sectors.

Significance Thresholds

This assessment considers the potential to result in significant environmental impacts related to climate change in the context of the Appendix G Environmental Checklist criteria of the CEQA Statute and Guidelines. Implementation of the Project may result in a significant environmental impact related to climate change if it would:

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

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Section 15064.4 of the CEQA Guidelines states that a lead agency should make a good-faith effort to describe, calculate, or estimate the amount of GHG emissions resulting from a project, and that the lead agency should consider the following factors when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;

- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and,

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The CEQA Guidelines require lead agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guideline allows lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

Neither the City nor the SCAQMD has officially adopted a quantitative threshold value for determining the significance of GHG emissions that will be generated by projects under CEQA. The SCAQMD published the Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold in October 2008. The SCAQMD convened a GHG CEQA Significance Threshold Stakeholder Working Group beginning in April of 2008 to examine alternatives for establishing quantitative GHG thresholds. Working Group proposed a 10,000-metric-ton of CO_2e per year threshold for industrial projects and a 3,000-metric-tons of CO_2e annual threshold for commercial and residential projects, including mixed-use. The impact determination for the Project is based on the more conservative threshold of 3,000 metric tons CO_2e per year.

Methodology

Construction

Construction of the Project is anticipated to begin in the spring of 2021 and last for approximately three years. An overview of the construction activities, schedule, material displacement and movement, and construction crew size is presented in **Table 2**, below. Generally, construction of the Project will involve demolition of existing structures in the right-of-way, clearing and grading of the pathway corridor and surrounding areas, paving of the asphalt bikeway and granite composite pedestrian path as well as accessibility features, and installation of landscaping and pocket parks and architectural finishing. At this time, precise start and end dates are not known, and it is possible that some overlap of construction phases may occur.

TABLE 2: PROJECT CONSTRUCTION PARAMETERS

Phase	Start Date	End Date	Approximate Work Days /a/	Daily Crew Size	Daily Truck Trips	Total Material Export	Total Material Import
Mobilization /b/	Spring 2021	Spring 2021	10	—	—	—	—
Demolition	Spring 2021	Summer 2021	88	8	10	7,000 cy	—
Site Preparation	Summer 2021	Summer 2021	44	8	2	—	—
Site Grading	Fall 2021	Winter 2021	88	8	10	8,500 cy	—
Site Construction	Winter 2022	Fall 2023	455	10	5	2,800 cy	16,560 cy
Architectural Finishing, Landscaping/Pocket Parks	Fall 2023	Winter 2024	174	6	4	—	—

cy = cubic yards
/a/ Approximate work days does not include overlapping construction days
/b/ No construction would take place during this phase
SOURCE: Gruen Associates, 2018.

Emissions of air pollutants that would be generated by construction activities were calculated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2). CalEEMod is the preferred regulatory tool for estimating air pollutant emissions associated with land use developments in California. The information presented in **Table 2** was used in conjunction with a project-specific equipment inventory to estimate maximum daily emissions of air pollutants that would be released by sources involved in Project construction. Detailed construction modeling data can be found in the technical **Appendix**.

Operations

A transportation analysis prepared for the Project determined that VMT would be reduced by 457,918 miles per year. The CARB publishes its statewide mobile source emissions inventory in the form of the EMFAC model, the most recent version currently approved by the United States Environmental Protection Agency being EMFAC2017. To quantify the annual reduction in emissions, emission factors were obtained from the EMFAC2017 database for light duty vehicles traveling at an average speed of 40 miles per hour (mph) in the scenario year 2035. The average speed of 40 mph was selected as a conservative reference speed. Although average speeds may be slower than 40 mph, emission rates at 20 and 30 mph are higher than those at 40 mph, and therefore using 40 mph produces a conservative estimate in the incremental reduction in regional GHG emissions. If average speeds are lower in 2035 upon project implementation, the emissions reductions would be even greater than the quantities estimated in this analysis.

Impact Assessment

a) Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? (No Impact)

The Project would directly generate GHG emissions from construction and landscaping equipment and indirectly from changes in automobile use and energy used in the water cycle for landscaping the river parks. CalEEMod was used to prepare estimates of annual GHG emissions. **Table 3** presents the estimated emissions of GHGs that would be released to the atmosphere on an annual basis with Project implementation. Construction would produce approximately 1,763 $MTCO_2e$, or 58.8 $MTCO_2e$ annually over a 30-year period. Operations would result in reduced GHG emissions due to the decreased VMT associated with increased active transportation. The annual reduction in operational emissions would be approximately 14.3 $MTCO_2e$ per year after accounting for amortized construction emissions, which is a regional benefit resulting from the Project. There is no potential for the Project to exceed the SCAQMD draft interim annual threshold of 3,000 $MTCO_2e$.

TABLE 3: ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS – CONSTRUCTION

Year and Source	Annual GHG Emissions ($MTCO_2e$ per Year)
2021 Equipment Exhaust	309.1
2021 Worker Trips	17.4
2021 Truck Trips	141.1
2021 Subtotal	***467.6***
2022 Equipment Exhaust	246.0
2022 Worker Trips	24.8
2022 Truck Trips	301.7
2022 Subtotal	***572.5***
2023 Equipment Exhaust	293.2
2023 Worker Trips	22.2
2023 Truck Trips	241.0
2023 Subtotal	***556.4***
2024 Equipment Exhaust	133.8
2024 Worker Trips	5.1
2024 Truck Trips	27.6
2024 Subtotal	***166.5***
Total Construction GHG Emissions	**1,763.0**
Annual GHG Emissions Analysis /a/	
Amortized Construction Emissions (30-Year Lifetime)	58.8
Annual Water Consumption GHG Emissions	6.7
Annual Transportation Mode Shift Emissions	(-79.8)
Net Annual GHG Emissions	**(-14.3)**
SCAQMD Draft Interim Significance Threshold	**3,000**
Exceed Threshold?	No

/a/ Based on SCAQMD guidance, the emissions summary also includes construction emissions amortized over a 30-year span.
SOURCE: TAHA, 2018.

b) Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs? (No Impact)

The Project would decrease automobile VMT by providing expanded active transportation options with new access to transit, homes, schools, jobs, nature, recreation, and other community-serving amenities. It is anticipated that annual VMT would be reduced by 457,918 miles per year. **Table 3** shows the anticipated reduction in annual GHG emissions for the Project Area. By contributing to reducing emissions from existing conditions, the Project would be entirely consistent with all applicable GHG reduction plans, policies, and regulation, including, but not limited to the 2016-2040 RTP/SCS, AB 32, and SB 375. In addition, the Project would not interfere with implementing Zero Emissions 2028 Roadmap, which includes planned upgrades to the electric grid infrastructure for electric vehicles. The goals of the Zero Emissions 2028 Roadmap would not be compromised by implementing the Project. There is no potential for the Project to conflict with plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs.

References

California, *Assembly Bill 32 - California Global Warming Solutions Act of 2006*, 2006.

California, *Senate Bill 375 - Sustainable Communities and Climate Protection Act of 2008*, 2008.

CARB, *California Greenhouse Gas Emission Inventory, July 11*, 2018.

CARB, *Climate Change Scoping Plan*, 2008.

CARB, *First Update to the Climate Change Scoping Plan*, May 2014.

City of Los Angeles, *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*, 2007.

South Coast Air Quality Management District & BREEZE Software, *California Emissions Estimator Model (CalEEMod, Version 2016.3.2)*, October 2017.

SCAQMD, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

SCAG, *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*, April 2016.

Greenhouse Gas Emissions Appendix – Technical Calculations

- CalEEMod Output File – Annual Emissions
- Regional VMT Operational Emissions Worksheet

LA River Valley Bikeway & Greenway Project

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	159.29	1000sqft	3.66	159,292.00	0
Other Non-Asphalt Surfaces	82.61	1000sqft	1.90	82,613.00	0
City Park	0.90	Acre	0.90	39,204.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

LA River Valley Bikeway & Greenway Project - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use - Total Asphalt = 159,292 square feet
Total Granite/Bioswale = 82,613 square feet
Total Green Space = 0.9 acres

Construction Phase - LARB Project Description - Construction Schedule

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Off-road Equipment - Project Description Info

Off-road Equipment - Placeholder for Material Export.

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Off-road Equipment - LARB PD.

Trips and VMT - Project Description Info

Grading - Grading = 1 bulldozer x 0.5 acres/day = 5 acres.

Architectural Coating -

Area Coating -

Water And Wastewater -

Solid Waste -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	174.00
tblConstructionPhase	NumDays	20.00	88.00
tblConstructionPhase	NumDays	20.00	455.00
tblConstructionPhase	NumDays	10.00	88.00

tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	10.00	455.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	AcresOfGrading	0.00	5.00
tblGrading	AcresOfGrading	88.00	44.00
tblGrading	MaterialExported	0.00	8,500.00
tblGrading	MaterialExported	0.00	7,000.00
tblGrading	MaterialExported	0.00	2,800.00
tblGrading	MaterialImported	0.00	16,560.00
tblLandUse	LandUseSquareFeet	159,290.00	159,292.00
tblLandUse	LandUseSquareFeet	82,610.00	82,613.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblTripsAndVMT	HaulingTripNumber	875.00	1,760.00
tblTripsAndVMT	HaulingTripNumber	0.00	176.00
tblTripsAndVMT	HaulingTripNumber	1,063.00	1,760.00
tblTripsAndVMT	HaulingTripNumber	2,420.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,550.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,392.00
tblTripsAndVMT	VendorTripNumber	0.00	64.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	24.00	12.00
tblVehicleTrips	ST_TR	22.75	0.00

tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2692	3.0698	1.8655	5.1200e-003	0.6079	0.1161	0.7239	0.3081	0.1075	0.4156	0.0000	465.0101	465.0101	0.1032	0.0000	467.5905
2022	0.1680	2.2856	2.1221	6.1700e-003	0.1169	0.0566	0.1736	0.0321	0.0537	0.0858	0.0000	570.5545	570.5545	0.0784	0.0000	572.5148
2023	0.1944	2.0649	2.3549	6.0500e-003	0.1108	0.0661	0.1768	0.0300	0.0628	0.0928	0.0000	554.4189	554.4189	0.0788	0.0000	556.3891
2024	0.0955	0.7416	0.9734	1.8700e-003	0.0169	0.0316	0.0485	4.4800e-003	0.0302	0.0346	0.0000	165.8744	165.8744	0.0264	0.0000	166.5349
Maximum	**0.2692**	**3.0698**	**2.3549**	**6.1700e-003**	**0.6079**	**0.1161**	**0.7239**	**0.3081**	**0.1075**	**0.4156**	**0.0000**	**570.5545**	**570.5545**	**0.1032**	**0.0000**	**572.5148**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2692	3.0698	1.8655	5.1200e-003	0.2682	0.1161	0.3843	0.1286	0.1075	0.2361	0.0000	465.0097	465.0097	0.1032	0.0000	467.5901
2022	0.1680	2.2856	2.1221	6.1700e-003	0.1163	0.0566	0.1729	0.0320	0.0537	0.0857	0.0000	570.5542	570.5542	0.0784	0.0000	572.5145
2023	0.1944	2.0649	2.3549	6.0500e-003	0.1101	0.0661	0.1762	0.0299	0.0628	0.0927	0.0000	554.4185	554.4185	0.0788	0.0000	556.3888
2024	0.0955	0.7416	0.9734	1.8700e-003	0.0169	0.0316	0.0485	4.4800e-003	0.0302	0.0346	0.0000	165.8742	165.8742	0.0264	0.0000	166.5347
Maximum	**0.2692**	**3.0698**	**2.3549**	**6.1700e-003**	**0.2682**	**0.1161**	**0.3843**	**0.1286**	**0.1075**	**0.2361**	**0.0000**	**570.5542**	**570.5542**	**0.1032**	**0.0000**	**572.5145**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.00**	**0.00**	**30.37**	**47.96**	**0.00**	**28.58**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2021**	**5-31-2021**	1.3114	1.3114
2	**6-1-2021**	**8-31-2021**	0.7062	0.7062
3	**9-1-2021**	**11-30-2021**	0.9549	0.9549
4	**12-1-2021**	**2-28-2022**	0.7069	0.7069
5	**3-1-2022**	**5-31-2022**	0.6146	0.6146
6	**6-1-2022**	**8-31-2022**	0.6142	0.6142
7	**9-1-2022**	**11-30-2022**	0.6083	0.6083
8	**12-1-2022**	**2-28-2023**	0.5381	0.5381

9	**3-1-2023**	**5-31-2023**	0.5154	0.5154
10	**6-1-2023**	**8-31-2023**	0.5152	0.5152
11	**9-1-2023**	**11-30-2023**	0.6369	0.6369
12	**12-1-2023**	**2-29-2024**	0.6931	0.6931
13	**3-1-2024**	**5-31-2024**	0.3806	0.3806
		Highest	1.3114	1.3114

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0197	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-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	0.0162	0.0000	0.0162	9.6000e-004	0.0000	0.0402
Water						0.0000	0.0000		0.0000	0.0000	0.0000	6.6354	6.6354	1.6000e-004	3.0000e-005	6.6490
Total	**0.0197**	**3.0000e-005**	**3.0900e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0162**	**6.6415**	**6.6577**	**1.1400e-003**	**3.0000e-005**	**6.6957**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0197	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-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	0.0162	0.0000	0.0162	9.6000e-004	0.0000	0.0402
Water						0.0000	0.0000		0.0000	0.0000	0.0000	6.6354	6.6354	1.6000e-004	3.0000e-005	6.6490
Total	**0.0197**	**3.0000e-005**	**3.0900e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0162**	**6.6415**	**6.6577**	**1.1400e-003**	**3.0000e-005**	**6.6957**

	ROG	NOx	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

LA River Valley Bikeway & Greenway Project - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Site Preparation	3/1/2021	6/30/2021	5	88	
2	Site Preparation	Site Preparation	7/1/2021	8/31/2021	5	44	
3	Grading	Grading	9/1/2021	12/31/2021	5	88	
4	Building Construction (2)	Site Preparation	1/3/2022	9/29/2023	5	455	
5	Building Construction (1)	Paving	1/3/2022	9/29/2023	5	455	
6	Architectural Coating, Landscaping, Pocket Parks	Architectural Coating	10/2/2023	4/20/2024	6	174	Architectural Finishing, Landscaping, Pocket Parks, River Street End Parks

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 5.56

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 14,514 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Other Material Handling Equipment	1	8.00	168	0.40
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Rubber Tired Loaders	1	8.00	203	0.36
Demolition	Scrapers	1	8.00	367	0.48
Site Preparation	Other Material Handling Equipment	1	8.00	168	0.40
Site Preparation	Rubber Tired Loaders	2	8.00	203	0.36
Grading	Excavators	1	8.00	158	0.38
Grading	Other Material Handling Equipment	1	8.00	168	0.40
Grading	Rollers	1	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Building Construction (2)	Crawler Tractors	1	0.00	212	0.43
Building Construction (1)	Aerial Lifts	1	8.00	63	0.31
Building Construction (1)	Generator Sets	1	8.00	84	0.74
Building Construction (1)	Other Material Handling Equipment	1	8.00	168	0.40
Building Construction (1)	Paving Equipment	1	8.00	132	0.36
Building Construction (1)	Rough Terrain Forklifts	1	8.00	100	0.40
Architectural Coating, Landscaping, Pocket Parks	Air Compressors	1	6.00	78	0.48
Architectural Coating, Landscaping, Pocket Parks	Generator Sets	2	8.00	84	0.74
Architectural Coating, Landscaping, Pocket Parks	Other Construction Equipment	2	8.00	172	0.42
Architectural Coating, Landscaping, Pocket Parks	Rough Terrain Forklifts	1	8.00	100	0.40

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	5	16.00	0.00	1,760.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	16.00	0.00	176.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	16.00	0.00	1,760.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (2)	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (1)	5	20.00	64.00	4,550.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating, Landscaping, Pocket	6	12.00	0.00	1,392.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2887	0.0000	0.2887	0.1482	0.0000	0.1482	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1319	1.3745	0.8846	1.8500e-003		0.0610	0.0610		0.0567	0.0567	0.0000	161.7733	161.7733	0.0460	0.0000	162.9244
Total	**0.1319**	**1.3745**	**0.8846**	**1.8500e-003**	**0.2887**	**0.0610**	**0.3497**	**0.1482**	**0.0567**	**0.2049**	**0.0000**	**161.7733**	**161.7733**	**0.0460**	**0.0000**	**162.9244**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4100e-003	0.2436	0.0568	6.8000e-004	0.0151	7.3000e-004	0.0159	4.1500e-003	7.0000e-004	4.8500e-003	0.0000	67.0821	67.0821	4.6600e-003	0.0000	67.1985
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	3.0300e-003	2.3600e-003	0.0266	8.0000e-005	7.7100e-003	6.0000e-005	7.7800e-003	2.0500e-003	6.0000e-005	2.1100e-003	0.0000	6.9620	6.9620	2.0000e-004	0.0000	6.9671
Total	**0.0104**	**0.2460**	**0.0834**	**7.6000e-004**	**0.0228**	**7.9000e-004**	**0.0236**	**6.2000e-003**	**7.6000e-004**	**6.9600e-003**	**0.0000**	**74.0441**	**74.0441**	**4.8600e-003**	**0.0000**	**74.1656**

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					0.1126	0.0000	0.1126	0.0578	0.0000	0.0578	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1319	1.3745	0.8846	1.8500e-003		0.0610	0.0610		0.0567	0.0567	0.0000	161.7731	161.7731	0.0460	0.0000	162.9242
Total	**0.1319**	**1.3745**	**0.8846**	**1.8500e-003**	**0.1126**	**0.0610**	**0.1736**	**0.0578**	**0.0567**	**0.1145**	**0.0000**	**161.7731**	**161.7731**	**0.0460**	**0.0000**	**162.9242**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4100e-003	0.2436	0.0568	6.8000e-004	0.0151	7.3000e-004	0.0159	4.1500e-003	7.0000e-004	4.8500e-003	0.0000	67.0821	67.0821	4.6600e-003	0.0000	67.1985
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	3.0300e-003	2.3600e-003	0.0266	8.0000e-005	7.7100e-003	6.0000e-005	7.7800e-003	2.0500e-003	6.0000e-005	2.1100e-003	0.0000	6.9620	6.9620	2.0000e-004	0.0000	6.9671
Total	**0.0104**	**0.2460**	**0.0834**	**7.6000e-004**	**0.0228**	**7.9000e-004**	**0.0236**	**6.2000e-003**	**7.6000e-004**	**6.9600e-003**	**0.0000**	**74.0441**	**74.0441**	**4.8600e-003**	**0.0000**	**74.1656**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0216	0.2286	0.1537	4.0000e-004		8.6400e-003	8.6400e-003		7.9400e-003	7.9400e-003	0.0000	35.3284	35.3284	0.0114	0.0000	35.6140
Total	**0.0216**	**0.2286**	**0.1537**	**4.0000e-004**	**0.0000**	**8.6400e-003**	**8.6400e-003**	**0.0000**	**7.9400e-003**	**7.9400e-003**	**0.0000**	**35.3284**	**35.3284**	**0.0114**	**0.0000**	**35.6140**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0244	5.6800e-003	7.0000e-005	1.5100e-003	7.0000e-005	1.5900e-003	4.2000e-004	7.0000e-005	4.9000e-004	0.0000	6.7082	6.7082	4.7000e-004	0.0000	6.7199
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	1.5100e-003	1.1800e-003	0.0133	4.0000e-005	3.8600e-003	3.0000e-005	3.8900e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.4810	3.4810	1.0000e-004	0.0000	3.4836
Total	**2.2500e-003**	**0.0255**	**0.0190**	**1.1000e-004**	**5.3700e-003**	**1.0000e-004**	**5.4800e-003**	**1.4400e-003**	**1.0000e-004**	**1.5400e-003**	**0.0000**	**10.1892**	**10.1892**	**5.7000e-004**	**0.0000**	**10.2034**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0216	0.2286	0.1537	4.0000e-004		8.6400e-003	8.6400e-003		7.9400e-003	7.9400e-003	0.0000	35.3283	35.3283	0.0114	0.0000	35.6140
Total	**0.0216**	**0.2286**	**0.1537**	**4.0000e-004**	**0.0000**	**8.6400e-003**	**8.6400e-003**	**0.0000**	**7.9400e-003**	**7.9400e-003**	**0.0000**	**35.3283**	**35.3283**	**0.0114**	**0.0000**	**35.6140**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0244	5.6800e-003	7.0000e-005	1.5100e-003	7.0000e-005	1.5900e-003	4.2000e-004	7.0000e-005	4.9000e-004	0.0000	6.7082	6.7082	4.7000e-004	0.0000	6.7199
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	1.5100e-003	1.1800e-003	0.0133	4.0000e-005	3.8600e-003	3.0000e-005	3.8900e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.4810	3.4810	1.0000e-004	0.0000	3.4836
Total	**2.2500e-003**	**0.0255**	**0.0190**	**1.1000e-004**	**5.3700e-003**	**1.0000e-004**	**5.4800e-003**	**1.4400e-003**	**1.0000e-004**	**1.5400e-003**	**0.0000**	**10.1892**	**10.1892**	**5.7000e-004**	**0.0000**	**10.2034**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2681	0.0000	0.2681	0.1460	0.0000	0.1460	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0925	0.9493	0.6414	1.2500e-003		0.0448	0.0448		0.0412	0.0412	0.0000	109.6311	109.6311	0.0355	0.0000	110.5175
Total	**0.0925**	**0.9493**	**0.6414**	**1.2500e-003**	**0.2681**	**0.0448**	**0.3129**	**0.1460**	**0.0412**	**0.1872**	**0.0000**	**109.6311**	**109.6311**	**0.0355**	**0.0000**	**110.5175**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4100e-003	0.2436	0.0568	6.8000e-004	0.0151	7.3000e-004	0.0159	4.1500e-003	7.0000e-004	4.8500e-003	0.0000	67.0821	67.0821	4.6600e-003	0.0000	67.1985
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	3.0300e-003	2.3600e-003	0.0266	8.0000e-005	7.7100e-003	6.0000e-005	7.7800e-003	2.0500e-003	6.0000e-005	2.1100e-003	0.0000	6.9620	6.9620	2.0000e-004	0.0000	6.9671
Total	**0.0104**	**0.2460**	**0.0834**	**7.6000e-004**	**0.0228**	**7.9000e-004**	**0.0236**	**6.2000e-003**	**7.6000e-004**	**6.9600e-003**	**0.0000**	**74.0441**	**74.0441**	**4.8600e-003**	**0.0000**	**74.1656**

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					0.1046	0.0000	0.1046	0.0569	0.0000	0.0569	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0925	0.9493	0.6414	1.2500e-003		0.0448	0.0448		0.0412	0.0412	0.0000	109.6310	109.6310	0.0355	0.0000	110.5174
Total	**0.0925**	**0.9493**	**0.6414**	**1.2500e-003**	**0.1046**	**0.0448**	**0.1494**	**0.0569**	**0.0412**	**0.0982**	**0.0000**	**109.6310**	**109.6310**	**0.0355**	**0.0000**	**110.5174**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4100e-003	0.2436	0.0568	6.8000e-004	0.0151	7.3000e-004	0.0159	4.1500e-003	7.0000e-004	4.8500e-003	0.0000	67.0821	67.0821	4.6600e-003	0.0000	67.1985
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	3.0300e-003	2.3600e-003	0.0266	8.0000e-005	7.7100e-003	6.0000e-005	7.7800e-003	2.0500e-003	6.0000e-005	2.1100e-003	0.0000	6.9620	6.9620	2.0000e-004	0.0000	6.9671
Total	**0.0104**	**0.2460**	**0.0834**	**7.6000e-004**	**0.0228**	**7.9000e-004**	**0.0236**	**6.2000e-003**	**7.6000e-004**	**6.9600e-003**	**0.0000**	**74.0441**	**74.0441**	**4.8600e-003**	**0.0000**	**74.1656**

3.5 Building Construction (2) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0900e-003	0.0000	1.0900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0900e-003**	**0.0000**	**1.0900e-003**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction (2) - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction (2) - 2022

Mitigated Construction Off-Site

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

3.5 Building Construction (2) - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0900e-003	0.0000	1.0900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0900e-003**	**0.0000**	**1.0900e-003**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction (2) - 2023

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3000e-004	0.0000	4.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**4.3000e-004**	**0.0000**	**4.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction (2) - 2023

Mitigated Construction Off-Site

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

3.6 Building Construction (1) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1201	1.1636	1.7379	2.8000e-003		0.0540	0.0540		0.0512	0.0512	0.0000	244.5426	244.5426	0.0588	0.0000	246.0130
Paving	2.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1228**	**1.1636**	**1.7379**	**2.8000e-003**		**0.0540**	**0.0540**		**0.0512**	**0.0512**	**0.0000**	**244.5426**	**244.5426**	**0.0588**	**0.0000**	**246.0130**

3.6 Building Construction (1) - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.3340	0.0830	9.9000e-004	0.0349	9.4000e-004	0.0359	9.2300e-003	9.0000e-004	0.0101	0.0000	97.9201	97.9201	6.7700e-003	0.0000	98.0894
Vendor	0.0243	0.7801	0.2106	2.0900e-003	0.0524	1.4600e-003	0.0539	0.0151	1.4000e-003	0.0165	0.0000	203.2838	203.2838	0.0121	0.0000	203.5874
Worker	0.0105	7.8700e-003	0.0906	2.7000e-004	0.0285	2.3000e-004	0.0287	7.5700e-003	2.1000e-004	7.7800e-003	0.0000	24.8080	24.8080	6.8000e-004	0.0000	24.8251
Total	**0.0452**	**1.1220**	**0.3842**	**3.3500e-003**	**0.1158**	**2.6300e-003**	**0.1185**	**0.0319**	**2.5100e-003**	**0.0344**	**0.0000**	**326.0119**	**326.0119**	**0.0196**	**0.0000**	**326.5018**

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	0.1201	1.1636	1.7379	2.8000e-003		0.0540	0.0540		0.0512	0.0512	0.0000	244.5423	244.5423	0.0588	0.0000	246.0127
Paving	2.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1228**	**1.1636**	**1.7379**	**2.8000e-003**		**0.0540**	**0.0540**		**0.0512**	**0.0512**	**0.0000**	**244.5423**	**244.5423**	**0.0588**	**0.0000**	**246.0127**

3.6 Building Construction (1) - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.3340	0.0830	9.9000e-004	0.0349	9.4000e-004	0.0359	9.2300e-003	9.0000e-004	0.0101	0.0000	97.9201	97.9201	6.7700e-003	0.0000	98.0894
Vendor	0.0243	0.7801	0.2106	2.0900e-003	0.0524	1.4600e-003	0.0539	0.0151	1.4000e-003	0.0165	0.0000	203.2838	203.2838	0.0121	0.0000	203.5874
Worker	0.0105	7.8700e-003	0.0906	2.7000e-004	0.0285	2.3000e-004	0.0287	7.5700e-003	2.1000e-004	7.7800e-003	0.0000	24.8080	24.8080	6.8000e-004	0.0000	24.8251
Total	**0.0452**	**1.1220**	**0.3842**	**3.3500e-003**	**0.1158**	**2.6300e-003**	**0.1185**	**0.0319**	**2.5100e-003**	**0.0344**	**0.0000**	**326.0119**	**326.0119**	**0.0196**	**0.0000**	**326.5018**

3.6 Building Construction (1) - 2023

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	0.0852	0.8139	1.3029	2.1000e-003		0.0365	0.0365		0.0346	0.0346	0.0000	183.4111	183.4111	0.0439	0.0000	184.5091
Paving	2.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0873**	**0.8139**	**1.3029**	**2.1000e-003**		**0.0365**	**0.0365**		**0.0346**	**0.0346**	**0.0000**	**183.4111**	**183.4111**	**0.0439**	**0.0000**	**184.5091**

3.6 Building Construction (1) - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.1300e-003	0.1644	0.0565	7.1000e-004	0.0336	2.9000e-004	0.0339	8.7300e-003	2.8000e-004	9.0100e-003	0.0000	70.3815	70.3815	4.7200e-003	0.0000	70.4994
Vendor	0.0135	0.4420	0.1417	1.5200e-003	0.0393	5.2000e-004	0.0398	0.0113	4.9000e-004	0.0118	0.0000	147.6898	147.6898	8.0500e-003	0.0000	147.8910
Worker	7.4000e-003	5.3400e-003	0.0625	2.0000e-004	0.0214	1.7000e-004	0.0215	5.6800e-003	1.5000e-004	5.8300e-003	0.0000	17.9252	17.9252	4.6000e-004	0.0000	17.9367
Total	**0.0260**	**0.6117**	**0.2607**	**2.4300e-003**	**0.0942**	**9.8000e-004**	**0.0952**	**0.0258**	**9.2000e-004**	**0.0267**	**0.0000**	**235.9965**	**235.9965**	**0.0132**	**0.0000**	**236.3271**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0852	0.8139	1.3029	2.1000e-003		0.0365	0.0365		0.0346	0.0346	0.0000	183.4109	183.4109	0.0439	0.0000	184.5089
Paving	2.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0873**	**0.8139**	**1.3029**	**2.1000e-003**		**0.0365**	**0.0365**		**0.0346**	**0.0346**	**0.0000**	**183.4109**	**183.4109**	**0.0439**	**0.0000**	**184.5089**

3.6 Building Construction (1) - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.1300e-003	0.1644	0.0565	7.1000e-004	0.0336	2.9000e-004	0.0339	8.7300e-003	2.8000e-004	9.0100e-003	0.0000	70.3815	70.3815	4.7200e-003	0.0000	70.4994
Vendor	0.0135	0.4420	0.1417	1.5200e-003	0.0393	5.2000e-004	0.0398	0.0113	4.9000e-004	0.0118	0.0000	147.6898	147.6898	8.0500e-003	0.0000	147.8910
Worker	7.4000e-003	5.3400e-003	0.0625	2.0000e-004	0.0214	1.7000e-004	0.0215	5.6800e-003	1.5000e-004	5.8300e-003	0.0000	17.9252	17.9252	4.6000e-004	0.0000	17.9367
Total	**0.0260**	**0.6117**	**0.2607**	**2.4300e-003**	**0.0942**	**9.8000e-004**	**0.0952**	**0.0258**	**9.2000e-004**	**0.0267**	**0.0000**	**235.9965**	**235.9965**	**0.0132**	**0.0000**	**236.3271**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	0.0151					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0626	0.5854	0.7583	1.2500e-003		0.0285	0.0285		0.0272	0.0272	0.0000	108.1872	108.1872	0.0201	0.0000	108.6883
Total	**0.0777**	**0.5854**	**0.7583**	**1.2500e-003**		**0.0285**	**0.0285**		**0.0272**	**0.0272**	**0.0000**	**108.1872**	**108.1872**	**0.0201**	**0.0000**	**108.6883**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	1.6400e-003	0.0526	0.0181	2.3000e-004	0.0103	9.0000e-005	0.0104	2.6900e-003	9.0000e-005	2.7800e-003	0.0000	22.5221	22.5221	1.5100e-003	0.0000	22.5598
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	1.7800e-003	1.2800e-003	0.0150	5.0000e-005	5.1300e-003	4.0000e-005	5.1700e-003	1.3600e-003	4.0000e-005	1.4000e-003	0.0000	4.3020	4.3020	1.1000e-004	0.0000	4.3048
Total	**3.4200e-003**	**0.0539**	**0.0331**	**2.8000e-004**	**0.0155**	**1.3000e-004**	**0.0156**	**4.0500e-003**	**1.3000e-004**	**4.1800e-003**	**0.0000**	**26.8241**	**26.8241**	**1.6200e-003**	**0.0000**	**26.8646**

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	0.0151					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0626	0.5854	0.7583	1.2500e-003		0.0285	0.0285		0.0272	0.0272	0.0000	108.1870	108.1870	0.0201	0.0000	108.6882
Total	**0.0777**	**0.5854**	**0.7583**	**1.2500e-003**		**0.0285**	**0.0285**		**0.0272**	**0.0272**	**0.0000**	**108.1870**	**108.1870**	**0.0201**	**0.0000**	**108.6882**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2023

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	1.6400e-003	0.0526	0.0181	2.3000e-004	0.0103	9.0000e-005	0.0104	2.6900e-003	9.0000e-005	2.7800e-003	0.0000	22.5221	22.5221	1.5100e-003	0.0000	22.5598
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	1.7800e-003	1.2800e-003	0.0150	5.0000e-005	5.1300e-003	4.0000e-005	5.1700e-003	1.3600e-003	4.0000e-005	1.4000e-003	0.0000	4.3020	4.3020	1.1000e-004	0.0000	4.3048
Total	**3.4200e-003**	**0.0539**	**0.0331**	**2.8000e-004**	**0.0155**	**1.3000e-004**	**0.0156**	**4.0500e-003**	**1.3000e-004**	**4.1800e-003**	**0.0000**	**26.8241**	**26.8241**	**1.6200e-003**	**0.0000**	**26.8646**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	0.0186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0728	0.6758	0.9337	1.5300e-003		0.0314	0.0314		0.0300	0.0300	0.0000	133.1490	133.1490	0.0244	0.0000	133.7599
Total	**0.0914**	**0.6758**	**0.9337**	**1.5300e-003**		**0.0314**	**0.0314**		**0.0300**	**0.0300**	**0.0000**	**133.1490**	**133.1490**	**0.0244**	**0.0000**	**133.7599**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	2.0200e-003	0.0643	0.0225	2.8000e-004	0.0106	1.1000e-004	0.0108	2.8000e-003	1.1000e-004	2.9100e-003	0.0000	27.5948	27.5948	1.8600e-003	0.0000	27.6412
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	1.4400e-003	0.0172	6.0000e-005	6.3100e-003	5.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1307	5.1307	1.2000e-004	0.0000	5.1338
Total	**4.0900e-003**	**0.0657**	**0.0397**	**3.4000e-004**	**0.0169**	**1.6000e-004**	**0.0171**	**4.4800e-003**	**1.5000e-004**	**4.6300e-003**	**0.0000**	**32.7254**	**32.7254**	**1.9800e-003**	**0.0000**	**32.7749**

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	0.0186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0728	0.6758	0.9337	1.5300e-003		0.0314	0.0314		0.0300	0.0300	0.0000	133.1488	133.1488	0.0244	0.0000	133.7598
Total	**0.0914**	**0.6758**	**0.9337**	**1.5300e-003**		**0.0314**	**0.0314**		**0.0300**	**0.0300**	**0.0000**	**133.1488**	**133.1488**	**0.0244**	**0.0000**	**133.7598**

3.7 Architectural Coating, Landscaping, Pocket Parks - 2024

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	2.0200e-003	0.0643	0.0225	2.8000e-004	0.0106	1.1000e-004	0.0108	2.8000e-003	1.1000e-004	2.9100e-003	0.0000	27.5948	27.5948	1.8600e-003	0.0000	27.6412
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	1.4400e-003	0.0172	6.0000e-005	6.3100e-003	5.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1307	5.1307	1.2000e-004	0.0000	5.1338
Total	**4.0900e-003**	**0.0657**	**0.0397**	**3.4000e-004**	**0.0169**	**1.6000e-004**	**0.0171**	**4.4800e-003**	**1.5000e-004**	**4.6300e-003**	**0.0000**	**32.7254**	**32.7254**	**1.9800e-003**	**0.0000**	**32.7749**

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
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	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
City Park	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Other Asphalt Surfaces	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Other Non-Asphalt Surfaces	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

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					
City Park	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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**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					
City Park	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
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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**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			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-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			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-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	0.0197	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Unmitigated	0.0197	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-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	3.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Total	**0.0197**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0300e-003**	**6.0300e-003**	**2.0000e-005**	**0.0000**	**6.4200e-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	3.3600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Total	**0.0197**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0300e-003**	**6.0300e-003**	**2.0000e-005**	**0.0000**	**6.4200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.6354	1.6000e-004	3.0000e-005	6.6490
Unmitigated	6.6354	1.6000e-004	3.0000e-005	6.6490

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.07233	6.6354	1.6000e-004	3.0000e-005	6.6490
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.6354**	**1.6000e-004**	**3.0000e-005**	**6.6490**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.07233	6.6354	1.6000e-004	3.0000e-005	6.6490
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**6.6354**	**1.6000e-004**	**3.0000e-005**	**6.6490**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0162	9.6000e-004	0.0000	0.0402
Unmitigated	0.0162	9.6000e-004	0.0000	0.0402

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0162**	**9.6000e-004**	**0.0000**	**0.0402**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0162**	**9.6000e-004**	**0.0000**	**0.0402**

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

Regional VMT Mobile Source Emissions Calculations

	g/mi (2014)	ΔVMT (Annual)	Emission Reduction (MTCO2e/year)*			
CO2*	174.1177016	-457918		(79.7)	MTCO2e	
CH4*	0.004558214	-457918		(0.1)		(79.8)

EMFAC2014 Mobile Source Emission Rates

calendar_year	season_month	sub_area	vehicle_class	temperature	relative_humidity	process	speed_time	pollutant	emission_rate
2035	Annual	Los Angeles (SC)	NonTruck	65	58	RUNEX	40	CO2	174.1177016
2035	Annual	Los Angeles (SC)	NonTruck	65	58	RUNEX	40	CH4	0.004558214