THE TERRACES APARTMENT PROJECT

AIR QUALITY/GREENHOUSE GAS STUDY

Prepared for:

Greystar
444 South Cedros Avenue
Solana Beach, CA 92075

Prepared by:

BPG
BIRDSEYE
PLANNING GROUP

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MURRIETA, CALIFORNIA

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AIR QUALITY and GREENHOUSE GAS STUDY

This report is an analysis of the potential air quality and greenhouse gas impacts associated with The Terraces Apartment Project in the City of Murrieta, California. This report has been prepared by Birdseye Planning Group (BPG) under contract to the applicant to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA). This study analyzes the potential for temporary impacts associated with construction activity and long-term impacts associated with operation of the proposed project.

PROJECT DESCRIPTION

The proposed project would construct 899 apartment units on a 38.7 gross acre site (30 units/ acre) located north of Murrieta Hot Springs Road, west of Interstate 15, east of the existing Sparkman Court corridor and south of Vista Murrieta Road in the City of Murrieta, California (APNs 910-031-001, -002, -003, -004, -005, -007, -008, -009, -010, -015, -017, -018, -021, -022, -023, -024, -025 and -026; 949-190-012, -013, -014, -015, -016 -017, -018 and -019) (see Figure 1). The site is bordered to the south by Murrieta Hot Springs Road and undeveloped land, to the west by the Interstate 15 corridor, to the north by Vista Murrieta Road and single-family residences and to the east by Sparkman Court and office research park uses. The Sparkman Court corridor would be widened consistent with the half-width specifications as part of a planned extension of Monroe Avenue from Los Alamos Road south to Murrieta Hot Springs Road.

The project would construct 11 four-story apartment buildings and nine two-story carriage house buildings in two phases. Phase I would comprise buildings 1a, 1b and 7 through 11 with a total of 621 units. Phase II would comprise buildings 2-5 with a total of 279 units. The project would provide 359 one-bedroom units, 482 two-bedroom units and 58 three-bedroom units. Each building would be four stories or approximately 45 feet in height.

The project would provide 1,500 parking spaces. Of the total, 824 would be standard (9'x18') surface spaces, 374 garage spaces and 302 tandem spaces. A leasing center, clubhouse, swimming pool and various walking paths and green space areas would be provided throughout the project site. A dog park or other outdoor open space area would be provided at the northeast corner of the site.

The main project entrance would be from Monroe Avenue north of Murrieta Hot Springs Road. Secondary emergency access would be provided from Vista Murrieta Road along the northern boundary of the site. The project would be required to construct the segment of Monroe Avenue that traverses the northeast corner of the site and make half width improvements to Monroe Avenue where it would replace the existing segment of Sparkman Court that extends south to Murrieta Hot Springs Road from the Walsh Center Drive intersection.

Figure 1 — Vicinity Map **- Project Site**

Eastern Municipal Water District (EMWD) would provide water and sewer service to the site. The project would extend existing water and sewer lines to the site from the Sparkman Court/Monroe Avenue and Murrieta Hot Springs Road intersection. Wet and dry utility improvements would occur while road improvements are being performed to minimize the need for road closure and overall construction-related impacts to neighboring residents.

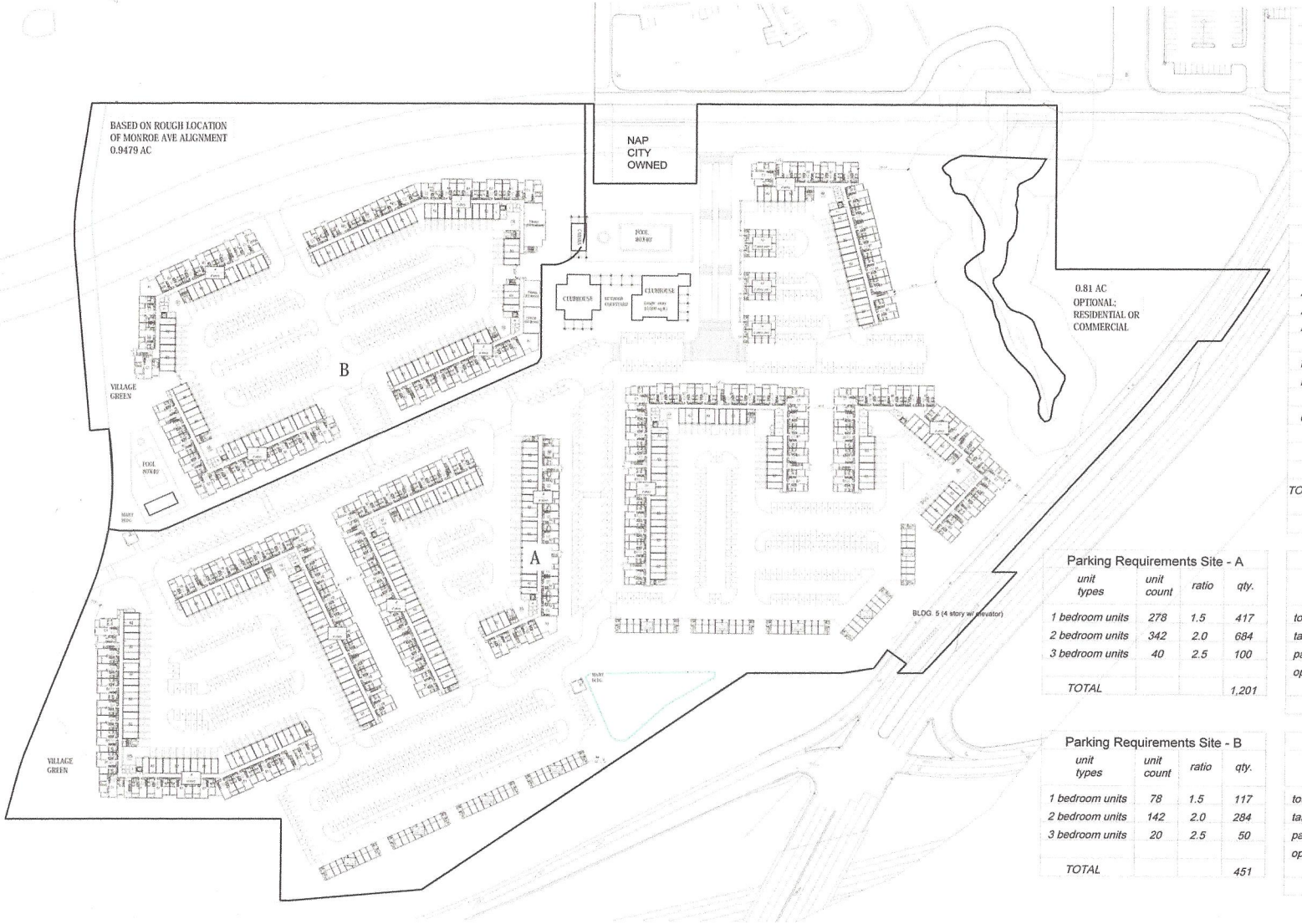
The stormwater generated by the balance of the site surface flows to the southeast. All of the stormwater generated in this watershed surface flows to the southwest, eventually flowing under Interstate 15. In the developed condition the project proposes to route all the onsite stormwater flows, via an subsurface system of collection and conveyance pipes to the existing City storm drain outlets located on the west side of the site. Prior to discharging stormwater from the site, the project proposes to water quality devices to intercept pollutants of concern. New landscaping would be installed per Title 16.28 (Landscaping Standards) and Title 16.34.070.H (Development Standards for Off-Street Parking, Landscaping) of the Murrieta Municipal Code and the City's current policies.

Project construction is scheduled to begin in early 2023 with Phase I completed in mid-2025. Build out of Phase II is expected by 2029; however, the project is being evaluated as one phase for the purpose of determining environmental effects. Site preparation and grading would require 4,300 cubic yards of fill import. Construction activities are expected to occur five days per week, 8 hours per day, between 8:00 am and 5:00 pm. The proposed site plan is shown in Figure 2.

SETTING

Air Pollution Regulation

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 1 lists the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are generally more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.



Project Description

SITE NET AREA	29.33 acres
SITE ADDRESS	
TOTAL UNITS	900 units
DENSITY ON GROSS AREA	30.70 DU/AC

Total Unit Mix

unit type		unit count	unit area
A1	1bed / 1bath	216	756 s.f.
A2	1bed / 1bath	116	804 s.f.
A3	1bed / 1bath	24	1052 s.f.
	total	356	39%
B1	2 bed / 2 bath	266	1,047 s.f.
B2	2 bed / 2 bath	218	1,060 s.f.
	total	484	54%
C1	3 bed / 2 bath	60	1,292 s.f.
	total	60	7%
TOTAL		900 UNITS	
		866,457 NRSF	
		962.7 AVG. NRSF	

Parking Requirements Site - A

unit types	unit count	ratio	qty.
1 bedroom units	278	1.5	417
2 bedroom units	342	2.0	684
3 bedroom units	40	2.5	100
TOTAL			1,201

Parking Provided Site - A

parking type	parking count	%	
total garage	312	27%	
tandem	216	19%	
parallel	22	2%	
open stall	604	52%	
TOTAL	1,154	1.7 spaces/du	

Parking Requirements Site - B

unit types	unit count	ratio	qty.
1 bedroom units	78	1.5	117
2 bedroom units	142	2.0	284
3 bedroom units	20	2.5	50
TOTAL			451

Parking Provided Site - B

parking type	parking count	%	
total garage	86	22%	
tandem	86	16%	
parallel	14	2%	
open stall	222	60%	
TOTAL	408	1.7 spaces/du	

NORTH

SCALE : 1"=60'
DATE: 01-15-212
JOB NO.: 2021-230

A1.2

The Terraces at Murrieta
GREYSTAR

MURRIETA, CA

PRELIMINARY SITE PLAN

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860
Architecture. Design. Relationships.

Figure 2 — Site Plan

Table 1
State and Federal Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Ozone[8] (O_3)	1 hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm (137µg/m³)		0.070 ppm (137 µg/m³)		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m³)	--	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
Nitrogen Dioxide (NO_2)[10]	Annual Average	0.030 ppm (57 µg/m³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	--	
Sulfur Dioxide (SO_2)[11]	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 µg/m³)	--	Pararosaniline
	24 hours	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	--	
	3 hours	--		--	0.5 ppm (1300 µg/m³)	
	1 hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)	--	
Respirable Particulate Matter (PM_{10})[9]	24 hours	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	150 µg/m³	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		--	--	
Fine Particulate Matter ($PM_{2.5}$)[9]	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m³	Same as Primary Standard	
Sulfates	24 hours	25 µg/m³	Ion Chromatography	--	--	--
Lead[12, 13] (Pb)	30-day Average	1.5 µg/m³	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m³		

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
	3-month Rolling Average	--		0.15 µg/m^3	Same as Primary Standard	
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride[12]	24 hours	0.010 ppm (26 µg/m^3)	Gas Chromatography	--	--	--

Notes:

ppm = parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
Source: California Air Resources Board 2017

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/ m^3 to 12.0 µg/ m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/ m^3, as was the annual secondary standard of 15 µg/ m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/ m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/ m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. The project site is located within the South Coast Air Basin (Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Basin, in which the project area is located, is a non-attainment area for both the federal and state standards for ozone and $PM_{2.5}$ and the state standard for PM_{10}. The Basin is in attainment for the federal standards for PM_{10}, nitrogen dioxide, and carbon monoxide. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)[1]. Nitrogen oxides are formed during

[1] *Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective*

the combustion of fuels, while reactive organic compounds are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide is a local pollutant that is found in high concentrations only near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations; therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC).

Toxic Air Contaminants/Diesel Particulate Matter. Hazardous air pollutants, also known as toxic air pollutants (TACs) or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of toxic air pollutants include:

- benzene, which is found in gasoline;
- perchloroethylene, which is emitted from some dry-cleaning facilities; and
- methylene chloride, which is used as a solvent.

Transportation related emissions are focused on particulate matter constituents within diesel exhaust and TAC constituents that comprise a portion of total organic gas (TOG) emissions from both diesel and gasoline fueled vehicles. Diesel engine emissions are comprised of exhaust particulate matter and TOGs which are collectively defined for the purpose of a Health Risk Assessment (HRA), as Diesel Particulate Matter (DPM). DPM and TOG emissions from both diesel and gasoline fueled vehicles is typically composed of carbon particles and carcinogenic substances including polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NO_x). Information on TAC and DPM is provided herein for reference only. A separate HRA has been prepared which addresses air toxics and potential health risks associated with the proposed location of the project site in proximity to Interstate 15 which is locate approximately adjacent to the western site boundary.

Regional Climate and Local Air Quality

South Coast Air Basin. The combination of topography, low mean mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the SCAB the worst air pollution problem in the nation. Climate in the SCAB is determined by its terrain and geographical location. The SCAB consists of a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB. The SCAB lies in the semi-permanent high-pressure zone of the eastern Pacific. The resulting climate is mild and is tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms or easterly Santa Ana wind conditions can occur.

Annual average temperatures vary little throughout the SCAB, ranging from the low-to-middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The majority of annual rainfall in the SCAB occurs between October and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB and along the coastal side of the mountains. Average temperatures in winter months in the project area range from a low of 34 degrees F to a high of 68 degrees F. In the summer, average temperatures range from a low of 59 degrees F to a high of 98 degrees F. During an average year, the greatest amount of precipitation, 2.86 inches, occurs in February.

The SCAQMD operates a network of 38 ambient air monitoring stations throughout the South Coast Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California and federal standards. The air quality monitoring station located nearest to the project site is the Lake Elsinore station, located at 506 West Flint Street approximately 12 miles north of the project area. Table 2 provides a summary of monitoring data at the Lake Elsinore station for ozone, nitrogen oxide, PM_{10} and $PM_{2.5}$. As referenced, the SCAB is a nonattainment area for ozone, PM_{10} and $PM_{2.5}$.

Table 2
Ambient Air Quality Data

Pollutant	2018	2019	2020
Ozone, ppm – First High 8-Hour Average (2015 Standard)	0.095	0.089	0.10
Number of days of above 2015 standard (>0.070 ppm)	33	28	54
Nitrogen Dioxide, ppm – First High National	41	38	43.6
Nitrogen Dioxide, ppm – First High State	41	38	43
Days above the State standard (>0.18 ppm)	0	0	0
Days above the national standard (>100 ppb)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ First High Federal	105.3	93.8	192.4
Particulate Matter <10 microns, $\mu g/m^3$ First High State	*	*	*
Estimated number of days greater than national 24-hour standard (>150 $\mu g/m^3$)	0	0	1
Estimated number of days greater than state standard (>50 $\mu g/m^3$)	*	*	*
Particulate Matter <2.5 microns, $\mu g/m^3$ First High	31.2	17.6	41.6
Measured number of days Federal standard exceeded (>12 $\mu g/m^3$)	*	*	*
Measured number of days State standard exceeded (>12 $\mu g/m^3$)	*	*	*

Lake Elsinore – 506 West Flint Street Monitoring Station
**Data insufficient to determine the value*
Source: California Air Resources Board, 2018, 2019, 2020 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php

Air Quality Management Plan

The NAAQS and CAAQS presented in Table 1 establish the context for the local Air Quality Management Plans (AQMPs) and for determining the significance of a project's contribution to local or regional pollutant concentrations. The NAAQS and CAAQS represent the level of air quality considered safe, with an adequate safety margin, to protect public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other diseases or illness, and persons engaged in strenuous work or exercise.

The SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and State air quality standards. Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly to more effectively reduce emissions, accommodate growth and minimize any negative fiscal impacts of air pollution control on the economy. The AQMP control measures and related emission reduction estimates are based on emissions projections for a future development scenario derived from land use, population and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections.

In March 2017, the SCAQMD released the Final 2016 AQMP, the most recent approved AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS and explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) and updated emission inventory methodologies for various source categories.

The 2022 AQMP is currently being developed by SCAQMD to address the EPA's strengthened ozone standard. Development of the 2022 AQMP is in its early stages and no formal timeline for completion and adoption is currently known.

Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare as well as that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. Uses adjacent to the site are single-family residences located north of the site and multi-family residences located to adjacent to and northeast of the site (Vista Pointe Apartments). The Rancho Springs Medical Center is located approximately 1,600 feet east of the site.

AIR QUALITY IMPACT ANALYSIS

Methodology and Significance Thresholds

This air quality analysis conforms to the methodologies recommended in the SCAQMD's *CEQA Air Quality Handbook* (1993). The handbook includes thresholds for emissions associated with construction of the project. Post-construction emissions are not projected to change from baseline conditions. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0.

Construction activities such as clearing, grading and excavation would generate diesel and dust emissions. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project were estimated by the types of equipment (including the number) that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook.*

Operational emissions include mobile source emissions, energy emissions, and area source emissions. In this case, the bicycle lanes and related improvements would not generate traffic or stationary emission sources. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings (i.e., paints). All construction and operational emissions were compared to SCAQMD thresholds to determine whether a regional air quality impact would occur.

Regional Thresholds. Based on Appendix G of the *CEQA Guidelines*, a project would have a significant air quality impact if it would:

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

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

The SCAQMD has developed specific quantitative thresholds that apply to projects within the SCAB. The following significance thresholds apply to short-term construction activities:

- *75 pounds per day of ROG*
- *100 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SOx*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

The following significance thresholds apply to long-term operational emissions:

- *55 pounds per day of ROG*
- *55 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SO_X*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, work crew vehicle trips in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. For the proposed project, construction would generally consist of demolition and/or removal of the existing manufactured residence and outbuildings, site preparation, grading the building pads and parking areas, construction of the buildings, paint application and paving the parking lot and circulation area/drive aisles. It is anticipated that approximately 20 haul trips would be required to remove remnant foundation material associated with previous development on the site.

The project would be required to comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the South Coast Air Basin. Therefore, the following conditions, which are required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for site preparation and grading phases of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after

work is done for the day.

3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

Construction emissions modeling for demolition, site preparation, grading, building construction, paving, and architectural coating application is based on the overall scope of the proposed development and construction phasing which is expected to begin early 2023 and be completed mid-2026. For modeling purposes, the site would be watered twice daily for dust control. In addition to SCAQMD Rule 403 requirements, emissions modeling also accounts for the use of low-VOC paint (100 g/L for traffic coatings [parking lot and lane striping] and 50 g/L for residential buildings) as required by SCAQMD Rule 1113. Further, it was assumed that the painting phase would be overlapped with the building construction phase by 87 work days to reduce daily ROG emissions. Table 3 summarizes the estimated maximum daily emissions of pollutants occurring during 2023 through 2026.

As shown in Table 3, construction of the proposed project would not exceed the SCAQMD regional thresholds. No mitigation in addition to compliance with SCAQMD Rule 403 and Rule 1113 would be required to reduce construction emissions to less than significant.

Table 3
Estimated Maximum Daily Construction Emissions

Construction Phase		Maximum Emissions (lbs/day)				
	ROG	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$
Emissions – 2023	5.2	34.95	53.6	0.15	21.31	11.3
Emissions - 2024	4.9	22.2	51.2	0.15	12.6	3.8
Emissions – 2025	4.6	21.0	48.8	0.14	12.5	3.7
Emissions – 2026	72.1	22.2	54.4	0.16	14.7	4.4
SCAQMD Regional Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded 2023	**No**	**No**	**No**	**No**	**No**	**No**
Threshold Exceeded 2024	**No**	**No**	**No**	**No**	**No**	**No**
Threshold Exceeded 2025	**No**	**No**	**No**	**No**	**No**	**No**
Threshold Exceeded 2026	**No**	**No**	**No**	**No**	**No**	**No**

Localized Significance Thresholds. The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. Construction-related emissions reported by CalEEMod are compared to the localized significance threshold lookup tables. The CalEEMod output in Appendix A shows the equipment assumed for this analysis.

LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size and distance to the sensitive receptor. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_x, CO, PM_{10} and $PM_{2.5}$. LSTs are not applicable to mobile sources such as cars on a roadway (Final Localized Significance Threshold Methodology, SCAQMD, June 2003). The project would not include stationary emission sources; thus, LSTs for operational emissions do not apply to the proposed development.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. The site is 37.8 acres in size; however, based on the equipment mix used, a maximum of 3.5 acres would be disturbed daily during site preparation and five acres during grading. Look up table values for five acres were used to evaluate potential impacts. The project site is located in Source Receptor Area 26 (SRA-26,

Temecula Valley). LSTs for construction related emissions in the SRA 26 at varying distances between the source and receiving property are shown in Table 4.

Table 4
SCAQMD LSTs for Construction

Pollutant	Allowable emissions as a function of receptor distance in meters from a five-acre site (lbs/day)				
	25	**50**	**100**	**200**	**500**
Gradual conversion of NO_x to NO_2	371	416	520	672	1,072
CO	1,965	2,714	4,282	8,547	29,256
PM_{10}	13	40	59	96	207
$PM_{2.5}$	8	10	16	31	105

Source: http://www.aqmd.gov/CEQA/handbook/LST/appC.pdf, October 2009.

The nearest sensitive receptors to the project site are located approximately 75 feet east of the northeast corner of the site at the intersection of Walsh Center Drive and Sparkman Court. To provide a conservative evaluation of construction emissions relative to LST thresholds, allowable emissions for 25 meters were used. Daily unmitigated emissions are shown in Table 5. Note that the values in Table 5 do not reflect watering of disturbed soils twice daily required for compliance with SCAQMD Rule 403 referenced above. As shown, , daily emissions of PM_{10} and $PM_{2.5}$ would exceed the LSTs for 25 meters shown in Table 4 for both PM_{10} and $PM_{2.5}$ during site preparation and grading. However, watering the site twice daily required per SCAQMD Rule 403, would reduce PM_{10} emissions to 10.1 pounds daily and $PM_{2.5}$ emissions to 5.7 pounds daily. With implementation of standard measures required per SCAQMD Rule 403, emissions would be less than the LST. No mitigation would be required.

Table 5
Estimated Daily Unmitigated On-Site Construction Emissions and LSTs

On-Site Construction Emissions	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
-Demolition	21.4	19.6	1.3	0.9
- Site Preparation	27.5	18.2	**20.9**	**11.2**
- Grading	34.5	28.0	10.6	4.9
-Building Construction[1]				
- 2023	14.3	16.2	0.6	0.6
- 2024	13.4	16.1	0.6	0.6
- 2025	12.4	16.0	0.5	0.5
- 2026	12.4	16.0	0.5	0.5
- Paving	8.5	14.5	0.4	0.4
- Architectural Coating	1.4	1.8	0.05	0.05
Local Significance Threshold – 25 meters (on-site only)[3]				
Threshold Exceeded	No	No	Yes	Yes

Notes: All calculations were made using CalEEMod. See Appendix A. Grading, Paving, Building Construction, and Architectural Coating totals include worker trips, construction vehicle emissions and fugitive dust.
Site Preparation and Grading phases do not incorporate anticipated emissions reductions required by SCAQMD Rule 403 to reduce fugitive dust.

[1] *Building construction phase would include 2023 through 2026.*
[2] LSTs are for a 5-acre disturbance area in SRA-26 within 25 meters of sensitive properties boundary.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

Construction-Related Odor Impacts

Potential sources of odor during construction activities include equipment exhaust and activities such as paving. The objectionable odors that may be produced during the construction process would occur periodically and end when construction is completed. No significant impact related to odors would occur during construction of the proposed project per threshold (d) referenced above.

Operational Impacts

Regional Pollutant Emissions

Table 6 summarizes emissions associated with operation of the proposed project. Operational emissions would consist of area and mobile sources associated with maintenance and landscaping. As shown in Table 6, operational emissions would not exceed the SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10} or $PM_{2.5}$. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant per threshold b. Further, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment. As discussed, the South Coast Air Basin is a nonattainment area for ozone, PM_{10} and $PM_{2.5}$. Emissions of ozone precursor emissions (i.e., ROG and NOx), PM_{10} and $PM_{2.5}$ would not exceed the SCAQMD thresholds. Impacts relative to threshold c would be less than significant.

Table 6
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project						
Area Emissions	21.9	1.6	74.6	0.01	0.4	0.4
Energy Emissions	0.3	3.2	1.3	0.01	0.2	0.2
Mobile Emissions	12.2	15.4	115.6	0.2	31.1	8.4
Total	**34.6**	**20.3**	**195.6**	**0.22**	**31.9**	**9.2**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix for CalEEMod version. 2020.4.0 computer model output for site preparation and paving emissions. Summer emissions shown.

AQMP Consistency

The SCAQMD has established criteria for determining consistency with the Air Quality Management Plan (AQMP), currently the 2016 AQMP, in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). The criteria are as follows (SCAQMD 193):

> **Consistency Criterion No. 1:** The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
>
> **Consistency Criterion No. 2:** The project will not exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

As stated under threshold (b-c) below, construction and operation emissions would not exceed SCAQMD thresholds; thus, the project will not cause or contribute to new violations or delay the timely attaining of air quality standards specified in the AQMP. Thus, the project satisfies Consistency Criterion 1.

With respect to Consistency Criterion No. 2,, the 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the SCAQMD are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Therefore, development consistent with the growth projections in the Murrieta General Plan is considered to be consistent with the AQMP.

The project is zoned Regional Commercial/Office (O) and is located within a Transit Oriented Development (TOD) Overlay District. The General Plan land use designation is Commercial Office/Research Park (ORP) with a 0.6 – 2.5 Floor Area Ratio (FAR). The proposed residential project is a permitted use in the TOD Overlay District and subject to standards stipulated in Section 16.16.040 of the Murrieta Municipal Code. The project would provide 899 housing units which would provide residences for approximately 2,572 residents.

The Southern California Association of Governments (SCAG) has conducted a Regional Housing Needs Assessment (RHNA) to determine the City's share of housing needs. The RHNA quantifies Murrieta's local share of housing needs by income category. The income categories are based on the most current Median Family Income (MFI) for Riverside County. The City's 2021-2029 RHNA is as follows:

- 1,008 units - Very low income (0-50% County MFI)
- 584 units - Low income (51-80% of County MFI)
- 545 units - Moderate income (81-120% of County MFI)
- 906 units above moderate income (120% or more of County MFI)

The total number of housing units for Murrieta as specified in the RHNA is 3,043.
The proposed project would provide 45 very low-income units. The remainder would be market rate units. The project will provide 4.5 percent of the very low-income housing allocation and approximately 30 percent of the total housing units allocated to Murrieta in the RHNA.

The project would not create housing or jobs that would exceed that anticipated as part of the local land use planning process. Project-related emissions would not exceed thresholds recommended by the SCAQMD. Thus, the project would comply with Consistency Criterion 2; and thus, would be consistent with the AQMP. **No impact** would occur under threshold (a).

Friant Ranch Case Overview and Project Applicability

In response to the California Supreme Court decision on December 24, 2018, Sierra Club v. County of Fresno (Friant Ranch), this section provides a discussion on the potential for identifiable health impacts to result from air pollutants analyzed in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA). The discussion focuses on significant impacts and the feasibility of directly relating any identified significant adverse air quality impact to likely health consequences. The Supreme Court opinion in Friant Ranch requires projects with significant air quality impacts to relate the expected adverse air quality impacts to likely health consequences or explain why it is not feasible at the time of drafting to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the project.

The purpose of CEQA is to inform the public as to the potential for a proposed project to result in one or more significant adverse effects on the environment (including health effects). This includes the potential for a project to result in a considerable contribution towards one or more

significant cumulative impacts. CEQA does not require detailed analysis of impacts that are found to be less than significant or less than a considerable contribution to a significant cumulative impact. In accordance with CEQA requirements and the CEQA review process, air quality impacts associated with proposed local plans and development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The State CEQA Guidelines Section 15064.7 states that the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance.

As stated, the project is located within the SCAB under the jurisdiction of the SCAQMD. The City of Murrieta defers to threshold guidance established by the SCAQMD and utilizes the SCAQMD's CEQA Air Quality Handbook (approved by the AQMD Governing Board in 1993) and subsequent guidance provided on the SCAQMD website. Note the SCAQMD is currently in the process of developing an Air Quality Analysis Guidance Handbook to replace the 1993 Handbook. In addition, when considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within proximity to land uses that emit TACs. CARB has published and adopted the Air Quality and Land Use Handbook: A Community Health Perspective (2005), which considers impacts to sensitive receptors from facilities that emit TAC emissions. CARB has also published Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory, a supplement to the handbook that is intended to provide scientifically based strategies to reduce exposure to traffic emissions near high-volume roadways to protect public health and promote equity and environmental justice. The SCAQMD has also adopted land use planning guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (2005). Together, the documents introduce land use-related policies and strategies that rely on design and distance parameters to minimize emissions and lower potential health risks. A health risk assessment has been performed for the proposed project and determined that with the use of advanced filtration technology within each unit located within 500 feet of Interstate 15, the health risk impacts would be less than significant.

Federal and state ambient air quality standards are designed to prevent the harmful effects of air pollution. These standards are continually updated based on evolving research, including research which relates air quality impacts with health effects. At the regional level, plans such as the SCAQMD's AQMP and SCAG's RTP/SCS work to ensure that the South Coast Air Basin reaches and maintains attainment with these federal and state standards. At the local level, environmental documents evaluate a plan or project's consistency with applicable policies identified in the SCAQMD's AQMP and SCAG's RTP/SCS as well as regulatory compliance measures which work to limit risk and exposure to TACs. In addition, in evaluating air quality impacts at the project-level, the City of Murrieta utilizes thresholds guidance and air quality models established by the SCAQMD, which have been developed to implement these regional plans for attainment and protection of public health. For local projects that exceed any identified SCAQMD air quality threshold, CEQA documents typically identify and disclose generalized health effects of certain air pollutants but are currently unable to establish a reliable

connection between any local plan or project and a particular health effect. In addition, no expert agency has yet to approve a quantitative method to reliably and meaningfully do so. Many factors contribute to this uncertainty, including the regional scope of air quality monitoring and planning, technological limitations for modeling at a local plan- or project-level, and the intrinsically complex nature between air pollutants and health effects in conjunction with local environmental variables. Therefore, at the time, it is infeasible for CEQA documents to directly link a project's significant air quality impacts with a specific health effect. However, as air quality modeling and research on health effects advances over time, the City will continue to seek the latest guidance from local air quality agencies and experts and refine its approach based on future information as it becomes available.

As stated herein, the proposed project will not exceed the daily emission thresholds established by the SCAQMD nor would the project expose nearby sensitive properties to levels of TACs that would cause or contribute to a health risk. Thus, for the purpose of this evaluation, potential project impacts have been adequately evaluated with respect to the Friant Ranch case and related findings.

GREENHOUSE GAS EMISSION DISCUSSION

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 1997).
Total U.S. GHG emissions were 6,676.6 MMT CO_2E in 2018 (U.S. EPA, April 2020). Total U.S. emissions increased by 3.7 percent from 1990 to 2018. Overall, net emissions increase 3.1 percent from 2017 to 2018 and decreased from 10.2 percent from 2005 levels. The decline reflects many

long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency, and energy fuel choices. Between 2017 and 2018, the increase in total greenhouse gas emissions was largely driven by an increase in CO2 emissions from fossil fuel combustion. This resulted from many factors including increased energy use from greater heating and cooling needs caused by a colder winter and hotter summer in 2018 compared to 2017.

The primary greenhouse gas emitted by human activities in the United States was CO2, representing approximately 81.3 percent of total greenhouse gas emissions. The largest source of CO2, and of overall greenhouse gas emissions, was fossil fuel combustion. Methane emissions (CH4) account for nearly 10 percent of emissions and have decreased by 7 percent since 2005 and 18.1 percent since 1990. The major sources of methane include enteric fermentation associated with domestic livestock, natural gas systems, and decomposition of wastes in landfills. Agricultural soil management, stationary fuel combustion, manure management, and mobile sources of fuel combustion were the major sources of N2O emissions. Based upon the California Air Resources Board (ARB) California Greenhouse Gas Inventory, 2019 edition, California produced 424.1 MMT CO_2E in 2017. The major source of GHG in California is transportation, contributing 41 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 24 percent of the state's GHG emissions (ARB, June 2019). California produced 441.5 MMT CO_2E in 2014. The major source of GHG was transportation, contributing 37 percent of the state's total GHG emissions. The industrial sector was the second largest source, contributing 24 percent of the state's GHG emissions (ARB, June 2016). California emissions result in part to its geographic size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 is projected to be 509 MMT CO_2E (ARB, May 2014). These projections are based on Business As Usual (BAU) conditions and represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

California Regulations

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 states that by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report recommended various strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

Assembly Bill 32 and CARB's Scoping Plan

To further the goals established in EO S-3-05, the Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Scoping Plan in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33%;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan (CARB 2008), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020) absent GHG reducing laws and regulations (referred to as Business-As-Usual (BAU)). To calculate this

percentage reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update; CARB 2014). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

Based on CARB's research efforts presented in the First Update, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020-emissions-level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions (CARB 2014).

In January 2017, CARB released, *The 2017 Climate Change Scoping Plan Update (*Second Update; CARB 2017b), for public review and comment. This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). The Second Update has not been considered by CARB's Governing Board at the time this analysis was prepared.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Other regulations affecting state and local GHG planning and policy development are summarized as follows:

Assembly Bill 939 and Senate Bill 1374
Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Senate Bill 1368
Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007 and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by California Public Utilities Commission (CPUC) and California Energy Commission (CEC).

Senate Bill 97
Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is an environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare,

develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010. Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.

- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.

- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.

- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."

- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09
Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from

renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. All buildings for which an application for a building permit is submitted on or after July 1, 2014, must follow the 2013 standards. The 2013 commercial standards are estimated to be 30 percent more efficient than the 2008 standards; 2013 residential standards are at least 25 percent more efficient. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted in September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable community's strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, beginning October 2018, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. In April 2016, SCAG adopted the 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after

RTP/SCS adoption. The current Riverside County Housing Element 2013-2021 was adopted October 7, 2015.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, CEQA incentivizes, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. Additionally, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

California Green Building Standards

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 building energy efficiency standards and became effective on January 1, 2020. In general, single-family homes built to the 2019 standards are anticipated to use approximately 7% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2016 standards, and nonresidential buildings built to the 2019 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as "CALGreen," and establishes

minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The CALGreen 2019 standards became effective on January 1, 2020. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance;
- Diversion of 65% of construction and demolition waste from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle board.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs (24 CCR Part 11).

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).[2] As most recently defined by the CEC in its 2015 Integrated Energy Policy Report (CEC 2015b), a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

[2] It is expected that achievement of the ZNE goal will occur through revisions to the Title 24 standards.

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO2E. EO B-30-15 also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality–related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 350— Clean Energy and Pollution Reduction Act of 2015

In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key

provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.

- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.

- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100
On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18
On September 10, 2018, Governor Brown signed Executive Order B-55-2018 which established a new statewide goal to achieve carbon neutrality as soon as possible and no later than 2045. The executive order also states that California will achieve and maintain net negative emissions thereafter.

AB 2127
AB 2127 promotes better planning for EV infrastructure build-out across all vehicle classes. AB 2127 would help the state meet the goal of 5 million zero-emission vehicles (ZEV) on the road by 2030.

Local Regulations and CEQA Requirements

City of Murrieta Climate Action Plan. The City of Murrieta adopted a Climate Action (CAP) in July 2011. The CAP is intended to address the main sources of the emissions that cause climate change, which include emissions from the energy consumed in buildings, from transportation sources as well as the solid waste sent to landfills. The purpose of the CAP is to guide the development, enhancement, and ultimately the implementation of actions that will reduce Murrieta's GHG emissions by 15 percent below existing levels. As referenced in the CAP, individual projects that comply with applicable elements of the GHG reduction strategy are determined to be consistent with the CAP and will have a less than significant impact to climate change. An update to the CAP is in process; however, it has not been completed or adopted. Thus, the 2011 CAP is used herein to demonstrate project consistency with local initiatives to reduce GHG emissions.

CLIMATE CHANGE IMPACT ANALYSIS

Thresholds of Significance

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

As referenced, pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. However, the adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents but contain no suggested thresholds of significance for GHG emissions. Instead, lead agencies are given the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The general approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move the state towards climate stabilization. If a project would generate GHG

emissions above the threshold level, its contribution to cumulative impacts would be considered significant.

The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). As referended, the City of Murreita has a Climate Action Plan adopted in 2011. However, it does not contain specific thresholds for determining whether project-specific GHG emisions are significant for the purpose of CEQA review. The SCAQMD threshold, which was adopted in December 2008, considers emissions of over 10,000 metric tons CO2E /year to be significant. However, the SCAQMD's threshold applies only to stationary sources and is expressly intended to apply only when the SCAQMD is the CEQA lead agency. Although not formally adopted, the SCAQMD has developed a draft quantitative threshold for all land use types of 3,000 metric tons CO_2E /year (SCAQMD, September 2010). Note that lead agencies retain the responsibility to determine significance on a case-by-case basis for each specific project.

For the purpose of this analysis, mitigated GHG emissions are quantified; however, the significance of GHG emissions is based on project consistency with the applicable CAP policies designed to reduce cumulative GHG emissions associated with existing and new development within the City of Murrieta.

Methodology

GHG emissions associated with construction and operation of the proposed project and existing development have been estimated using California Emissions Estimator Model (CalEEMod) version 2020.4.0.

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation typically generates the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the construction period were estimated based on the projected maximum amount of equipment that would be used on-site at one time over the course of the project duration. Air districts such as the SCAQMD have recommended amortizing construction-related emissions over a 30-year period to calculate annual emissions. Complete CalEEMod results and assumptions can be viewed in the Appendix.

Operational Emissions

Default values used in CalEEMod version 2020.4.0 are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod provides operational emissions of CO_2, N_2O and CH_4. This methodology has been subjected to peer review by numerous public and private

stakeholders, and in particular by the CEC; and therefore, is considered reasonable and reliable for use in GHG impact analysis pursuant to CEQA. It is also recommended by CAPCOA (January 2008). Emissions associated with both mobile and area sources (i.e., consumer products, landscape maintenance, and architectural coating) were calculated in CalEEMod based on standard emission rates from CARB, USEPA, and district supplied emission factor values (CalEEMod User Guide, May 2021). The project is expected to generate emissions from mobile sources, energy sources (i.e., electricity and natural gas) and a proportionate share of emissions associated with water consumption and solid waste disposal.

Estimate of GHG Emissions

Construction Emissions

Construction activity is assumed to occur over a period of approximately 42 months beginning in early 2023. Based on CalEEMod results, construction activity for the project would conservatively generate an estimated 5,497 metric tons of carbon dioxide equivalent (CO_2E). As shown in Table 7, total construction emissions amortized over a 30-year period (the assumed life of the project), would generate 183 metric tons of CO_2E per year.

Table 7
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2023	1,107
2024	1,795
2025	1,745
2026	865
Total	**5,512**
Amortized over 30 years	**183 metric tons per year**

See Appendix for CalEEMod software program output for new construction.

Operational Indirect and Stationary Direct Emissions

Long-term GHG emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the emissions associated with anticipated emissions that would result from the proposed project. All emissions reported in Tables 8 through 10 are unmitigated.

Energy Use. Operation of development typically consumes both electricity and natural gas. The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent, N_2O and CH_4. Natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. As shown in Table 8, the project would generate approximately 694 metric tons of CO_2E per year associated with natural gas consumption and 673 metric tons of CO_2E per year associated with electricity use.

Water Use Emissions**.** The CalEEMod results indicate that the project would use approximately 96 million gallons of water per year for domestic use and landscaping. Based on the amount of electricity generated to supply and convey this amount of water, as shown in Table 9, the project would generate approximately 289 metric tons of CO_2E per year.

Solid Waste Emissions. For solid waste generated onsite, it it was assumed the project would use the default diversion rate rather than achieve a 75% diversion rate at opening consistent with AB 341 (which amended the California Integrated Waste Management Act of 1989 (AB 939)). The values for solid waste show the project would generate approximately 208 metric tons of CO2E per year associated with solid waste disposed within landfills (Table 9).

Table 8
Estimated Annual
Energy Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Natural Gas	694 metric tons
Electricity	673 metric tons
Total	**1,367 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

Table 9
Estimated Annual
Water and Solid Waste Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	289 metric tons
Solid Waste	208 metric tons
Total	**497 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

Transportation Emissions. Mobile source GHG emissions were estimated using the

average daily trips calculated by CalEEMod for the proposed project. Table 10 shows the estimated mitigated mobile emissions of GHGs for the project based on the estimated annual VMT of 14,371,076. As shown in Table 10, the project would generate approximately 4,499 metric tons of CO2E associated with new vehicle trips.

Table 10
Estimated Annual Mobile Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Mobile Emissions (CO_2 & CH_4)	4,499 metric tons
Total	**4,499 metric tons**

See Appendix for CalEEMod software program output.

Combined Construction, Stationary and Mobile Source Emissions. Table 11 combines the net new construction, operational, and mobile GHG emissions associated with the proposed project. As discussed above, temporary emissions associated with construction activity (approximately 183 metric tons CO2E) are amortized over 30 years (the anticipated life of the project).

Table 11
Combined Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	183 metric tons
Operational Energy Solid Waste Water	 1,367 metric tons 208 metric tons 289 metric tons
Mobile	4,499 metric tons
Total	**6,546 metric tons**

See Appendix for CalEEMod software program output.

Unmitigated, the combined annual emissions would total approximately 6,546 metric tons per year in CO2E. The majority (69%) of the project's GHG emissions are associated with mobile sources. As discussed, individual projects that would generate less than the 3,000 annual MT screening threshold would have a less than significant environmental impact under CEQA. The project would exceed the 3,000 MT annual standard; thus, GHG emissions would be potentially significant without mitigation incorporated.

Table 12 shows mitigated GHG emissions assuming the implementation of the following design features and regulatory requirements;

Consistent with AB 341 (which amended the California Integrated Waste Management Act of 1989 (AB 939)), the project would implement measures to diver the amount of solid waste disposed of in landfills by 75%.

Consistent with Senate Bill X7-7, the project would incorporate water saving features, including the use of native landscaping and installation of low flow plumbing fixtures (i.e., toilets, show heads and faucets) that would reduce water demand by 20%.

The project would incorporate solar generating infrastructure to provide a minimum of 10% of daily electrical energy demand. Further, the project would be meet density requirements per the Murrieta Municipal Code, provide 5% affordable units, be located proximal to downtown Murrieta and urban job centers and provide off-site pedestrian connections to facilitate pedestrian access to transit located approximately 0.25 miles to the east of the site. This would reduce VMT by 31% and reduce mobile source emissions relative to business as usual. As shown in Table 12, these measures would reduce overall GHG emissions by 25%

Table 12
Combined Mitigated Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	183 metric tons
Operational	
Energy	1,300 metric tons
Solid Waste	52 metric tons
Water	231 metric tons
Mobile	3,127 metric tons
Total Mitigated	**4,893 metric tons**
Total Business As Usual	**6,546 metric tons**
Emission Reduction	**25.2%**

See Appendix for CalEEMod software program output.

City of Murrieta Climate Action Plan Consistency. The City of Murrieta adopted a Climate Action (CAP) in July 2011. The CAP is intended to address the primary sources of emissions that cause climate change. These include emissions from energy consumed in buildings (i.e. electricity and natural gas), fossil fuel burning engines as well as the solid waste sent to landfills. The purpose of the CAP is to guide the development, enhancement, and ultimately the implementation of actions that will reduce Murrieta's GHG emissions by 15 percent below existing levels. As referenced in the CAP, individual projects that comply with applicable elements of the GHG reduction strategy are determined to be consistent with the CAP and will have a less than significant impact to climate change.

The discussion below addresses project specific GHG emissions relative to project consistency with applicable CAP GHG reduction strategies.

The proposed project would entail construction and operation of a new 899-unit apartment complex and related on- and off-site improvements. The proposed project would be designed consistent with Title 24 of the California Energy Code which includes the installation of energy efficient appliances and low flow plumbing fixtures. The project would increase demand for electricity and natural gas on-site as well as off-site for the treatment of water for potable use as well as the treatment of wastewater. As stated, the project would integrate solar panels to provide up to 10% of the daily electrical demand, use water- efficient systems both indoor and outdoor to reduce potable and irrigation water demand by 20%. This would be achieved in part by installing low flow water fixtures and designing project landscaping consistent with the City of Murrieta Water Efficient Landscape Ordinance (Section 16.27 of the Municipal Code).

Applicable CAP goals include the following:

Goal LU-4: A housing stock that meets the diverse needs of Murrieta's existing and future residents.

LU 4.3: Locate multiple-family housing adjacent to jobs, retail, schools, open space, public transportation, and transportation corridors.

Action: Ensure new development is located as close to existing development as possible and maximize the density and mix of uses.

Consistent. The project would provide 899 new units proximal to existing jobs and transit services as stated. The project will provide 4.5 percent of the very low-income housing allocation and approximately 30 percent of the total housing units allocated to Murrieta in the RHNA.

Goal LU-8: A community that provides opportunities for mixed use and/or transit-oriented development.

LU-8.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

LU-8.4: Design mixed uses or transit-oriented development projects to:

- Create a pleasant walking environment to encourage pedestrian activity;
- Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Consistent. The project would provide 899 new apartment units proximal to the existing City of Murrieta downtown core and jobs located within commercial areas to the east. The site is also located adjacent to and north of *The Triangle Specific Plan 276* site which is located to the south

on the south side of Murrieta Hot Springs Road. Specific Plan 276 (The Triangle) proposes a plan for a 1,767,914 square foot regional shopping center/mall, comprised of retail, office, restaurant, entertainment, and hotel uses on approximately 64 acres.

Goal CIR-7: Residential areas and activity centers are accessible to all pedestrians, including persons with disabilities or having special accessibility needs.

Consistent. The project would incorporate sidewalks and ADA accessible trails throughout the various neighborhoods connecting to internal destinations such as the club house and recreation centers and public sidewalks adjacent to the site.

CIR-7.1: Encourage future developments to provide an internal system of sidewalks/pathways linking schools, shopping centers, and other public facilities with residences.

Consistent. The project would incorporate sidewalks and trails throughout the various neighborhoods connecting to internal destinations such as the club house and recreation centers and public sidewalks adjacent to the site that would provide pedestrian access to nearby commercial centers located to the east as well as transit service located along Hancock Avenue approximately 0.25 miles east of the site.

CIR-7.2: Require pedestrian access from the interior of new residential areas to public transit stops.

Consistent. The project would incorporate sidewalks and trails throughout the various neighborhoods connecting to internal destinations such as the club house and recreation centers and public sidewalks adjacent to the site. The existing sidewalks adjacent to the site would provide connectivity to transit located along Hancock Avenue approximately 0.25 miles east of the site.

CIR-7.3: Encourage safe pedestrian walkways and ensure compliance with the Americans with Disabilities Act (ADA) requirements within all developments.

Action: Incorporate pedestrian friendly street standards into the Development Code.

Consistent. The project would incorporate sidewalks and trails throughout the various neighborhoods connecting to internal destinations such as the club house and recreation centers and public sidewalks adjacent to the site.

The CAP references a jobs/housing balance in Murrieta that requires residents to commute out of Murrieta to work. While a goal of the CAP is to increase jobs in Murrieta, Policy LU 4.3 acknowledges the benefit of locating multifamily housing close to existing development and transportation corridors. Additional goals and related policies focus on addressing transit accessibility as well as pedestrian connectivity to off-site transportation resources. These goals

address the need to reduce GHG emissions associated with use of vehicles as the primary mode of transportation within the City of Murrieta.

The project site is located within a TOD overlay zone. Riverside Transit System Route 23 serves the general area with hourly service to/from the Rancho Springs Medical Center which is located at the Murrieta Hot Springs Road/Hancock Avenue intersection. As stated, the nearest transit stop is approximately 0.25 miles to the east along Hancock Avenue. As demonstrated above, pedestrian connectivity to off-site services including transit access will reduce some commute trips and decrease overall GHG emissions associated with automobile use. This would support CAP land use and circulation policies noted above.

Connect SoCal 2020-2045 RTP/SCS Consistency. On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern California residents within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

Further, *Connect SoCal* is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG emission reduction goals and federal CAA requirements. The project site and surrounding area are zoned Office/TOD Overlay. While the site and surrounding area was envisioned for office development, multifamily residential is allowed under the TOD overlay. The project would utilize the existing street network and improve a segment of a planned extension of Monroe Avenue from Los Alamos Road to the north and Murrieta Hot Springs Road to the south. The project would not conflict with plans to integrate the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The project does not involve any improvements to the regional transportation system. The project would be consistent with or would not conflict with any of the goals identified in Connect SoCal.

SB 32/2017 Scoping Plan Consistency. The 2017 Scoping Plan Update reflects the statewide 2030 target of a 40% reduction in GHG emissions below 1990 levels, set by EP B-30-15 and codified by SB 32. Table 13 summarizes the Project's consistency with applicable action elements of the 2017 Scoping Plan.

As discussed, the project would exceed 3,000 MT of annual CO2e emissions; however, it would be consistent with applicable CAP goals intended to reduce overall GHG emisions city-wide through implementation of General Plan (2035) as well as applicable elements of the CARB 2017

Scoping Plan. The project will not impede or delay local or statewide initiatives to reduce GHG emissions. Impacts would be **less than significant**.

Table 13
2017 Scoping Plan Consistency Summary

ACTION	RESPONSIBLE PARTIES	CONSISTENCY
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	California Public Utility Commission (CPUC), California Energy Commission (CEC) and California Air Resources Board (CARB)	**No Conflict**. The Project would use energy from Southern California Edison (SCE). SCE has committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**No Conflict.** The Project would be constructed in compliance with current CBC requirements including the 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standard requirements.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly-owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plugin hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, Office of Planning and	**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets. As this is a CARB enforced standard, vehicles that

ACTION	RESPONSIBLE PARTIES	CONSISTENCY
	Research (OPR), Local Agencies	access the Project must comply with the standards as applicable; and thus, would comply with the strategy.
At least 4.2 million zero emission and plugin hybrid light-duty EVs by 2030.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, Office of Planning and Research (OPR), Local Agencies	**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.
Medium- and Heavy-Duty GHG Phase 2.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.		**Not Applicable.** This measure is not related to the project scope.
Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.

ACTION	RESPONSIBLE PARTIES	CONSISTENCY
measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**No Conflict.** As stated in Section XVII of this Initial Study, project improvements would result in a 31% reduction in VMT relative to business as usual conditions. Impact would be considered less than significant..
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	**No Conflict.** The project would exceed SCAQMD GHG emission standards for residential sources; however, it would implement all applicable CAP goals and action items to reduce GHG emissions. As stated, these action items would reduce GHG emissions by approximately 25% and VMT by approximately 31% over business as usual emissions. The project would not conflict with GHG reduction efforts.
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GOBiz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	**No Conflict.** The project would not conflict with use of adjacent streets by pedestrians or bicycles. Further, transit service provided by Riverside County Transit Route 23 would not be affected by the project.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, California Transportation Commission (CTC), OPR, SGC, CARB	**Not Applicable.** This measure is not related to the project scope.

ACTION	RESPONSIBLE PARTIES	CONSISTENCY
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, California Natural Resource Agency (CNRA), CARB, Caltrans, CEC, GO-Biz	**No Conflict.** This measure would apply to all trucks accessing the project site. It is presumed that these vehicles would primarily be delivery vans operated as part of the statewide goods movement sector. Access to the Project site would be provided from Vista Murrieta Road and Sparkman Court/Monroe Avenue.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near zero emission freight vehicles and equipment powered by renewable energy by 2030.		**Not applicable.** This measure is unrelated to the project scope.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	**No Conflict.** When adopted, this measure would apply to all fuel purchased for use in vehicles accessing the project site. The Project would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, California Department of Food and Agriculture (CDFA), California State Water Resource Control Board (SWRCB), Local Air Districts	**No Conflict.** The Project would be required to comply with this measure and reduce any Project-source SLPS emissions accordingly. The Project would not obstruct or interfere with agency efforts to reduce SLPS emissions.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**No Conflict.** The Project would be required to comply with applicable Cap-and-Trade Program provisions. The Project would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.

ACTION	RESPONSIBLE PARTIES	CONSISTENCY
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink:		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	**Not applicable**. The Project site is not an identified property that needs to be conserved.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		**Not applicable**. The entire site is planned for development.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		**No Conflict.** To the extent appropriate for the proposed residential buildings, wood products would be used in construction, including roof structure. Additionally, the Project includes landscaping using native species.
Establish scenario projections to serve as the foundation for the Implementation Plan.		**Not applicable.** This measure is unrelated to the project scope.
Implement Forest Carbon Plan.	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	**Not applicable.** This measure is unrelated to the project scope.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	**Not applicable.** This measure is unrelated to the project scope.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Terraces

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Parking Lot	1,542.00	Space	13.88	616,800.00	0
Apartments Mid Rise	900.00	Dwelling Unit	23.68	900,000.00	2574

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Other Asphalt Surface refers to improvements to Monroe Avenue

Construction Phase - Painting phase modified to overlap with construction

Demolition - Modeling assumes removal of approximately 20,000 square feet of remnant concrete slab and foundation material associated with previous development on the project site.

Grading -

Vehicle Trips - Trip generation revised to match TIA

Woodstoves - No woodstoves. Assumes 5% of units would have gas fireplaces.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Terraces - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	55.00	87.00
tblFireplaces	NumberGas	765.00	45.00
tblFireplaces	NumberNoFireplace	90.00	45.00
tblFireplaces	NumberWood	45.00	0.00
tblGrading	MaterialImported	0.00	2,150.00
tblGrading	MaterialImported	0.00	2,150.00
tblVehicleTrips	ST_TR	4.91	4.77
tblVehicleTrips	WD_TR	5.44	4.77
tblWoodstoves	NumberCatalytic	45.00	0.00
tblWoodstoves	NumberNoncatalytic	45.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2023	5.2585	34.9189	53.6341	0.1568	20.0242	1.4299	21.3020	10.2002	1.3156	11.3761	0.0000	15,863.8639	15,863.8639	1.9518	0.8019	16,124.4389
2024	4.9189	22.2675	51.2715	0.1533	11.9095	0.7203	12.6298	3.1893	0.6776	3.8669	0.0000	15,505.1973	15,505.1973	0.8422	0.7764	15,757.6049
2025	4.6006	21.0398	48.8969	0.1496	11.9095	0.6322	12.5417	3.1893	0.5947	3.7840	0.0000	15,128.0899	15,128.0899	0.8210	0.7514	15,372.5399
2026	72.1300	22.2631	54.4133	0.1660	14.0220	0.6895	14.7116	3.7496	0.6516	4.4012	0.0000	16,767.5313	16,767.5313	0.8534	0.7650	17,016.8328
Maximum	**72.1300**	**34.9189**	**54.4133**	**0.1660**	**20.0242**	**1.4299**	**21.3020**	**10.2002**	**1.3156**	**11.3761**	**0.0000**	**16,767.5313**	**16,767.5313**	**1.9518**	**0.8019**	**17,016.8328**

Terraces - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2023	5.2585	34.9189	53.6341	0.1568	11.9096	1.4299	12.7190	4.6431	1.3156	5.8190	0.0000	15,863.8639	15,863.8639	1.9518	0.8019	16,124.4389
2024	4.9189	22.2675	51.2715	0.1533	11.9095	0.7203	12.6298	3.1893	0.6776	3.8669	0.0000	15,505.1973	15,505.1973	0.8422	0.7764	15,757.6049
2025	4.6006	21.0398	48.8969	0.1496	11.9095	0.6322	12.5417	3.1893	0.5947	3.7840	0.0000	15,128.0899	15,128.0899	0.8210	0.7514	15,372.5399
2026	72.1300	22.2631	54.4133	0.1660	14.0220	0.6895	14.7116	3.7496	0.6516	4.4012	0.0000	16,767.5313	16,767.5313	0.8534	0.7650	17,016.8328
Maximum	**72.1300**	**34.9189**	**54.4133**	**0.1660**	**14.0220**	**1.4299**	**14.7116**	**4.6431**	**1.3156**	**5.8190**	**0.0000**	**16,767.5313**	**16,767.5313**	**1.9518**	**0.8019**	**17,016.8328**

	ROG	NOx	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**	**14.02**	**0.00**	**14.03**	**27.34**	**0.00**	**23.72**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	21.9949	1.6024	74.6557	8.7000e-003		0.4725	0.4725		0.4725	0.4725	0.0000	1,086.9762	1,086.9762	0.1472	0.0175	1,095.8617
Energy	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968
Mobile	12.2914	15.4390	119.6423	0.2847	30.9864	0.2135	31.1999	8.2654	0.2001	8.4655		29,011.6655	29,011.6655	1.3556	1.3109	29,436.2111
Total	**34.6688**	**20.3095**	**195.6887**	**0.3143**	**30.9864**	**0.9503**	**31.9367**	**8.2654**	**0.9369**	**9.2022**	**0.0000**	**34,270.7458**	**34,270.7458**	**1.5828**	**1.4049**	**34,728.9697**

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	21.9949	1.6024	74.6557	8.7000e-003		0.4725	0.4725		0.4725	0.4725	0.0000	1,086.9762	1,086.9762	0.1472	0.0175	1,095.8617
Energy	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968
Mobile	10.6550	11.6561	88.0267	0.1975	21.2567	0.1513	21.4080	5.6700	0.1417	5.8118		20,127.1407	20,127.1407	1.0503	0.9757	20,444.1603
Total	**33.0323**	**16.5267**	**164.0731**	**0.2271**	**21.2567**	**0.8881**	**22.1447**	**5.6700**	**0.8785**	**6.5485**	**0.0000**	**25,386.2210**	**25,386.2210**	**1.2774**	**1.0697**	**25,736.9189**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	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	**4.72**	**18.63**	**16.16**	**27.75**	**31.40**	**6.55**	**30.66**	**31.40**	**6.23**	**28.84**	**0.00**	**25.92**	**25.92**	**19.29**	**23.86**	**25.89**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2023	3/10/2023	5	50	
2	Site Preparation	Site Preparation	3/11/2023	4/21/2023	5	30	
3	Grading	Grading	4/22/2023	8/4/2023	5	75	
4	Building Construction	Building Construction	8/5/2023	6/5/2026	5	740	
5	Architectural Coating	Architectural Coating	2/5/2026	6/5/2026	5	87	
6	Paving	Paving	6/6/2026	8/21/2026	5	55	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 225

Acres of Paving: 15.88

Residential Indoor: 1,822,500; Residential Outdoor: 607,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 42,235 (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	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	269.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	269.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	944.00	212.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	189.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 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					0.3962	0.0000	0.3962	0.0600	0.0000	0.0600			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.3962**	**0.9975**	**1.3937**	**0.0600**	**0.9280**	**0.9880**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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	3.9800e-003	0.1818	0.0500	1.0000e-003	0.0319	2.1900e-003	0.0341	8.7300e-003	2.1000e-003	0.0108		106.7968	106.7968	1.5100e-003	0.0168	111.8496
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
Worker	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0588**	**0.2156**	**0.5988**	**2.4700e-003**	**0.1995**	**2.9700e-003**	**0.2025**	**0.0532**	**2.8200e-003**	**0.0560**		**255.8579**	**255.8579**	**4.9600e-003**	**0.0204**	**262.0454**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

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					0.1783	0.0000	0.1783	0.0270	0.0000	0.0270			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**0.1783**	**0.9975**	**1.1758**	**0.0270**	**0.9280**	**0.9550**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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	3.9800e-003	0.1818	0.0500	1.0000e-003	0.0319	2.1900e-003	0.0341	8.7300e-003	2.1000e-003	0.0108		106.7968	106.7968	1.5100e-003	0.0168	111.8496
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
Worker	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0588**	**0.2156**	**0.5988**	**2.4700e-003**	**0.1995**	**2.9700e-003**	**0.2025**	**0.0532**	**2.8200e-003**	**0.0560**		**255.8579**	**255.8579**	**4.9600e-003**	**0.0204**	**262.0454**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 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					19.6661	0.0000	19.6661	10.1038	0.0000	10.1038			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6661**	**1.2660**	**20.9321**	**10.1038**	**1.1647**	**11.2686**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	0.0196	0.8955	0.2462	4.9300e-003	0.1569	0.0108	0.1677	0.0430	0.0103	0.0534		526.1601	526.1601	7.4600e-003	0.0829	551.0537
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
Worker	0.0657	0.0406	0.6586	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		178.8733	178.8733	4.1400e-003	4.2200e-003	180.2350
Total	**0.0853**	**0.9361**	**0.9048**	**6.7000e-003**	**0.3581**	**0.0118**	**0.3699**	**0.0964**	**0.0112**	**0.1076**		**705.0334**	**705.0334**	**0.0116**	**0.0871**	**731.2887**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8497	0.0000	8.8497	4.5467	0.0000	4.5467			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.8497**	**1.2660**	**10.1158**	**4.5467**	**1.1647**	**5.7115**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	0.0196	0.8955	0.2462	4.9300e-003	0.1569	0.0108	0.1677	0.0430	0.0103	0.0534		526.1601	526.1601	7.4600e-003	0.0829	551.0537
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
Worker	0.0657	0.0406	0.6586	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		178.8733	178.8733	4.1400e-003	4.2200e-003	180.2350
Total	**0.0853**	**0.9361**	**0.9048**	**6.7000e-003**	**0.3581**	**0.0118**	**0.3699**	**0.0964**	**0.0112**	**0.1076**		**705.0334**	**705.0334**	**0.0116**	**0.0871**	**731.2887**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 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					9.2072	0.0000	9.2072	3.6543	0.0000	3.6543			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2072**	**1.4245**	**10.6317**	**3.6543**	**1.3105**	**4.9648**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	7.8500e-003	0.3582	0.0985	1.9700e-003	0.0628	4.3200e-003	0.0671	0.0172	4.1400e-003	0.0214		210.4641	210.4641	2.9900e-003	0.0332	220.4215
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
Worker	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.0809**	**0.4033**	**0.8302**	**3.9400e-003**	**0.2863**	**5.3700e-003**	**0.2917**	**0.0765**	**5.1000e-003**	**0.0816**		**409.2121**	**409.2121**	**7.5800e-003**	**0.0379**	**420.6826**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1433	0.0000	4.1433	1.6444	0.0000	1.6444			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**4.1433**	**1.4245**	**5.5677**	**1.6444**	**1.3105**	**2.9550**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	7.8500e-003	0.3582	0.0985	1.9700e-003	0.0628	4.3200e-003	0.0671	0.0172	4.1400e-003	0.0214		210.4641	210.4641	2.9900e-003	0.0332	220.4215
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
Worker	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.0809**	**0.4033**	**0.8302**	**3.9400e-003**	**0.2863**	**5.3700e-003**	**0.2917**	**0.0765**	**5.1000e-003**	**0.0816**		**409.2121**	**409.2121**	**7.5800e-003**	**0.0379**	**420.6826**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0000
Vendor	0.2390	6.9262	2.8519	0.0370	1.3579	0.0603	1.4182	0.3910	0.0577	0.4487		3,927.7452	3,927.7452	0.0401	0.5804	4,101.7067
Worker	3.4468	2.1297	34.5382	0.0928	10.5517	0.0494	10.6010	2.7984	0.0454	2.8438		9,380.9088	9,380.9088	0.2169	0.2215	9,452.3262
Total	**3.6857**	**9.0559**	**37.3901**	**0.1299**	**11.9096**	**0.1097**	**12.0192**	**3.1893**	**0.1031**	**3.2925**		**13,308.6540**	**13,308.6540**	**0.2569**	**0.8019**	**13,554.0329**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0000
Vendor	0.2390	6.9262	2.8519	0.0370	1.3579	0.0603	1.4182	0.3910	0.0577	0.4487		3,927.7452	3,927.7452	0.0401	0.5804	4,101.7067
Worker	3.4468	2.1297	34.5382	0.0928	10.5517	0.0494	10.6010	2.7984	0.0454	2.8438		9,380.9088	9,380.9088	0.2169	0.2215	9,452.3262
Total	**3.6857**	**9.0559**	**37.3901**	**0.1299**	**11.9096**	**0.1097**	**12.0192**	**3.1893**	**0.1031**	**3.2925**		**13,308.6540**	**13,308.6540**	**0.2569**	**0.8019**	**13,554.0329**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.0000
Vendor	0.2352	6.9267	2.8192	0.0365	1.3578	0.0599	1.4178	0.3910	0.0573	0.4483		3,867.2103	3,867.2103	0.0415	0.5706	4,038.2847
Worker	3.2121	1.8970	32.2855	0.0899	10.5517	0.0471	10.5988	2.7984	0.0433	2.8417		9,082.2881	9,082.2881	0.1964	0.2058	9,148.5126
Total	**3.4474**	**8.8237**	**35.1047**	**0.1263**	**11.9095**	**0.1070**	**12.0165**	**3.1893**	**0.1007**	**3.2900**		**12,949.4984**	**12,949.4984**	**0.2379**	**0.7764**	**13,186.7973**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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	0.0000
Vendor	0.2352	6.9267	2.8192	0.0365	1.3578	0.0599	1.4178	0.3910	0.0573	0.4483		3,867.2103	3,867.2103	0.0415	0.5706	4,038.2847
Worker	3.2121	1.8970	32.2855	0.0899	10.5517	0.0471	10.5988	2.7984	0.0433	2.8417		9,082.2881	9,082.2881	0.1964	0.2058	9,148.5126
Total	**3.4474**	**8.8237**	**35.1047**	**0.1263**	**11.9095**	**0.1070**	**12.0165**	**3.1893**	**0.1007**	**3.2900**		**12,949.4984**	**12,949.4984**	**0.2379**	**0.7764**	**13,186.7973**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.0000
Vendor	0.2321	6.8698	2.7873	0.0358	1.3578	0.0600	1.4178	0.3910	0.0574	0.4483		3,799.0420	3,799.0420	0.0430	0.5594	3,966.8238
Worker	3.0011	1.7004	30.0250	0.0868	10.5517	0.0447	10.5964	2.7984	0.0411	2.8395		8,772.5736	8,772.5736	0.1771	0.1920	8,834.2181
Total	**3.2332**	**8.5701**	**32.8123**	**0.1226**	**11.9095**	**0.1046**	**12.0141**	**3.1893**	**0.0985**	**3.2878**		**12,571.6156**	**12,571.6156**	**0.2201**	**0.7514**	**12,801.0419**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.0000
Vendor	0.2321	6.8698	2.7873	0.0358	1.3578	0.0600	1.4178	0.3910	0.0574	0.4483		3,799.0420	3,799.0420	0.0430	0.5594	3,966.8238
Worker	3.0011	1.7004	30.0250	0.0868	10.5517	0.0447	10.5964	2.7984	0.0411	2.8395		8,772.5736	8,772.5736	0.1771	0.1920	8,834.2181
Total	**3.2332**	**8.5701**	**32.8123**	**0.1226**	**11.9095**	**0.1046**	**12.0141**	**3.1893**	**0.0985**	**3.2878**		**12,571.6156**	**12,571.6156**	**0.2201**	**0.7514**	**12,801.0419**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.0000
Vendor	0.2293	6.8010	2.7606	0.0351	1.3578	0.0597	1.4175	0.3909	0.0571	0.4481		3,729.9223	3,729.9223	0.0445	0.5482	3,894.3919
Worker	2.8179	1.5389	28.1274	0.0841	10.5517	0.0423	10.5940	2.7984	0.0389	2.8373		8,498.2384	8,498.2384	0.1605	0.1806	8,556.0819
Total	**3.0472**	**8.3398**	**30.8881**	**0.1192**	**11.9095**	**0.1020**	**12.0115**	**3.1893**	**0.0960**	**3.2853**		**12,228.1607**	**12,228.1607**	**0.2050**	**0.7288**	**12,450.4738**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

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	0.0000
Vendor	0.2293	6.8010	2.7606	0.0351	1.3578	0.0597	1.4175	0.3909	0.0571	0.4481		3,729.9223	3,729.9223	0.0445	0.5482	3,894.3919
Worker	2.8179	1.5389	28.1274	0.0841	10.5517	0.0423	10.5940	2.7984	0.0389	2.8373		8,498.2384	8,498.2384	0.1605	0.1806	8,556.0819
Total	**3.0472**	**8.3398**	**30.8881**	**0.1192**	**11.9095**	**0.1020**	**12.0115**	**3.1893**	**0.0960**	**3.2853**		**12,228.1607**	**12,228.1607**	**0.2050**	**0.7288**	**12,450.4738**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2026

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	66.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**67.1511**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	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
Worker	0.5642	0.3081	5.6315	0.0168	2.1126	8.4600e-003	2.1210	0.5603	7.7900e-003	0.5681		1,701.4482	1,701.4482	0.0321	0.0362	1,713.0291
Total	**0.5642**	**0.3081**	**5.6315**	**0.0168**	**2.1126**	**8.4600e-003**	**2.1210**	**0.5603**	**7.7900e-003**	**0.5681**		**1,701.4482**	**1,701.4482**	**0.0321**	**0.0362**	**1,713.0291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2026

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	66.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**67.1511**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

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	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
Worker	0.5642	0.3081	5.6315	0.0168	2.1126	8.4600e-003	2.1210	0.5603	7.7900e-003	0.5681		1,701.4482	1,701.4482	0.0321	0.0362	1,713.0291
Total	**0.5642**	**0.3081**	**5.6315**	**0.0168**	**2.1126**	**8.4600e-003**	**2.1210**	**0.5603**	**7.7900e-003**	**0.5681**		**1,701.4482**	**1,701.4482**	**0.0321**	**0.0362**	**1,713.0291**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2026

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6716**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	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
Worker	0.0448	0.0245	0.4469	1.3400e-003	0.1677	6.7000e-004	0.1683	0.0445	6.2000e-004	0.0451		135.0356	135.0356	2.5500e-003	2.8700e-003	135.9547
Total	**0.0448**	**0.0245**	**0.4469**	**1.3400e-003**	**0.1677**	**6.7000e-004**	**0.1683**	**0.0445**	**6.2000e-004**	**0.0451**		**135.0356**	**135.0356**	**2.5500e-003**	**2.8700e-003**	**135.9547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2026

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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.7565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6716**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

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	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
Worker	0.0448	0.0245	0.4469	1.3400e-003	0.1677	6.7000e-004	0.1683	0.0445	6.2000e-004	0.0451		135.0356	135.0356	2.5500e-003	2.8700e-003	135.9547
Total	**0.0448**	**0.0245**	**0.4469**	**1.3400e-003**	**0.1677**	**6.7000e-004**	**0.1683**	**0.0445**	**6.2000e-004**	**0.0451**		**135.0356**	**135.0356**	**2.5500e-003**	**2.8700e-003**	**135.9547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	10.6550	11.6561	88.0267	0.1975	21.2567	0.1513	21.4080	5.6700	0.1417	5.8118		20,127.1407	20,127.1407	1.0503	0.9757	20,444.1603
Unmitigated	12.2914	15.4390	119.6423	0.2847	30.9864	0.2135	31.1999	8.2654	0.2001	8.4655		29,011.6655	29,011.6655	1.3556	1.3109	29,436.2111

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,293.00	4,293.00	3681.00	14,371,076	9,858,558
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	4,293.00	4,293.00	3,681.00	14,371,076	9,858,558

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689
Other Asphalt Surfaces	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689
Parking Lot	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968
NaturalGas Unmitigated	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Apartments Mid Rise	35462.9	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3824**	**3.2682**	**1.3907**	**0.0209**		**0.2642**	**0.2642**		**0.2642**	**0.2642**		**4,172.1041**	**4,172.1041**	**0.0800**	**0.0765**	**4,196.8968**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	35.4629	0.3824	3.2682	1.3907	0.0209		0.2642	0.2642		0.2642	0.2642		4,172.1041	4,172.1041	0.0800	0.0765	4,196.8968
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.3824**	**3.2682**	**1.3907**	**0.0209**		**0.2642**	**0.2642**		**0.2642**	**0.2642**		**4,172.1041**	**4,172.1041**	**0.0800**	**0.0765**	**4,196.8968**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	21.9949	1.6024	74.6557	8.7000e-003		0.4725	0.4725		0.4725	0.4725	0.0000	1,086.9762	1,086.9762	0.1472	0.0175	1,095.8617
Unmitigated	21.9949	1.6024	74.6557	8.7000e-003		0.4725	0.4725		0.4725	0.4725	0.0000	1,086.9762	1,086.9762	0.1472	0.0175	1,095.8617

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	1.5965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	18.0693					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0874	0.7465	0.3177	4.7600e-003		0.0604	0.0604		0.0604	0.0604	0.0000	952.9412	952.9412	0.0183	0.0175	958.6040
Landscaping	2.2417	0.8559	74.3380	3.9300e-003		0.4122	0.4122		0.4122	0.4122		134.0350	134.0350	0.1289		137.2577
Total	**21.9949**	**1.6024**	**74.6557**	**8.6900e-003**		**0.4725**	**0.4725**		**0.4725**	**0.4725**	**0.0000**	**1,086.9762**	**1,086.9762**	**0.1472**	**0.0175**	**1,095.8618**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.5965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	18.0693					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0874	0.7465	0.3177	4.7600e-003		0.0604	0.0604		0.0604	0.0604	0.0000	952.9412	952.9412	0.0183	0.0175	958.6040
Landscaping	2.2417	0.8559	74.3380	3.9300e-003		0.4122	0.4122		0.4122	0.4122		134.0350	134.0350	0.1289		137.2577
Total	**21.9949**	**1.6024**	**74.6557**	**8.6900e-003**		**0.4725**	**0.4725**		**0.4725**	**0.4725**	**0.0000**	**1,086.9762**	**1,086.9762**	**0.1472**	**0.0175**	**1,095.8618**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 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

Terraces - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Terraces

Riverside-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	2.00	Acre	2.00	87,120.00	0
Parking Lot	1,542.00	Space	13.88	616,800.00	0
Apartments Mid Rise	900.00	Dwelling Unit	23.68	900,000.00	2574

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Other Asphalt Surface refers to improvements to Monroe Avenue

Construction Phase - Painting phase modified to overlap with construction

Demolition - Modeling assumes removal of approximately 20,000 square feet of remnant concrete slab and foundation material associated with previous development on the project site.

Grading -

Vehicle Trips - Trip generation revised to match TIA

Woodstoves - No woodstoves. Assumes 5% of units would have gas fireplaces.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Terraces - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	55.00	87.00
tblFireplaces	NumberGas	765.00	45.00
tblFireplaces	NumberNoFireplace	90.00	45.00
tblFireplaces	NumberWood	45.00	0.00
tblGrading	MaterialImported	0.00	2,150.00
tblGrading	MaterialImported	0.00	2,150.00
tblVehicleTrips	ST_TR	4.91	4.77
tblVehicleTrips	WD_TR	5.44	4.77
tblWoodstoves	NumberCatalytic	45.00	0.00
tblWoodstoves	NumberNoncatalytic	45.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2023	0.4818	3.5367	4.4256	0.0121	1.2860	0.1403	1.4263	0.4606	0.1302	0.5908	0.0000	1,091.2852	1,091.2852	0.1479	0.0416	1,107.3905
2024	0.5968	2.9779	6.1139	0.0192	1.5347	0.0944	1.6290	0.4116	0.0888	0.5003	0.0000	1,764.7101	1,764.7101	0.1001	0.0934	1,795.0498
2025	0.5565	2.8042	5.8263	0.0187	1.5288	0.0825	1.6113	0.4100	0.0776	0.4876	0.0000	1,716.1742	1,716.1742	0.0973	0.0900	1,745.4334
2026	3.2197	1.4904	3.1088	9.3200e-003	0.7509	0.0494	0.8003	0.2011	0.0464	0.2475	0.0000	851.6329	851.6329	0.0607	0.0390	864.7783
Maximum	**3.2197**	**3.5367**	**6.1139**	**0.0192**	**1.5347**	**0.1403**	**1.6290**	**0.4606**	**0.1302**	**0.5908**	**0.0000**	**1,764.7101**	**1,764.7101**	**0.1479**	**0.0934**	**1,795.0498**

Terraces - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
2023	0.4818	3.5367	4.4256	0.0121	0.9284	0.1403	1.0687	0.3010	0.1302	0.4313	0.0000	1,091.2847	1,091.2847	0.1479	0.0416	1,107.3900
2024	0.5968	2.9779	6.1139	0.0192	1.5347	0.0944	1.6290	0.4116	0.0888	0.5003	0.0000	1,764.7098	1,764.7098	0.1001	0.0934	1,795.0495
2025	0.5565	2.8041	5.8263	0.0187	1.5288	0.0825	1.6113	0.4100	0.0776	0.4876	0.0000	1,716.1738	1,716.1738	0.0973	0.0900	1,745.4330
2026	3.2197	1.4904	3.1088	9.3200e-003	0.7509	0.0494	0.8003	0.2011	0.0464	0.2475	0.0000	851.6327	851.6327	0.0607	0.0390	864.7781
Maximum	**3.2197**	**3.5367**	**6.1139**	**0.0192**	**1.5347**	**0.1403**	**1.6290**	**0.4116**	**0.1302**	**0.5003**	**0.0000**	**1,764.7098**	**1,764.7098**	**0.1479**	**0.0934**	**1,795.0495**

	ROG	NOx	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**	**7.01**	**0.00**	**6.54**	**10.76**	**0.00**	**8.74**	**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	**1-2-2023**	**4-1-2023**	0.8293	0.8293
2	**4-2-2023**	**7-1-2023**	1.1946	1.1946
3	**7-2-2023**	**10-1-2023**	1.0599	1.0599
4	**10-2-2023**	**1-1-2024**	0.9512	0.9512
5	**1-2-2024**	**4-1-2024**	0.8926	0.8926
6	**4-2-2024**	**7-1-2024**	0.8836	0.8836
7	**7-2-2024**	**10-1-2024**	0.8934	0.8934
8	**10-2-2024**	**1-1-2025**	0.9019	0.9019

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9	**1-2-2025**	**4-1-2025**	0.8334	0.8334
10	**4-2-2025**	**7-1-2025**	0.8333	0.8333
11	**7-2-2025**	**10-1-2025**	0.8426	0.8426
12	**10-2-2025**	**1-1-2026**	0.8518	0.8518
13	**1-2-2026**	**4-1-2026**	2.2033	2.2033
14	**4-2-2026**	**7-1-2026**	2.2871	2.2871
15	**7-2-2026**	**9-30-2026**	0.1880	0.1880
		Highest	2.2871	2.2871

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	3.8703	0.1163	9.2962	5.5000e-004		0.0523	0.0523		0.0523	0.0523	0.0000	26.0055	26.0055	0.0148	2.0000e-004	26.4352
Energy	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	1,361.0851	1,361.0851	0.0698	0.0195	1,368.6480
Mobile	1.8864	2.9377	19.5255	0.0479	5.4336	0.0380	5.4716	1.4513	0.0356	1.4869	0.0000	4,428.6626	4,428.6626	0.2236	0.2175	4,499.0661
Waste						0.0000	0.0000		0.0000	0.0000	84.0383	0.0000	84.0383	4.9665	0.0000	208.2012
Water						0.0000	0.0000		0.0000	0.0000	18.6033	208.2473	226.8506	1.9283	0.0473	289.1382
Total	**5.8265**	**3.6504**	**29.0755**	**0.0523**	**5.4336**	**0.1385**	**5.5721**	**1.4513**	**0.1361**	**1.5874**	**102.6416**	**6,024.0005**	**6,126.6421**	**7.2030**	**0.2845**	**6,391.4888**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.8703	0.1163	9.2962	5.5000e-004		0.0523	0.0523		0.0523	0.0523	0.0000	26.0055	26.0055	0.0148	2.0000e-004	26.4352
Energy	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	1,294.0505	1,294.0505	0.0642	0.0188	1,301.2676
Mobile	1.5972	2.2116	14.5760	0.0332	3.7274	0.0270	3.7544	0.9956	0.0253	1.0208	0.0000	3,074.7952	3,074.7952	0.1753	0.1618	3,127.3955
Waste						0.0000	0.0000		0.0000	0.0000	21.0096	0.0000	21.0096	1.2416	0.0000	52.0503
Water						0.0000	0.0000		0.0000	0.0000	14.8827	166.5979	181.4805	1.5427	0.0378	231.3106
Total	**5.5373**	**2.9243**	**24.1260**	**0.0376**	**3.7274**	**0.1275**	**3.8549**	**0.9956**	**0.1258**	**1.1213**	**35.8922**	**4,561.4490**	**4,597.3412**	**3.0385**	**0.2187**	**4,738.4591**

	ROG	NOx	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	**4.96**	**19.89**	**17.02**	**28.04**	**31.40**	**8.00**	**30.82**	**31.40**	**7.63**	**29.36**	**65.03**	**24.28**	**24.96**	**57.82**	**23.14**	**25.86**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2023	3/10/2023	5	50	
2	Site Preparation	Site Preparation	3/11/2023	4/21/2023	5	30	
3	Grading	Grading	4/22/2023	8/4/2023	5	75	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/5/2023	6/5/2026	5	740	
5	Architectural Coating	Architectural Coating	2/5/2026	6/5/2026	5	87	
6	Paving	Paving	6/6/2026	8/21/2026	5	55	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 225

Acres of Paving: 15.88

Residential Indoor: 1,822,500; Residential Outdoor: 607,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 42,235 (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	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	91.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	269.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	269.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	944.00	212.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	189.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 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					9.9000e-003	0.0000	9.9000e-003	1.5000e-003	0.0000	1.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.5371	0.4911	9.7000e-004		0.0249	0.0249		0.0232	0.0232	0.0000	84.9802	84.9802	0.0238	0.0000	85.5752
Total	**0.0567**	**0.5371**	**0.4911**	**9.7000e-004**	**9.9000e-003**	**0.0249**	**0.0348**	**1.5000e-003**	**0.0232**	**0.0247**	**0.0000**	**84.9802**	**84.9802**	**0.0238**	**0.0000**	**85.5752**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 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	1.0000e-004	4.7900e-003	1.2600e-003	3.0000e-005	7.8000e-004	5.0000e-005	8.4000e-004	2.2000e-004	5.0000e-005	2.7000e-004	0.0000	2.4237	2.4237	3.0000e-005	3.8000e-004	2.5384
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	1.2200e-003	9.0000e-004	0.0117	3.0000e-005	4.1200e-003	2.0000e-005	4.1400e-003	1.0900e-003	2.0000e-005	1.1100e-003	0.0000	3.1345	3.1345	8.0000e-005	8.0000e-005	3.1612
Total	**1.3200e-003**	**5.6900e-003**	**0.0130**	**6.0000e-005**	**4.9000e-003**	**7.0000e-005**	**4.9800e-003**	**1.3100e-003**	**7.0000e-005**	**1.3800e-003**	**0.0000**	**5.5582**	**5.5582**	**1.1000e-004**	**4.6000e-004**	**5.6996**

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					4.4600e-003	0.0000	4.4600e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0567	0.5371	0.4911	9.7000e-004		0.0249	0.0249		0.0232	0.0232	0.0000	84.9801	84.9801	0.0238	0.0000	85.5751
Total	**0.0567**	**0.5371**	**0.4911**	**9.7000e-004**	**4.4600e-003**	**0.0249**	**0.0294**	**6.7000e-004**	**0.0232**	**0.0239**	**0.0000**	**84.9801**	**84.9801**	**0.0238**	**0.0000**	**85.5751**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 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	1.0000e-004	4.7900e-003	1.2600e-003	3.0000e-005	7.8000e-004	5.0000e-005	8.4000e-004	2.2000e-004	5.0000e-005	2.7000e-004	0.0000	2.4237	2.4237	3.0000e-005	3.8000e-004	2.5384
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	1.2200e-003	9.0000e-004	0.0117	3.0000e-005	4.1200e-003	2.0000e-005	4.1400e-003	1.0900e-003	2.0000e-005	1.1100e-003	0.0000	3.1345	3.1345	8.0000e-005	8.0000e-005	3.1612
Total	**1.3200e-003**	**5.6900e-003**	**0.0130**	**6.0000e-005**	**4.9000e-003**	**7.0000e-005**	**4.9800e-003**	**1.3100e-003**	**7.0000e-005**	**1.3800e-003**	**0.0000**	**5.5582**	**5.5582**	**1.1000e-004**	**4.6000e-004**	**5.6996**

3.3 Site Preparation - 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					0.2950	0.0000	0.2950	0.1516	0.0000	0.1516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0399	0.4129	0.2737	5.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	**0.0399**	**0.4129**	**0.2737**	**5.7000e-004**	**0.2950**	**0.0190**	**0.3140**	**0.1516**	**0.0175**	**0.1690**	**0.0000**	**50.1760**	**50.1760**	**0.0162**	**0.0000**	**50.5817**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 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	2.8000e-004	0.0142	3.7300e-003	7.0000e-005	2.3200e-003	1.6000e-004	2.4800e-003	6.4000e-004	1.6000e-004	7.9000e-004	0.0000	7.1646	7.1646	1.0000e-004	1.1300e-003	7.5035
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	8.8000e-004	6.5000e-004	8.4500e-003	2.0000e-005	2.9700e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.2568	2.2568	6.0000e-005	6.0000e-005	2.2761
Total	**1.1600e-003**	**0.0148**	**0.0122**	**9.0000e-005**	**5.2900e-003**	**1.7000e-004**	**5.4600e-003**	**1.4300e-003**	**1.7000e-004**	**1.5900e-003**	**0.0000**	**9.4214**	**9.4214**	**1.6000e-004**	**1.1900e-003**	**9.7796**

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					0.1328	0.0000	0.1328	0.0682	0.0000	0.0682	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0399	0.4129	0.2737	5.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	**0.0399**	**0.4129**	**0.2737**	**5.7000e-004**	**0.1328**	**0.0190**	**0.1517**	**0.0682**	**0.0175**	**0.0857**	**0.0000**	**50.1760**	**50.1760**	**0.0162**	**0.0000**	**50.5817**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 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	2.8000e-004	0.0142	3.7300e-003	7.0000e-005	2.3200e-003	1.6000e-004	2.4800e-003	6.4000e-004	1.6000e-004	7.9000e-004	0.0000	7.1646	7.1646	1.0000e-004	1.1300e-003	7.5035
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	8.8000e-004	6.5000e-004	8.4500e-003	2.0000e-005	2.9700e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.2568	2.2568	6.0000e-005	6.0000e-005	2.2761
Total	**1.1600e-003**	**0.0148**	**0.0122**	**9.0000e-005**	**5.2900e-003**	**1.7000e-004**	**5.4600e-003**	**1.4300e-003**	**1.7000e-004**	**1.5900e-003**	**0.0000**	**9.4214**	**9.4214**	**1.6000e-004**	**1.1900e-003**	**9.7796**

3.4 Grading - 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					0.3453	0.0000	0.3453	0.1370	0.0000	0.1370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1246	1.2943	1.0519	2.3300e-003		0.0534	0.0534		0.0491	0.0491	0.0000	204.5070	204.5070	0.0661	0.0000	206.1606
Total	**0.1246**	**1.2943**	**1.0519**	**2.3300e-003**	**0.3453**	**0.0534**	**0.3987**	**0.1370**	**0.0491**	**0.1862**	**0.0000**	**204.5070**	**204.5070**	**0.0661**	**0.0000**	**206.1606**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 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	2.8000e-004	0.0142	3.7300e-003	7.0000e-005	2.3200e-003	1.6000e-004	2.4800e-003	6.4000e-004	1.6000e-004	7.9000e-004	0.0000	7.1646	7.1646	1.0000e-004	1.1300e-003	7.5035
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	2.4300e-003	1.8000e-003	0.0235	7.0000e-005	8.2400e-003	4.0000e-005	8.2800e-003	2.1900e-003	4.0000e-005	2.2300e-003	0.0000	6.2689	6.2689	1.6000e-004	1.7000e-004	6.3224
Total	**2.7100e-003**	**0.0160**	**0.0272**	**1.4000e-004**	**0.0106**	**2.0000e-004**	**0.0108**	**2.8300e-003**	**2.0000e-004**	**3.0200e-003**	**0.0000**	**13.4335**	**13.4335**	**2.6000e-004**	**1.3000e-003**	**13.8259**

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					0.1554	0.0000	0.1554	0.0617	0.0000	0.0617	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1246	1.2943	1.0519	2.3300e-003		0.0534	0.0534		0.0491	0.0491	0.0000	204.5068	204.5068	0.0661	0.0000	206.1603
Total	**0.1246**	**1.2943**	**1.0519**	**2.3300e-003**	**0.1554**	**0.0534**	**0.2088**	**0.0617**	**0.0491**	**0.1108**	**0.0000**	**204.5068**	**204.5068**	**0.0661**	**0.0000**	**206.1603**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 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	2.8000e-004	0.0142	3.7300e-003	7.0000e-005	2.3200e-003	1.6000e-004	2.4800e-003	6.4000e-004	1.6000e-004	7.9000e-004	0.0000	7.1646	7.1646	1.0000e-004	1.1300e-003	7.5035
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	2.4300e-003	1.8000e-003	0.0235	7.0000e-005	8.2400e-003	4.0000e-005	8.2800e-003	2.1900e-003	4.0000e-005	2.2300e-003	0.0000	6.2689	6.2689	1.6000e-004	1.7000e-004	6.3224
Total	**2.7100e-003**	**0.0160**	**0.0272**	**1.4000e-004**	**0.0106**	**2.0000e-004**	**0.0108**	**2.8300e-003**	**2.0000e-004**	**3.0200e-003**	**0.0000**	**13.4335**	**13.4335**	**2.6000e-004**	**1.3000e-003**	**13.8259**

3.5 Building Construction - 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	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6975	121.6975	0.0290	0.0000	122.4212
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6975**	**121.6975**	**0.0290**	**0.0000**	**122.4212**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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	0.0121	0.3816	0.1520	1.9500e-003	0.0703	3.1700e-003	0.0735	0.0203	3.0300e-003	0.0233	0.0000	187.2628	187.2628	1.8900e-003	0.0277	195.5617
Worker	0.1608	0.1191	1.5517	4.5200e-003	0.5447	2.5900e-003	0.5473	0.1447	2.3800e-003	0.1470	0.0000	414.2487	414.2487	0.0103	0.0110	417.7850
Total	**0.1728**	**0.5007**	**1.7037**	**6.4700e-003**	**0.6150**	**5.7600e-003**	**0.6208**	**0.1649**	**5.4100e-003**	**0.1704**	**0.0000**	**601.5115**	**601.5115**	**0.0122**	**0.0387**	**613.3467**

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	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6974	121.6974	0.0290	0.0000	122.4211
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6974**	**121.6974**	**0.0290**	**0.0000**	**122.4211**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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	0.0121	0.3816	0.1520	1.9500e-003	0.0703	3.1700e-003	0.0735	0.0203	3.0300e-003	0.0233	0.0000	187.2628	187.2628	1.8900e-003	0.0277	195.5617
Worker	0.1608	0.1191	1.5517	4.5200e-003	0.5447	2.5900e-003	0.5473	0.1447	2.3800e-003	0.1470	0.0000	414.2487	414.2487	0.0103	0.0110	417.7850
Total	**0.1728**	**0.5007**	**1.7037**	**6.4700e-003**	**0.6150**	**5.7600e-003**	**0.6208**	**0.1649**	**5.4100e-003**	**0.1704**	**0.0000**	**601.5115**	**601.5115**	**0.0122**	**0.0387**	**613.3467**

3.5 Building Construction - 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					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0296	0.9523	0.3750	4.7800e-003	0.1755	7.8600e-003	0.1833	0.0506	7.5200e-003	0.0581	0.0000	460.0671	460.0671	4.8900e-003	0.0679	480.4304
Worker	0.3744	0.2645	3.6210	0.0109	1.3592	6.1700e-003	1.3654	0.3609	5.6800e-003	0.3666	0.0000	1,000.9207	1,000.9207	0.0234	0.0255	1,009.1015
Total	**0.4041**	**1.2168**	**3.9960**	**0.0157**	**1.5347**	**0.0140**	**1.5487**	**0.4116**	**0.0132**	**0.4247**	**0.0000**	**1,460.9878**	**1,460.9878**	**0.0283**	**0.0934**	**1,489.5319**

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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0296	0.9523	0.3750	4.7800e-003	0.1755	7.8600e-003	0.1833	0.0506	7.5200e-003	0.0581	0.0000	460.0671	460.0671	4.8900e-003	0.0679	480.4304
Worker	0.3744	0.2645	3.6210	0.0109	1.3592	6.1700e-003	1.3654	0.3609	5.6800e-003	0.3666	0.0000	1,000.9207	1,000.9207	0.0234	0.0255	1,009.1015
Total	**0.4041**	**1.2168**	**3.9960**	**0.0157**	**1.5347**	**0.0140**	**1.5487**	**0.4116**	**0.0132**	**0.4247**	**0.0000**	**1,460.9878**	**1,460.9878**	**0.0283**	**0.0934**	**1,489.5319**

3.5 Building Construction - 2025

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	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

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	0.0291	0.9408	0.3694	4.6800e-003	0.1748	7.8400e-003	0.1826	0.0504	7.5000e-003	0.0579	0.0000	450.2351	450.2351	5.0500e-003	0.0663	470.1298
Worker	0.3489	0.2361	3.3578	0.0105	1.3540	5.8300e-003	1.3599	0.3596	5.3700e-003	0.3649	0.0000	963.2842	963.2842	0.0211	0.0237	970.8701
Total	**0.3780**	**1.1769**	**3.7272**	**0.0152**	**1.5288**	**0.0137**	**1.5425**	**0.4100**	**0.0129**	**0.4228**	**0.0000**	**1,413.5193**	**1,413.5193**	**0.0261**	**0.0900**	**1,440.9999**

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	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

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	0.0291	0.9408	0.3694	4.6800e-003	0.1748	7.8400e-003	0.1826	0.0504	7.5000e-003	0.0579	0.0000	450.2351	450.2351	5.0500e-003	0.0663	470.1298
Worker	0.3489	0.2361	3.3578	0.0105	1.3540	5.8300e-003	1.3599	0.3596	5.3700e-003	0.3649	0.0000	963.2842	963.2842	0.0211	0.0237	970.8701
Total	**0.3780**	**1.1769**	**3.7272**	**0.0152**	**1.5288**	**0.0137**	**1.5425**	**0.4100**	**0.0129**	**0.4228**	**0.0000**	**1,413.5193**	**1,413.5193**	**0.0261**	**0.0900**	**1,440.9999**

3.5 Building Construction - 2026

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	0.0766	0.6983	0.9007	1.5100e-003		0.0295	0.0295		0.0278	0.0278	0.0000	129.8749	129.8749	0.0305	0.0000	130.6381
Total	**0.0766**	**0.6983**	**0.9007**	**1.5100e-003**		**0.0295**	**0.0295**		**0.0278**	**0.0278**	**0.0000**	**129.8749**	**129.8749**	**0.0305**	**0.0000**	**130.6381**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

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	0.0124	0.3996	0.1570	1.9700e-003	0.0750	3.3500e-003	0.0784	0.0216	3.2000e-003	0.0248	0.0000	189.6900	189.6900	2.2500e-003	0.0279	198.0586
Worker	0.1408	0.0916	1.3508	4.3700e-003	0.5810	2.3700e-003	0.5834	0.1543	2.1800e-003	0.1565	0.0000	400.4973	400.4973	8.2100e-003	9.5600e-003	403.5518
Total	**0.1531**	**0.4913**	**1.5078**	**6.3400e-003**	**0.6560**	**5.7200e-003**	**0.6618**	**0.1759**	**5.3800e-003**	**0.1813**	**0.0000**	**590.1873**	**590.1873**	**0.0105**	**0.0375**	**601.6103**

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	0.0766	0.6983	0.9007	1.5100e-003		0.0295	0.0295		0.0278	0.0278	0.0000	129.8747	129.8747	0.0305	0.0000	130.6380
Total	**0.0766**	**0.6983**	**0.9007**	**1.5100e-003**		**0.0295**	**0.0295**		**0.0278**	**0.0278**	**0.0000**	**129.8747**	**129.8747**	**0.0305**	**0.0000**	**130.6380**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

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	0.0124	0.3996	0.1570	1.9700e-003	0.0750	3.3500e-003	0.0784	0.0216	3.2000e-003	0.0248	0.0000	189.6900	189.6900	2.2500e-003	0.0279	198.0586
Worker	0.1408	0.0916	1.3508	4.3700e-003	0.5810	2.3700e-003	0.5834	0.1543	2.1800e-003	0.1565	0.0000	400.4973	400.4973	8.2100e-003	9.5600e-003	403.5518
Total	**0.1531**	**0.4913**	**1.5078**	**6.3400e-003**	**0.6560**	**5.7200e-003**	**0.6618**	**0.1759**	**5.3800e-003**	**0.1813**	**0.0000**	**590.1873**	**590.1873**	**0.0105**	**0.0375**	**601.6103**

3.6 Architectural Coating - 2026

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	2.9136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4300e-003	0.0498	0.0787	1.3000e-004		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	11.1067	11.1067	6.1000e-004	0.0000	11.1218
Total	**2.9211**	**0.0498**	**0.0787**	**1.3000e-004**		**2.2400e-003**	**2.2400e-003**		**2.2400e-003**	**2.2400e-003**	**0.0000**	**11.1067**	**11.1067**	**6.1000e-004**	**0.0000**	**11.1218**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2026

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	0.0219	0.0143	0.2101	6.8000e-004	0.0904	3.7000e-004	0.0907	0.0240	3.4000e-004	0.0243	0.0000	62.2860	62.2860	1.2800e-003	1.4900e-003	62.7611
Total	**0.0219**	**0.0143**	**0.2101**	**6.8000e-004**	**0.0904**	**3.7000e-004**	**0.0907**	**0.0240**	**3.4000e-004**	**0.0243**	**0.0000**	**62.2860**	**62.2860**	**1.2800e-003**	**1.4900e-003**	**62.7611**

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	2.9136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4300e-003	0.0498	0.0787	1.3000e-004		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	11.1066	11.1066	6.1000e-004	0.0000	11.1218
Total	**2.9211**	**0.0498**	**0.0787**	**1.3000e-004**		**2.2400e-003**	**2.2400e-003**		**2.2400e-003**	**2.2400e-003**	**0.0000**	**11.1066**	**11.1066**	**6.1000e-004**	**0.0000**	**11.1218**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2026

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	0.0219	0.0143	0.2101	6.8000e-004	0.0904	3.7000e-004	0.0907	0.0240	3.4000e-004	0.0243	0.0000	62.2860	62.2860	1.2800e-003	1.4900e-003	62.7611
Total	**0.0219**	**0.0143**	**0.2101**	**6.8000e-004**	**0.0904**	**3.7000e-004**	**0.0907**	**0.0240**	**3.4000e-004**	**0.0243**	**0.0000**	**62.2860**	**62.2860**	**1.2800e-003**	**1.4900e-003**	**62.7611**

3.7 Paving - 2026

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0530	55.0530	0.0178	0.0000	55.4981
Paving	0.0208					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0460**	**0.2360**	**0.4009**	**6.3000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**55.0530**	**55.0530**	**0.0178**	**0.0000**	**55.4981**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.2000e-004	0.0105	3.0000e-005	4.5300e-003	2.0000e-005	4.5500e-003	1.2000e-003	2.0000e-005	1.2200e-003	0.0000	3.1251	3.1251	6.0000e-005	7.0000e-005	3.1489
Total	**1.1000e-003**	**7.2000e-004**	**0.0105**	**3.0000e-005**	**4.5300e-003**	**2.0000e-005**	**4.5500e-003**	**1.2000e-003**	**2.0000e-005**	**1.2200e-003**	**0.0000**	**3.1251**	**3.1251**	**6.0000e-005**	**7.0000e-005**	**3.1489**

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0529	55.0529	0.0178	0.0000	55.4980
Paving	0.0208					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0460**	**0.2360**	**0.4009**	**6.3000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**55.0529**	**55.0529**	**0.0178**	**0.0000**	**55.4980**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.2000e-004	0.0105	3.0000e-005	4.5300e-003	2.0000e-005	4.5500e-003	1.2000e-003	2.0000e-005	1.2200e-003	0.0000	3.1251	3.1251	6.0000e-005	7.0000e-005	3.1489
Total	**1.1000e-003**	**7.2000e-004**	**0.0105**	**3.0000e-005**	**4.5300e-003**	**2.0000e-005**	**4.5500e-003**	**1.2000e-003**	**2.0000e-005**	**1.2200e-003**	**0.0000**	**3.1251**	**3.1251**	**6.0000e-005**	**7.0000e-005**	**3.1489**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5972	2.2116	14.5760	0.0332	3.7274	0.0270	3.7544	0.9956	0.0253	1.0208	0.0000	3,074.7952	3,074.7952	0.1753	0.1618	3,127.3955
Unmitigated	1.8864	2.9377	19.5255	0.0479	5.4336	0.0380	5.4716	1.4513	0.0356	1.4869	0.0000	4,428.6626	4,428.6626	0.2236	0.2175	4,499.0661

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,293.00	4,293.00	3681.00	14,371,076	9,858,558
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	4,293.00	4,293.00	3,681.00	14,371,076	9,858,558

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689
Other Asphalt Surfaces	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Parking Lot	0.542916	0.056689	0.174450	0.134041	0.024680	0.006960	0.011589	0.018600	0.000608	0.000298	0.023389	0.001091	0.004689

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	603.3118	603.3118	0.0509	6.1700e-003	606.4242
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	670.3465	670.3465	0.0566	6.8600e-003	673.8047
NaturalGas Mitigated	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	690.7386	690.7386	0.0132	0.0127	694.8433
NaturalGas Unmitigated	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	690.7386	690.7386	0.0132	0.0127	694.8433

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Apartments Mid Rise	1.2944e+007	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	690.7386	690.7386	0.0132	0.0127	694.8433
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0698**	**0.5964**	**0.2538**	**3.8100e-003**		**0.0482**	**0.0482**		**0.0482**	**0.0482**	**0.0000**	**690.7386**	**690.7386**	**0.0132**	**0.0127**	**694.8433**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.2944e+007	0.0698	0.5964	0.2538	3.8100e-003		0.0482	0.0482		0.0482	0.0482	0.0000	690.7386	690.7386	0.0132	0.0127	694.8433
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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0698**	**0.5964**	**0.2538**	**3.8100e-003**		**0.0482**	**0.0482**		**0.0482**	**0.0482**	**0.0000**	**690.7386**	**690.7386**	**0.0132**	**0.0127**	**694.8433**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.56401e+006	632.0611	0.0534	6.4700e-003	635.3218
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	215880	38.2854	3.2300e-003	3.9000e-004	38.4829
Total		**670.3465**	**0.0566**	**6.8600e-003**	**673.8047**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.20761e+006	568.8550	0.0480	5.8200e-003	571.7896
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	194292	34.4568	2.9100e-003	3.5000e-004	34.6346
Total		**603.3118**	**0.0509**	**6.1700e-003**	**606.4242**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive 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	3.8703	0.1163	9.2962	5.5000e-004		0.0523	0.0523		0.0523	0.0523	0.0000	26.0055	26.0055	0.0148	2.0000e-004	26.4352
Unmitigated	3.8703	0.1163	9.2962	5.5000e-004		0.0523	0.0523		0.0523	0.0523	0.0000	26.0055	26.0055	0.0148	2.0000e-004	26.4352

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2977					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0900e-003	9.3300e-003	3.9700e-003	6.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	10.8062	10.8062	2.1000e-004	2.0000e-004	10.8704
Landscaping	0.2802	0.1070	9.2923	4.9000e-004		0.0515	0.0515		0.0515	0.0515	0.0000	15.1993	15.1993	0.0146	0.0000	15.5648
Total	**3.8703**	**0.1163**	**9.2962**	**5.5000e-004**		**0.0523**	**0.0523**		**0.0523**	**0.0523**	**0.0000**	**26.0055**	**26.0055**	**0.0148**	**2.0000e-004**	**26.4352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2977					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0900e-003	9.3300e-003	3.9700e-003	6.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	10.8062	10.8062	2.1000e-004	2.0000e-004	10.8704
Landscaping	0.2802	0.1070	9.2923	4.9000e-004		0.0515	0.0515		0.0515	0.0515	0.0000	15.1993	15.1993	0.0146	0.0000	15.5648
Total	**3.8703**	**0.1163**	**9.2962**	**5.5000e-004**		**0.0523**	**0.0523**		**0.0523**	**0.0523**	**0.0000**	**26.0055**	**26.0055**	**0.0148**	**2.0000e-004**	**26.4352**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	181.4805	1.5427	0.0378	231.3106
Unmitigated	226.8506	1.9283	0.0473	289.1382

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	58.6386 / 36.9678	226.8506	1.9283	0.0473	289.1382
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**226.8506**	**1.9283**	**0.0473**	**289.1382**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	46.9109 / 29.5743	181.4805	1.5427	0.0378	231.3106
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**181.4805**	**1.5427**	**0.0378**	**231.3106**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.0096	1.2416	0.0000	52.0503
Unmitigated	84.0383	4.9665	0.0000	208.2012

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	414	84.0383	4.9665	0.0000	208.2012
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**84.0383**	**4.9665**	**0.0000**	**208.2012**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	103.5	21.0096	1.2416	0.0000	52.0503
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**21.0096**	**1.2416**	**0.0000**	**52.0503**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.0 Vegetation