Appendix B:
Air Quality, Greenhouse Gas Emissions, and Energy Report

THIS PAGE INTENTIONALLY LEFT BLANK

FCS
An ADEC Innovation

Air Quality, Greenhouse Gas Emissions, and Energy Analysis Report
Highland Grove II Development Project
Unincorporated Riverside County, California

Prepared for:
Pulte Home Company, LLC
27401 Los Altos, Suite 400
Mission Viejo, CA 92691

Contact: Robert Paradise

Prepared by:
FirstCarbon Solutions
250 Commerce, Suite 210
Irvine, CA 92602
714.508.4100

Contact: Mary Bean, Project Director
Cecilia So, Senior Project Manager

Date: August 19, 2024
Revised August 4, 2025

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

Acronyms and Abbreviations v

Section 1: Introduction 1
1.1 - Purpose and Methods of Analysis 1
1.2 - Project Summary 1
1.3 - Summary of Analysis Results 11
1.4 - Mitigation Measures Applied to the Proposed Project 12

Section 2: Air Quality Setting 13
2.1 - Air Pollutants of Concern 13
2.2 - Environmental Setting 21
2.3 - Regulatory Setting 24

Section 3: Greenhouse Gas Emissions Setting 35
3.1 - Environmental Setting 35
3.2 - Regulatory Framework 39

Section 4: Energy 47
4.1 - Environmental Setting 47
4.2 - Regulatory Framework 49

Section 5: Modeling Parameters and Assumptions 55
5.1 - Model Selection and Guidance 55
5.2 - Air Pollutants and GHG Emissions Assessed 55
5.3 - Modeling Assumptions 56

Section 6: Air Quality Impact Analysis 65
6.1 - CEQA Guidelines 65
6.2 - Impact Analysis 66

Section 7: Greenhouse Gas Emissions Impact Analysis 83
7.1 - Thresholds of Significance for the Proposed Project 83
7.2 - Impact Analysis 85

Section 8: Energy Impact Analysis 91
8.1 - Introduction 91
8.2 - Impact Analysis 91

Appendix A: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

List of Tables

Table 1: Description of Air Pollutants 14
Table 2: Air Quality Index and Health Effects of Particulate Pollution and Ozone 19
Table 3: Air Quality Monitoring Summary 23
Table 4: South Coast Air Basin Attainment Status 26
Table 5: Construction Schedule 58

Table 6: Project Construction Equipment Assumptions 58
Table 7: Construction Off-site Trips 59
Table 8: Summary of Construction Diesel Emission Source Configurations 62
Table 9:Construction Maximum Daily Emissions 70
Table 10: Maximum Daily Operational Regional Pollutants 71
Table 11: Maximum Number of Acres Disturbed Per Day 74
Table 12: Construction Localized Significance Screening Analysis–Unmitigated 74
Table 13: Operational Localized Screening Significance Analysis 75
Table 14: Project DPM Construction Emissions 79
Table 15: Estimated Health Risks and Hazards During Project Construction 79
Table 16: Proposed Project Construction GHG Emissions 86
Table 17: Operational Greenhouse Gas Emissions 87

List of Exhibits

Exhibit 1: Regional Location Map 5
Exhibit 2: Local Vicinity Map 7
Exhibit 3: Site Plan 9

List of Figures

Figure 1: 2021 California Greenhouse Gas Emissions by Sector 37

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
AERMOD	American Meteorological Society/EPA Regulatory Model
AQI	Air Quality Index
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
ASF	age sensitivity factors
ATCM	Airborne Toxic Control Measure
Bay Area Air District	Bay Area Air Quality Management District
BAU	business-as-usual
BMP	Best Management Practice
BTU	British thermal unit
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCCC	California Climate Change Center
CDC	Center for Disease Control and Prevention
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPF	cancer potency factor
DPM	diesel particulate matter
du/acre	dwelling units per acre
EIA	United States Energy Information Administration
EISA	Energy Independence and Security Act of 2007
EMFAC	EMission FACtor Model

EPA	United States Environmental Protection Agency
EV	electric vehicle
GHG	greenhouse gas
g/L	grams per liter
GWh	gigawatt-hours
GWP	global warming potential
HAP	Hazardous Air Pollutant
HARP	Hotspots Analysis and Reporting Program
HARP-RAST	Hotspots Analysis and Reporting Program Risk Assessment Stand-alone Tool
HFC	hydrofluorocarbon
HI	hazard index
HRA	Health Risk Assessment
IOU	investor-owned utility
IPCC	United Nations Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
kBTU	kilo-British Thermal Unit
km^2	square kilometers
KRAL	Riverside Airport
kW	kilowatts
LCFS	Low Carbon Fuel Standard
LEV	Low Emission Vehicle
LMWAP	Lake Mathews/Woodcrest Area Plan
LSE	load-serving entity
LST	localized significance threshold
m^2	square meter
MDAQMD	Mojave Desert Air Quality Management District
MIR	Maximally Impacted Sensitive Receptor
MMT	million metric tons
mpg	miles per gallon
mph	miles per hour
MT	metric tons
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NF_3	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	Ozone

OEHHA	California Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
Pb	lead
PFC	perfluorocarbon
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
RAST	Risk Assessment Stand-alone Tool
REL	Reference Exposure Level
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLCP	Short-Lived Climate Pollutant
SoCAB	South Coast Air Basin
SoCalGas	Southern California Gas Company
SORE	Small Off-Road Engines
SO_2	Sulfur dioxide
SO_X	sulfur oxides
SP	service population
SR	State Route
SRA	Source Receptor Area
TAC	toxic air contaminant
USGS	United States Geological Survey
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
VOC	volatile organic compound
ZEV	Zero-Emission Vehicle

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 1: INTRODUCTION

1.1 - Purpose and Methods of Analysis

This Air Quality, Greenhouse Gas Emissions, and Energy Analysis Report was prepared to evaluate whether the estimated criteria air pollutant, ozone precursor, toxic air contaminant (TAC), and/or greenhouse gas (GHG) emissions generated from construction and/or operation of the Highland Grove II project (proposed project) would cause significant impacts to air, GHG emissions and/or energy resources in the project area. The respective analyses were conducted within the context of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] § 21000, *et seq.*). The analysis methodology follows the South Coast Air Quality District (SCAQMD) recommendations for the quantification of emissions and evaluation of potential impacts on air resources.

1.2 - Project Summary

1.2.1 - Site Location

The project site is located at 13300 and 13456 El Sobrante Road, 0.4 mile east of the intersection of El Sobrante Road and McAllister Street, in unincorporated western Riverside County (County), California (Exhibit 1). The project site is identified by Assessor's Parcel Numbers (APNs) 270-160-002, -003, -018, -020, -021, -022, -023, and -024. The project site is regionally accessible by State Route (SR) 91, which is 3.38 miles northwest of the project site. Exhibit 2 shows the location of the project site in its neighborhood context.

1.2.2 - Environmental Setting

Existing Development and Land Use Activities

The 61.32-acre project site currently consists of agricultural land, a poultry farm, and one residence. The project site is also developed with an in-ground pool, a mobile home, chicken coops, an egg-washing facility, equipment storage sheds, and shade structures. Concrete foundations are located on the northeast portion of the project site. The site is surrounded by vacant agricultural land to the north, vacant land to the east and south, and single-family residences to the west (Exhibit 2).

General Plan and Zoning Designations

The project site is within the El Sobrante Policy Area of the Lake Mathews/Woodcrest Area Plan (LMWAP). Additionally, the project site is partially within El Sobrante Agricultural Preserve No.1. The El Sobrante Policy Area was adopted in 2003.

The project site has a split land use designation for APN 270-160-002 of Community Development: Medium Density Residential (CD:MDR) and Rural Community–Low Density Residential (RC:LDR). The remaining parcels are designated Rural Community–Low Density Residential (RC:LDR). APN 270-160-002 would be changed as part of project entitlements to ensure continuity across the site. A

Foundational General Plan Amendment would be required to change from one foundation (RC) to another foundation (CD).

According to the General Plan, the Medium Density Residential designation under the Community Development Foundation provides for the development of conventional single-family detached houses and suburban subdivisions; limited agricultural and animal-keeping uses, such as horses, are also allowed within this category. The designation permits a density range of 2 to 5 dwelling units per acre (du/acre), which allows for a lot size that typically ranges from 5,500 to 20,000 square feet.[1] The Low Density Residential designation under the Rural Community foundation provides for the development of single-family residential units and ancillary structures on large parcels. Equestrian and other animal-keeping uses are expected and encouraged. Agriculture and small-scale commercial uses are also permitted. This designation allows for a density range of 1 to 2 du/acre.[2]

The project site has two different zone classifications, Light Agricultural 10 Acre Minimum and Light Agriculture with Poultry. A zone change to R-1-10,000 would be required to allow for single-family residential development. Surrounding zoning classifications are R-4 to the west, R-1 to the northwest, and A-1-10 to the north and east.

1.2.3 - Development Summary

The proposed project consists of subdividing approximately 61.32 acres of vacant land into 128 lots to be developed with single-family detached residential dwelling units for a density of 2 du/ac (Exhibit 3). Access to the project site would be provided via an ingress/egress road off El Sobrante Road with interconnecting roads (Streets A–K). The main access point would be from proposed Street A. The proposed project would include 32,437 square feet of off-site pavement improvements.

Construction and Project Phasing

According to applicant-provided information, grading would begin in May 2027 and would take approximately 12 months to complete. Building construction would begin in May 2028 and conclude in March 2030. A phased building construction is anticipated. For the purpose of providing a streamlined yet conservative analysis, the emission modeling assumed the proposed homes would be constructed in one phase from May 2028 to March 2030. Based on the applicant-provided information above, an estimated construction schedule is developed for the purpose of California Emissions Estimator Model (CalEEMod) modeling:

Demolition: January 2027 – April 2027

Site Preparation: April 2027 – May 2027

Grading: May 2027 – April 2028

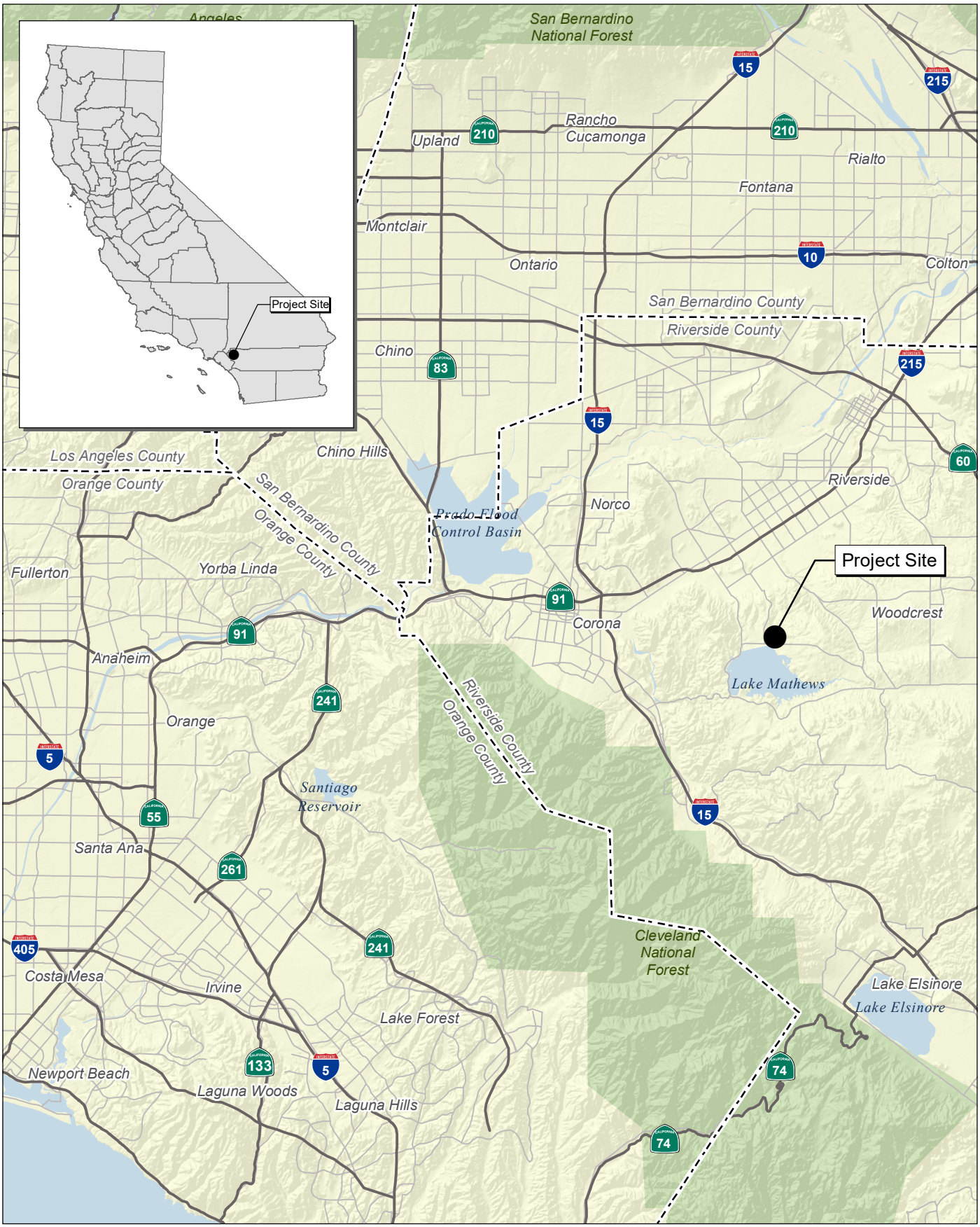
[1] County of Riverside. General Plan, Land Use Element. Website: https://planning.rctlma.org/sites/g/files/aldnop416/files/2024-05/Portals-14-Ch03-Land-Use-2019-28-21_0.pdf. Accessed June 10, 2024.
[2] Ibid.

Paving: June 2028 – September 2028

Architectural Coating: May 2028 – August 2028

Approximately 131,168 square feet of hardscape and 114,183 square feet of structures would be demolished. Approximately 244,340 cubic yards of cut and approximately 175,073 cubic yards of fill is anticipated, which equates to approximately 69,266 cubic yards of net soil export.

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

FIRSTCARBON SOLUTIONS™

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

THIS PAGE INTENTIONALLY LEFT BLANK



Source: ESRI Aerial Imagery.

FIRSTCARBON SOLUTIONS™

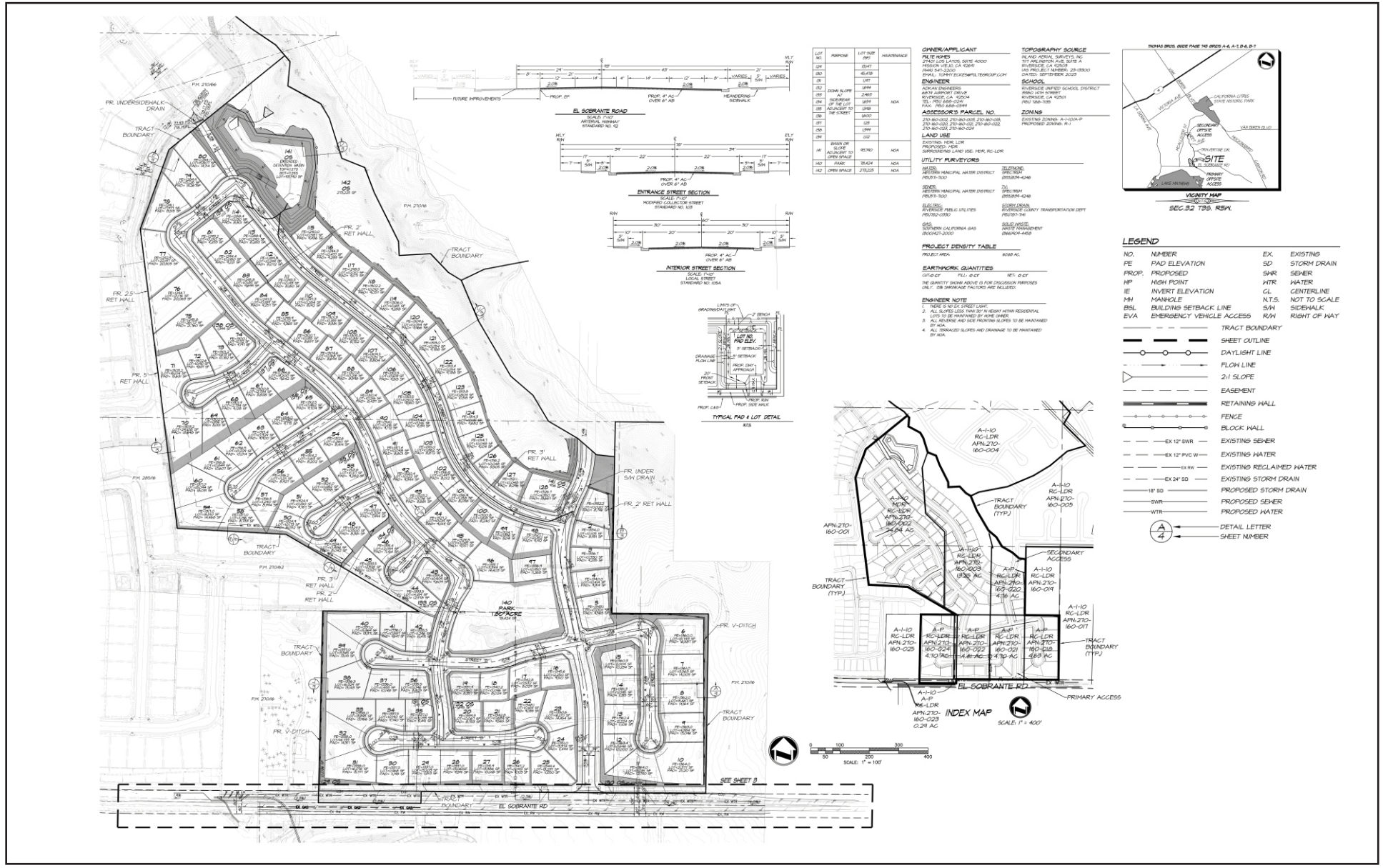
1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map

07600052 • 05/2024 | 2_local_vicinity.mxd

RIVERSIDE COUNTY
HIGHLAND GROVE II

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Adkan Engineering, January 2024.

FIRSTCARBON SOLUTIONS™

Exhibit 3
Site Plan

THIS PAGE INTENTIONALLY LEFT BLANK

1.3 - Summary of Analysis Results

The following is a summary of the analysis results. Please refer to Section 5, Air Quality Impact Analysis; Section 6, Greenhouse Gas Impact Analysis; and Section 7, Energy Impact Analysis, which provide the comprehensive analyses in support of the findings and conclusions of significance.

Impact AIR-1 The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

Less than significant impact.

Impact AIR-2 The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Less than significant impact.

Impact AIR-3 The proposed project could expose sensitive receptors to substantial pollutant concentrations.

Less than significant impact.

Impact AIR-4 The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Less than significant impact.

Impact GHG-1 The proposed project would generate direct and indirect greenhouse gas emissions.

Less than significant impact.

Impact GHG-2 The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of GHG.

Less than significant impact.

Impact ENER-1 The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation.

Less than significant impact.

Impact ENER-2 The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency**.**

Less than significant impact.

1.4 - Mitigation Measures Applied to the Proposed Project

Air Quality

No mitigation required.

Greenhouse Gas Emissions

No mitigation required.

Energy

No mitigation required.

SECTION 2: AIR QUALITY SETTING

This section describes the existing local and regional air quality conditions; describes the various regulated air pollutants and their impact on public health; and summarizes applicable air quality regulations at the federal, State and local levels.

2.1 - Air Pollutants of Concern

Federal and State air quality standards and regulations have been established by the United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB), respectively, for various air pollutants that are known to be harmful to human health. The air pollutants are regulated to protect human health and for secondary benefits such as protection of visibility and the natural environment. The following section describes the regulated air pollutants and the associated known health effects from exposure to the air pollutants.

2.1.1 - Criteria Air Pollutants

Six common air pollutants (also known as criteria pollutants and listed below) are regulated by the EPA and, at the State level, by the ARB. The EPA calls these pollutants criteria air pollutants because it regulates them by developing human health-based and environmental-based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health are called primary standards. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect public health. Another set of limits intended to prevent environmental and property damage are called secondary standards.[3] The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone (O_3)
- Nitrogen dioxide (NO_2)
- Lead (Pb)
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)

2.1.2 - Air Pollutant Description and Health Effects

The federal and State ambient air quality standards, relevant effects, properties, and sources of the air pollutants are summarized in Table 1.

[3] United States Environmental Protection Agency (EPA). 2016. NAAQS Table. December 20. Website: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed June 12, 2024.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind. Hot, sunny, and calm weather conditions are favorable to ozone formation.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOCs and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hours	0.070 ppm	0.070 ppm[b]			
CO	1 Hour	20 ppm	35 ppm	Ranges depend on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood-burning, and natural sources.
	8 Hours	9.0 ppm	9 ppm			
NO_2[c]	1 Hour	0.18 ppm	0.100 ppm[d]	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. NO_2 forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
SO_2[e]	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.	SO_2 is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor like rotten eggs. Sulfur oxides (SO_X) include SO_2 and sulfur trioxide. Sulfuric acid is formed from SO_2, which can lead to acid deposition and can harm natural resources and materials. Although SO_2 concentrations have been reduced to levels well below State and federal standards, further reductions are desirable because SO_2 is a precursor to sulfate and PM_{10}.	Human-caused sources include fossil fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of SO_2. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. SO_2 is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The SO_2 levels in the State are well below the maximum standards.
	3 Hours	—	0.5 ppm			
	24 Hours	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 hours	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hours	—	35 µg/m^3			
	Annual	12 µg/m^3	12 µg/m^3			
Visibility-reducing particles	8 Hours	See note below[f]				
Sulfates	24 Hours	25 µg/m^3	—	Decrease in ventilatory function; aggravation of asthmatic symptoms; aggravation of cardiopulmonary disease; vegetation damage; degradation of visibility; and property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of SO_2. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Lead[g]	30 days	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[g]	24 Hours	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, the ARB identified vinyl chloride as a TAC and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application-sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
VOC		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified TACs.	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, lightheadedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, several which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) µg/m^3 = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary NAAQS, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3-Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015, and became effective on December 28, 2015.

[C] To attain the 1-hour NO_2 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 parts per billion (ppb) (0.100 ppm).

[d] The official level of the 1-hour NO_2 standard is 100 ppb, equal to 0.100 ppm, which is shown here for the purpose of clearer comparison to the other standards.

[e] 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 1 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.

[f] Visibility-reducing particles: In 1989, the ARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the Statewide and Lake Tahoe Air Basin standards, respectively.

[g] The ARB has identified lead and vinyl chloride as TACs 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.

Source of effects, properties, and sources: United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. September.
United States Environmental Protection Agency (EPA). 2009. Ozone and your Health EPA-456/F-09-001.
United States Environmental Protection Agency (EPA). 2009. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July.
United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated December 21, 2018. Health Effects Notebook for Hazardous Air Pollutants. December. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed July 22, 2024.
National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene.
National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.
California Environmental Protection Agency (Cal/EPA). 2002. Office of Environmental Health Hazard Assessment (OEHHA). Health Effects of Diesel Exhaust.
California Air Resources Board (ARB). 2009. Vinyl Chloride. Website: Accessed July 22, 2024.
United States Environmental Protection Agency (EPA). 2017. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). November. Website: https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality. Accessed July 22, 2024.
National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.
Source of standards: National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS)

Several pollutants listed in Table 1 are not addressed in this analysis. An analysis of lead is not included in this report because the proposed project would not generate a new source of lead emissions. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed under the analysis for PM_{10} (particulate matter less than 10 microns in diameter) and $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). No components of the proposed project would result in vinyl chloride or hydrogen sulfide emissions in any substantial quantity; therefore, these compounds are not further evaluated in this report.

Air Quality Index

The health impacts of the various air pollutants of concern can be presented in several ways. The clearest comparison is to the State and federal particulate matter standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air.[4,5]

Table 2: Air Quality Index and Health Effects of Particulate Pollution and Ozone

AQI Range	Color	Levels of Concern	PM25 (ug/me) (24 hour)	Ozone ppm (8-hour)	Pollutant Specific Sensitive Groups
0–50	Green	Good	0–12	0–0.054	Air quality is satisfactory, and air pollution poses little or no risk.
51–100	Yellow	Moderate	12.1–35.4	0.055–0.070	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
101–150	Orange	Unhealthy for sensitive groups	35.5–55.4	0.071–0.085	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
151–200	Red	Unhealthy	55.5–150.4	0.086–0.105	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
201-300	Purple	Very Unhealthy	150.5–250.4	0.106–0.200	Health alert: The risk of health effects is increased for everyone.

Notes:
$\mu g/m^3$ = micrograms per cubic meter
AQI = Air Quality Index
$PM_{2.5}$ = particulate matter less than 10 microns in diameter
ppm = parts per million
Source: United States Environmental Protection Agency (EPA). 2023. AQI Basics. Website: https://www.airnow.gov/aqi/aqi-basics/. Accessed July 29, 2024.

[4] AirNow. Air Quality Index (AQI) Basics. Website: https://www.airnow.gov/aqi/aqi-basics/. Accessed July 22, 2024.
[5] AirNow. AQI Calculator. Website: https://www.airnow.gov/aqi/aqi-calculator/. Accessed July 22, 2024.

2.1.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate Hazardous Air Pollutants (HAPs). Section 112 of the Clean Air Act lists 187 HAPs to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. The ARB and local air districts regulate TACs and HAPs in California.

The California Almanac of Emissions and Air Quality–2013 edition presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data.[6] The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk.[7] In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Asbestos is the name given to several naturally occurring fibrous silicate minerals that have been mined for their useful properties, such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings

[6] California Air Resources Board (ARB). 2013. The California Almanac of Emissions and Air Quality—2013 Edition. Website: https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality/about. Accessed July 22, 2024.

[7] California Air Resources Board (ARB). 1998. The Report on Diesel Exhaust. Website: https://ww2.arb.ca.gov/sites/default/files/classic//toxics/dieseltac/de-fnds.htm. Accessed July 22, 2024.

in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site.[8]

2.1.4 - Odors

Odors are typically considered a local air quality issue. Land uses generally associated with odor complaints include:

- Wastewater treatment plants,
- Landfills,
- Confined animal facilities,
- Composting stations,
- Food manufacturing plants,
- Refineries, and
- Chemical plants.

Though odors are not a health hazard, reactions to odors can cause irritation, anger, or anxiety, as well as nausea, vomiting, headaches, or even circulatory or respiratory problems.

2.2 - Environmental Setting

Air quality is defined by the concentration of pollutants in relation to their impact on human health and the environment. The proposed project is located in the Riverside County, California, South Coast Air Basin (SoCAB), which is within SCAQMD's jurisdiction. Regional air quality and local air quality are impacted by topography, dominant airflows, atmospheric inversions, location, and season. The following section describes these conditions as they pertain to the SoCAB.

2.2.1 - South Coast Air Basin

The proposed project is within the SoCAB. To the west of the basin is the Pacific Ocean. To the north and east of the basin are the San Gabriel, San Bernardino, and San Jacinto mountains, while the southern limit of the basin is the San Diego County line. The basin consists of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The air quality in the basin is impacted by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

[8] California Department of Conservation, Division of Mine Reclamation. 2000. A General Location Guide for Ultramafic Rocks in California—Areas More likely to Contain Naturally Occurring Asbestos. Website: https://filerequest.conservation.ca.gov/?q=ofr_2000-019.pdf. Accessed July 22, 2024.

Regional climate factors such as temperature, wind, humidity, precipitation, and amount of sunshine have a substantial influence on air quality in the SoCAB. The annual average temperatures throughout the SoCAB vary from the low to middle 60°F (degrees Fahrenheit). Because of a decreased marine influence, the eastern portion of the SoCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SoCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SoCAB have recorded maximum temperatures above 100°F.

Although the climate of the SoCAB can be characterized as semi-arid, the air near the land surface is relatively humid on most days because of the presence of a marine layer from the Pacific Ocean. This shallow layer of sea air is an important modifier of SoCAB climate. Humidity restricts visibility in the SoCAB and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SoCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature of the coastal areas. These effects decrease with distance from the coast.

More than 90 percent of the SoCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SoCAB, with frequency being higher near the coast.

The topography and climate of Southern California combine to make the SoCAB an area of high air pollution potential. A warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cooler surface layer, which traps the pollutants near the ground. Light winds can further limit ventilation. Additionally, abundant sunlight triggers the photochemical reactions which produce ozone and the majority of the particulate matter.[9]

2.2.2 - Local Air Quality

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. South Coast Air Quality Management District (SCAQMD) has divided the Air Basin into 38 air-monitoring areas. The project site is located in Air Monitoring Area 23, which covers Metropolitan Riverside County, with the southern boundary aligned with El Sobrante Road. The nearest air monitoring station to the project site is the Mira Loma Van Buren Monitoring Station (Mira Loma Station), which is located approximately 9.5 miles north of the project site at 5130 Poinsettia Place, Jurupa Valley. However, it should be noted that due to the air monitoring station's distance from the project site, recorded air pollution levels at the Mira Loma Station reflect local air quality conditions at the project site with varying degrees of accuracy.

[9] South Coast Air Quality Management District (SCAQMD). 2017. Final 2016 Air Quality Management Plan.

Table 3 summarizes published monitoring data from 2021 through 2023. The data shows that during the past few years, the project area has exceeded the standards for ozone (State and federal). The data in the table reflects the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for the SCAQMD was available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 3: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2021	2022	2023
Ozone	1 Hour	Max 1 Hour (ppm)	**0.116**	**0.120**	**0.129**
		Days > State Standard (0.09 ppm)	20	19	39
	8 Hours	Max 8 Hours (ppm)	**0.094**	**0.094**	**0.102**
		Days > State Standard (0.07 ppm)	53	57	59
Nitrogen dioxide (NO_2)	Annual	Annual Average (ppm)	0.011	0.010	0.010
	1 Hour	Max 1 Hour (ppm)	0.0533	0.0474	0.0484
		Days > State Standard (0.18 ppm)	0	0	0
Inhalable coarse particles (PM_{10})	Annual	State Annual Average (µg/m^3)	39.6	37.3	ND
	24 Hours	Max 24 Hours (µg/m^3)	98.7	81.6	118.7
		Days > State Standard (50 µg/m^3)	15	11	6
		Days > National Standard (150 µg/m^3)	0	0	1
Fine particulate matter ($PM_{2.5}$)	Annual	State Annual Average (12 µg/m^3)	14.4	11.4	11.7
	24 Hours	Max 24 Hours (µg/m^3)	85.1	32.1	69.1
		Days > National Standard (35 µg/m^3)	14	0	4

Notes:
> = exceed
µg/m^3 = micrograms per cubic meter
Bold = exceedance
max = maximum
National Standard = National Ambient Air Quality Standard (NAAQS)
ND = no data
ppm = parts per million
State Standard = California Ambient Air Quality Standard (CAAQS)
Data is extracted from the Mara Loma Monitoring Station, approximately 9.5 miles north of the project site.
State and National $PM_{2.5}$ Annual Average Standard is 12 µg/m^3.
Source: California Air Resources Board (ARB). 2022. Top Four Summary. Website: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed August 7, 2024.

2.3 - Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the EPA with setting air quality standards. The State of California also sets air quality standards that are, in some cases, more stringent than federal standards and address additional pollutants. The following section describes these federal and State standards and the health effects of the regulated pollutants.

2.3.1 - Federal Plans, Policies, Regulations and Laws

Clean Air Act

Congress established much of the basic structure of the Clean Air Act in 1970 and made major revisions in 1977 and 1990. The Clean Air Act addresses the six common air pollutants (also discussed in Section 2.1.1–Criteria Air Pollutants):

- Ozone (O_3)
- Nitrogen dioxide (NO_2)
- Lead (Pb)
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect public health.

The federal Clean Air Act also requires each state to prepare an air quality control plan, referred to as a State Implementation Plan (SIP). The federal Clean Air Act amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The purpose of the federal SIPs is to (1) demonstrate a state has the basic air quality management program components in place to implement a new or revised NAAQS; (2) identify the emissions control requirements that a state will rely on to attain and/or maintain the primary and secondary NAAQS; (3) prevent air quality deterioration for areas that are in attainment with the NAAQS; and (4) reduce common or criteria pollutants emitted in nonattainment areas, updating the standards as more medical research is available regarding the health effects of the criteria pollutants. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies.

EPA Emission Standards for New Off-road Equipment

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, the EPA established emission standards for hydrocarbons, NO_X, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by the EPA, as well as by the ARB. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other

words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

2.3.2 - State Plans, Policies, Regulations and Laws

California Air Quality Control Plan (State Implementation Plan)

As noted above, a SIP is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts—an air district prepares their federal attainment plan, which is sent to the ARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms for attaining and maintaining air quality standards.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional State and local regulation is required to achieve the standards.

California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal Clean Air Act at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. The ARB administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 State air pollutants are the six federal criteria pollutants listed previously, as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride.

The SIP for the SoCAB is the South Coast Air Quality Management District 2022 Air Quality Management Plan (SCAQMD 2022 AQMP), which is focused on attaining the 2015 8-hour ozone standard of 70 parts per billion (ppb).

Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

The current attainment designations for the SoCAB are shown in Table 4. The SoCAB is currently classified as nonattainment for the State ozone, PM_{10}, and $PM_{2.5}$ standards; nonattainment for the national ozone and $PM_{2.5}$ standards; and unclassified for the national PM_{10} standard.

Table 4: South Coast Air Basin Attainment Status

Pollutant	State Status[1]	National Status[2]
Ozone (1-hour) [a]	Nonattainment	Nonattainment (Extreme)
Ozone (8-hours)	Nonattainment	Nonattainment (Extreme)
Carbon monoxide	Attainment	Attainment (Maintenance)
Nitrogen dioxide (annual)	Attainment	Attainment (Maintenance)
Nitrogen dioxide (1-hour)	Attainment	Unclassifiable/Attainment
Sulfur dioxide	Attainment	Unclassifiable/Attainment
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment (Serious)
Lead	Attainment	Attainment

Notes:
NAAQS = National Ambient Air Quality Standards
SoCAB = South Coast Air Basin
[a] On June 15, 2005, the 1-Hour Ozone NAAQS was revoked for all areas except the 8-Hour Ozone Nonattainment Early Action Compact areas. However, the SoCAB has not attained this standard based on 2008–2010 data and is still subject to anti-backsliding requirements.
Source: South Coast Air Quality Management District (SCAQMD). 2022. 2022 Air Quality Management Plan. Accessed July 22, 2024.

Assembly Bill 1807 (Tanner Air Toxics Act) and Assembly Bill 2588 (Air Toxics "Hot Spots" Information and Assessment Act of 1987)

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for ARB to designate substances as TACs. Once a TAC is identified, ARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, ARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

California Health and Safety Code Section 39655 and California Code of Regulations Title 17 Section 93000 (Substances Identified as Toxic Air Contaminants)

The ARB identifies substances as TACs as defined in Health and Safety Code Section 39655 and listed in Title 17, Section 93000 of the California Code of Regulations, "Substances Identified As Toxic Air Contaminants." A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, there are thresholds set by regulatory agencies below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards. According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs for the State of California can be attributed to relatively few compounds, the most important of which is DPM from diesel-fueled engines.

California Low Emission Vehicle Program

The ARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 SIP. In 2012, the ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.[10]

The most recent amendments in 2022, the Advanced Clean Cars II Regulations, apply to light-duty passenger car, truck, and SUV emissions starting with the 2026 model year through 2035. It will take the State's already growing Zero-Emission Vehicle (ZEV) market and robust motor vehicle emission control rules and augment them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent Zero-Emission Vehicles. By 2035 all new passenger cars, trucks, and SUVs sold in California will be zero emissions.

California On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, of the California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles and test procedures. The ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles, including the Heavy-Duty

[10] California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: https://ww2.arb.ca.gov/californias-greenhouse-gas-vehicle-emission-standards-under-assembly-bill-1493-2002-pavley. Accessed July 9, 2024.

Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, the School Bus Program, and others.[11]

California In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the ARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than 5 consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. More recent 2022 amendments to the regulation include:[12]

- Phase-out of the oldest off-road engines from operation—Tier 2 and model year 2003 or older on-road engines must be phased out from large/medium/small/ultra-small fleets in 2028/30/32/36, respectively.
- Restrictions on the addition of older engines to the fleet—Vehicles with Tier 3/4i and model year 2006 or older on-road engines cannot be added to a fleet from 2024/28/35 for large and medium/small/ultra-small fleets, respectively.
- All fleets must use R99 or R100 Renewable Diesel Fuel starting January 1, 2024.

California Truck and Bus Regulation

The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation required that diesel trucks and buses operating in California be upgraded to reduce emissions. Newer heavier trucks and buses were required to meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks had to be replaced starting January 1, 2015. As of January 1, 2023, nearly all trucks and buses were required to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.[13]

Small Off-road Engine Regulation

Small Off-road Engines (SORE) are spark-ignition engines with rated power at or below 19 kilowatts (25 horsepower). The SORE regulations require new engines to be certified and labeled to meet emission standards and other requirements. Typical equipment types that use SORE include lawn

[11] California Air Resources Board (ARB). 2013. The California Almanac of Air Quality and Emissions—2013 Edition. Website: http://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm. Accessed July 9, 2024.
[12] California Air Resources Board (ARB). 2024. Rulemaking Documents. Website: https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation/rulemaking-documents. Accessed July 9, 2024.
[13] California Air Resources Board (ARB). 2015. On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Website: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed July 9, 2024.

and garden equipment, portable generators, and pressure washers. Amendments to the SORE regulations will require most landscaping equipment to be zero emissions beginning in 2024. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected to be nearly twice those of passenger cars by 2031. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.[14] Engines that use diesel fuel and engines that are used in stationary equipment, including standby generators, are not subject to the SORE regulations.

California Airborne Toxic Control Measures

As of December 2022, the ARB had developed 26 mobile and stationary source Airborne Toxic Control Measures (ATCMs).[15] The following summarizes the ATCMs that are potentially applicable for land use development projects such as logistics, warehouse, residential, mixed use, and retail development. Source and industry-specific requirements apply to industrial projects, gas stations, dry cleaners, and other types of facilities which are significant sources of TACs.

Asbestos ATCM

In July 2001, ARB approved an ATCM for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of Best Management Practices (BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification, and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than 1 acre. These projects require the submittal of a "Dust Mitigation Plan" and approval by the ARB prior to the start of a project.

Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any

[14] California Air Resources Board (ARB). 2021. Website: https://ww2.arb.ca.gov/news/carb-approves-updated-regulations-requiring-most-new-small-road-engines-be-zero-emission-2024. Accessed July 9, 2024.

[15] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/resources/documents/airborne-toxic-control-measures. Accessed July 9, 2024.

operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found on or near the project site.[16]

Verified Diesel Emission Control Strategies

The EPA and the ARB tiered off-road emission standards only apply to new engines and off-road equipment can last several years. The ARB has developed Verified Diesel Emission Control Strategies (VDECS), which are devices, systems, or strategies used to achieve the highest level of pollution control from existing off-road vehicles, to help reduce emissions from existing engines. VDECS are designed primarily for the reduction of DPM emissions and have been verified by ARB. There are three levels of VDECS, the most effective of which is the Level 3 VDECS. Tier 4 engines are not required to install VDECS because they already meet the emissions standards for lower tiered equipment with installed controls.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), also known as the Hot Spots Act. To date, the ARB has identified more than 21 TACs and has adopted the EPA's list of HAPs as TACs.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), a partnership between the ARB and local air districts, issues grants to replace or retrofit older engines and equipment with engines and equipment that exceed current regulatory requirements to reduce air pollution. Money collected through the Carl Moyer Program complements California's regulatory program by providing incentives to effect early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately affected by air pollution. The program has established guidelines and criteria for the funding of emissions reduction projects. Within Riverside County, SCAQMD administers the Carl Moyer Program. The program has established guidelines and criteria for the funding of emissions reduction projects and has established cost-effectiveness criteria for funding emission reductions projects, which under the final 2017 Carl Moyer Program Guidelines are $30,000 per weighted ton of NO_X, ROG, and PM.[17]

2.3.3 - South Coast Air Quality Management District Regulations

SCAQMD CEQA Air Quality Guidelines

Standard Conditions

During construction and operation, the proposed project must comply with applicable rules and regulations. The following are rules and regulations the proposed project may be required to comply with, either directly or indirectly.

[16] United States Geological Survey (USGS). 2019. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in the Conterminous United States. Website: https://www.usgs.gov/data/reported-historic-asbestos-mines-historic-asbestos-prospects-and-other-natural-occurrences. Accessed July 9, 2024.

[17] California Air Resources Board (ARB). 2017. 2017 Carl Moyer Program Guidelines. Website: https://ww2.arb.ca.gov/our-work/programs/carl-moyer-memorial-air-quality-standards-attainment-program. Accessed August 9, 2024.

SCAQMD Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through the application of standard BMPs, such as the application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour (mph), sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with the Best Available Control Measures (BACM) so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

Rule 403 measures may include, but are not limited to, the following:

- Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Provide bumper strips or similar BMPs where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replant disturbed areas as soon as practical.
- During all construction activities, sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 445 restricts the installation of wood-burning fireplaces into any new development and only allows the installation of dedicated gaseous-fueled fireplaces.

SCAQMD Rule 481 applies to all spray painting and spray coating operations and equipment. This rule would apply to the application of architectural coatings to the exterior and interior or of the building walls.

SCAQMD Rule 1108 and 1108.1 govern the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the SoCAB. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rules 1108 and 1108.1.

SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143 governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186 limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, State, county, agency, or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303 governs the permitting of relocated or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401.1 provides additional health protection to children at schools or schools under construction from new or relocated facilities emitting TACs.

SCAQMD Rule 1403 establishes Survey Requirements, notification, and work practice requirements to prevent asbestos emissions from emanating during building renovation and demolition activities.

Air Quality Management Plans

As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. A multi-level partnership of governmental agencies at the federal, State, regional, and local levels implements the programs contained in these plans. Agencies involved include the EPA, ARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SoCAB. The SCAQMD updates its AQMP every 3 years.

The 2022 AQMP was adopted by the SCAQMD Governing Board on December 2, 2022, and approved by the ARB in January 2023.[18] The 2022 AQMP establishes actions and strategies to reduce ozone levels to the EPA 2015 ozone standard of 70 ppb by 2037. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_X technologies in other applications), BMPs, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CCAA measures to achieve the 2015 8-hour ozone standard.[19] The 2022 AQMP promotes extensive use of zero-emission technologies across all stationary and mobile sources coupled with rules and regulations, investment strategies, and incentives.

The 2022 AQMP also demonstrates compliance with all applicable federal Clean Air Act requirements pertaining to nonattainment areas pursuant to the EPA-approved Implementation Rules, such as the annual average and summer planning emission inventory for criteria and precursor pollutants, attainment demonstrations, reasonably available control measures and reasonably available control technology analyses, reasonable further progress, PM precursor requirements, Vehicle Miles Traveled (VMT) demonstrations, and transportation conformity budgets for SoCAB.

SCAQMD CEQA Guidance

The SCAQMD has two roles under CEQA:

1. Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SCAQMD where the SCAQMD has primary approval authority over the proposed project.
2. Commenting Agency: reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SCAQMD also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the project area.

2.3.4 - Local

Riverside County 2018 General Plan

The General Plan includes policies to avoid or mitigate impacts resulting from planned development projects within the County. The following policies, which are applicable to the proposed project, are specific to reducing VMT (which reduces mobile source emissions) and air quality:

[18] California Air Resources Board (ARB). 2023. 2022 Air Quality Management Plan for the 70 parts per billion 8-hour Ozone Standard in the South Coast Air Basin and Coachella Valley Resolution 23-4. January 26. Website: https://ww2.arb.ca.gov/sites/default/files/barcu/board/res/2023/res23-4.pdf. Accessed July 20, 2024.

[19] South Coast Air Quality Management District (SCAQMD). 2022. Final 2022 Air Quality Management Plan. December.

Policy AQ 2.2 Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3 Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.

Policy AQ 2.4 Consider creating a program to plant urban trees on an Area Plan basis that removes pollutants from the air, provides shade and decreases the negative impacts of heat on the air.

Policy AQ 4.1 Require the use of all feasible building materials/methods which reduce emissions.

Policy AQ 4.2 Require the use of all feasible efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.

Policy AQ 4.3 Require centrally heated facilities to utilize automated time clocks or occupant sensors to control heating where feasible.

Policy AQ 4.4 Require residential building construction to comply with energy use guidelines detailed in Part 6 (California Energy Code) and/or Part 11 (California Green Building Standards Code) of Title 24 of the California Code of Regulations.

Policy AQ 4.5 Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features;
- Operating procedures;
- Preventive maintenance;
- Operator training; and
- Emergency response planning.

Policy AQ 4.6 Require stationary air pollution sources to comply with applicable air district rules and control measures.

Policy AQ 4.7 To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD [Mojave Desert Air Quality Management District], SCAB [SoCAB], the Environmental Protection Agency and the California Air Resources Board.

Policy AQ 4.9 Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Policy AQ 8.9 Promote land use patterns that promote alternative modes of travel.

Policy AQ 9.2 Attain performance goals and/or VMT reductions which are consistent with SCAG's Growth Management Plan.

SECTION 3: GREENHOUSE GAS EMISSIONS SETTING

3.1 - Environmental Setting

3.1.1 - Greenhouse Gases and Global Emission Sources

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Prominent GHGs that naturally occur in Earth's atmosphere are water vapor, carbon dioxide (CO_2), methane (CH_4), NO_X, and ozone. Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of human-made gases with high global warming potential (GWP). These include ozone-depleting substances such as chlorofluorocarbons (CFCs) and aerosols, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere. Therefore, the GWP of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying potential for contributing to global warming. For example, methane is 25 times as potent as CO_2, while sulfur hexafluoride is 22,200 times more potent than CO_2 on a molecule-per-molecule basis. To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method for comparing GHG emissions is the GWP methodology defined in the United Nations Intergovernmental Panel on Climate Change (IPCC) reference documents.[20] The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO_2e), which compares the gas in question to that of the same mass of CO_2 (by definition, CO_2 has a GWP of one). The GWP of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. Thus, to describe how much global warming a given type and amount of GHG may cause, CO_2e is used. A CO_2e is the mass emissions of an individual GHG multiplied by its GWP. As such, a high GWP represents high absorption of infrared radiation and a long atmospheric lifetime compared to CO_2. One must also select a time horizon to convert GHG emissions to equivalent CO_2 emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) of CO_2e (MT CO_2e) emitted per year.

Units commonly used to describe the concentration of GHGs in the atmosphere are parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt), referring to the number of molecules of the GHG in a sampling of one million, one billion, or one trillion molecules of air. Collectively, HFCs, PFCs, and SF_6 are referred to as high GWP gases. CO_2 is by far the largest component of worldwide CO_2e emissions, followed by CH_4, nitrous oxide (N_2O), and high GWP gases, in order of decreasing contribution to CO_2e.

[20] Intergovernmental Panel on Climate Change, Direct Global Warming Potentials. 2007. Website: https://archive.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html. Accessed July 22, 2024.

The primary human processes that release GHGs include the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release CH_4, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high GWP gases. Deforestation and land cover conversion have also been identified as contributing to global warming by reducing Earth's capacity to remove CO_2 from the air and altering Earth's albedo, or surface reflectance, thus allowing more solar radiation to be absorbed. Specifically, CO_2 emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change. CO_2, CH_4, and N_2O emissions associated with human activities are the next largest contributors to climate change.

3.1.2 - Global Climate Change Issue

Climate change is a global problem because GHGs are global pollutants, unlike criteria air pollutants and hazardous air pollutants (also called TACs), which are pollutants of regional and local concern. Pollutants with localized air quality effects have relatively short atmospheric lifetimes, approximately one day; by contrast, GHGs have long atmospheric lifetimes, several years to several thousand years. GHGs persist in the atmosphere for a long enough time to be dispersed around the globe.

Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more CO_2 is currently emitted into the atmosphere than is sequestered. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through photosynthesis and dissolution, respectively. These are two of the most common processes of CO_2 sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, Northern Hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions is stored in the atmosphere.[21]

Similarly, effects of GHGs are borne globally, as opposed to the localized air quality effects of criteria air pollutants and hazardous air pollutants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known and cannot be quantified, and no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global or local climates or microclimate.

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. A cumulative discussion and analysis of project impacts on global climate change is presented in this analysis because, although it is unlikely that a single project will contribute significantly to climate change, cumulative emissions from many projects affect global GHG concentrations and the climate system.

Although the international, national, State, and regional communities are beginning to address GHGs and the potential effects of climate change, worldwide GHG emissions will likely continue to rise over the next decades.

[21] United States Environmental Protection Agency (EPA). 2022. Inventory of U.S. Greenhouse Gas Emissions and Sinks. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks. Accessed July 22, 2024.

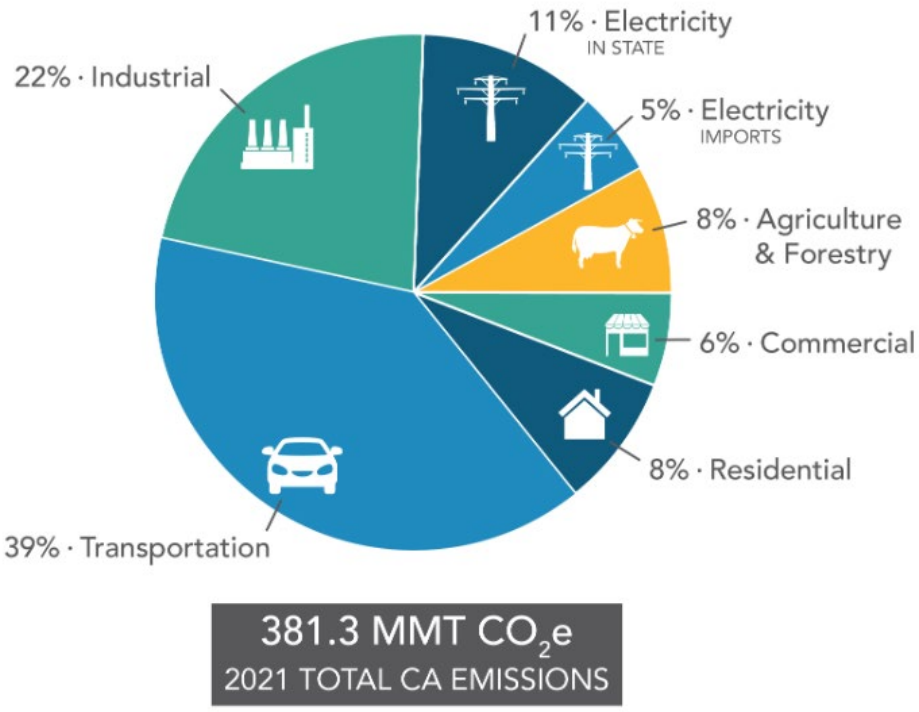
Climate and Topography

Climate is the accumulation of daily and seasonal weather events over a long period of time, whereas weather is defined as the condition of the atmosphere at any particular time and place.

Existing GHG Emissions

California GHG Inventory

As the second largest emitter of GHG emissions in the U.S., and the 12th to 16th largest GHG emissions emitter in the world, California contributes a large quantity (381.3 million metric tons [MMT] CO_2e) of GHG emissions to the atmosphere. Emissions of CO_2 are byproducts of fossil fuel combustion and are attributable in large part to human activities associated with transportation, industry/ manufacturing, electricity and natural gas consumption, and agriculture. In California, the transportation sector is the largest emitter at 39 percent of GHG emissions, followed by industry/ manufacturing at 22 percent of GHG emissions (Figure 1).



Source: California Air Resources Board (ARB). 2023. California Greenhouse Gas Emission Inventory–2021 Edition. Website: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed July 22, 2024.

Figure 1: 2021 California Greenhouse Gas Emissions by Sector

Riverside County

According to the County's Climate Action Plan, Riverside County as a whole emitted 4,905,518 MT CO2e in 2017. The largest portion of Riverside County's 2017 emissions were from transportation (36 percent), followed by agriculture (34 percent), and electricity and natural gas use in buildings (24 percent).

3.1.3 - Climate Change Trends and Effects

CO_2 accounts for more than 75 percent of all anthropogenic GHG emissions, the atmospheric residence time of CO_2 is decades to centuries, and global atmospheric concentrations of CO_2 continue to increase at a faster rate than ever previously recorded. Thus, the warming impacts of CO_2 will persist for hundreds of years after mitigation is implemented to reduce GHG concentrations.

Substantially higher temperatures, more extreme wildfires, and rising sea levels are just some of the direct effects experienced in California. As reported by the California Natural Resources Agency in 2009, despite annual variations in weather patterns, California has seen a trend of increased average temperatures, more extreme hot days, fewer cold nights, longer growing seasons, less winter snow, and earlier snowmelt and rainwater runoff. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and a larger proportion of total precipitation is falling as rain instead of snow. Sea level rose by as much as 7 inches along the California coast over the last century, leading to increased erosion and adding pressure to the State's infrastructure, water supplies, and natural resources.[22,23]

These observed trends in California's climate are projected to continue in the future. The following is a summary of climate change factors and predicted trends specific to California. In California, climate change may result in consequences such as the following.[24]

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of Southern California are estimated to increase by approximately 30 percent toward the end of the twenty-first century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more Northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los

[22] Intergovernmental Panel on Climate Change (IPCC). 2022. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Website: https://www.ipcc.ch/report/ar6/wg2/. Accessed July 22, 2024.

[23] California Climate Change Center (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: https://www.scc.ca.gov/webmaster/ftp/pdf/climate_change/assessing_risks.pdf. Accessed July 22, 2024.

[24] Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website: https://lynceans.org/wp-content/uploads/2020/01/Moser-2009-Climate-change-impacts-across-CA-.pdf. Accessed July 22, 2024.

Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.

- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

3.2 - Regulatory Framework

Federal, State, regional, and local GHG-related plans, policies, and regulations are helpful for understanding the overall context for GHG emissions impacts and strategies to reduce GHG emissions.

3.2.1 - Federal

The EPA is the federal agency responsible for implementing the federal Clean Air Act. On April 2, 2007, the U.S. Supreme Court held that the EPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., 12 states and cities (including California) along with several environmental organizations sued to require EPA to regulate GHGs as pollutants under the Clean Air Act. The Inflation Reduction Act affirms EPA's authority to regulate GHG emissions under the Clean Air Act.

3.2.2 - State

California pursues GHG emissions reductions through a variety of Executive Orders, legislation, and regulations. The major components of this legal framework are outlined below.

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32 California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as the Title 24 and Title 20 energy standards, was originally adopted for other purposes, such as energy and water conservation, but also provides GHG reductions. This section describes the major provisions of the legislation.

Executive Order S-3-05

Executive Order S-3-05 passed in 2005 and set forth the following target dates by which Statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32, Senate Bill 32 and State Climate Change Scoping Plan

In 2006, California passed AB 32, the Global Warming Solutions Act. AB 32 put into law mid-term GHG reduction targets and identified ARB as the State agency responsible for the development and implementation of GHG emission reduction regulations, policies, and measures needed to meet the target.

In 2008, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) which contains the main strategies that California will implement to achieve the required GHG reductions codified in AB 32. ARB is required to update the Scoping Plan at least once every 5 years to evaluate progress and develop future GHG inventories that may guide this process.

The Governor signed SB 32 in September 2016, giving the ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the State [air resources] board shall ensure that Statewide greenhouse gas emissions are reduced to at least 40 percent below the Statewide greenhouse gas emissions limit no later than December 31, 2030." The current Scoping Plan was adopted in 2022[25] and establishes a scenario by which the State may achieve carbon neutrality by 2045 or earlier, and it outlines a technologically feasible, cost-effective, and equity-focused path for achieving this climate target.

The 2022 Scoping Plan addresses the latest climate-related legislation and direction from current Governor Gavin Newsom, who, by his signing of AB 1279, required the State to reduce Statewide anthropogenic GHG emissions to at least 85 percent below 1990 levels by 2045 and to maintain net negative GHG emissions thereafter. The 2022 Scoping Plan relies on the aggressive reduction of fossil fuels in all Statewide sectors and accelerating existing carbon reduction programs. Aspects of the 2022 Scoping Plan's scenario include:

- Rapidly moving to zero-emission transportation by electrifying cars, buses, trains, and trucks.
- Phasing out the use of fossil gas used for heating homes and buildings.
- Clamping down on chemicals, refrigerants, and other high GWP gases.
- Providing communities with sustainable options for walking, biking, and public transit to reduce reliance on cars.

[25] California Air Resources Board (ARB). 2022 Scoping Plan. Website: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed July 22, 2024.

- Continuing to develop solar arrays, wind turbine capacity, and other resources that provide clean, renewable energy.
- Scale up options such as renewable hydrogen and biomethane for end uses that are hard to electrify.

The ARB estimates that successfully achieving the outcomes called for by the 2022 Scoping Plan will reduce demand for liquid petroleum by 94 percent and total fossil fuel by 86 percent in 2045, relative to 2022. The 2022 Scoping Plan also emphasizes the role of natural and working lands and carbon capturing technologies to address residual emissions and achieve net negative emissions.

Assembly Bill 1279

AB 1279 codified Executive Order B-55-18, which established a Statewide goal of achieving carbon neutrality as soon as possible but no later than 2045 and achieving and maintaining net negative emissions thereafter. It requires that 2045 Statewide anthropogenic GHG emissions are reduced to at least 85 percent below 1990 levels.

Senate Bill 1078–California Renewable Portfolio Standard

SB 1078, California's Renewable Portfolio Standard (RPS) requires electricity providers to provide a specified minimum portion of their electricity supply from eligible renewable resources by milestone target years. Currently, the RPS requires utility providers to serve 60 percent of their electricity load with renewable energy by 2030 (with phased interim targets of 44 percent by 2024 and 52 percent by 2027). SB 1078 requires that all of the State's electricity come from carbon-free resources by 2045.

Statewide Efficiency Standards for Appliances and Buildings

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth. These include but are not limited to:

- California Code of Regulations Title 20: Appliance Efficiency Regulations,
- California Code of Regulations Title 24, Part 6: Energy Efficiency Standards (Buildings), and
- California Code of Regulations Title 24, Part 11: California Green Building Standards Code.

GHG Emissions Reductions from Mobile Sources

California adopts and implements a variety of regulations and initiatives aimed at reducing GHG's from the mobile sector, including but not limited to fuel efficiency standards and promoting reductions in VMT. These include but are not limited to:

- Assembly Bill 1493 Pavley Regulations and Fuel Efficiency Standards (for cars and light-duty trucks),
- Executive Order N-79-20–Zero-Emission Vehicles by 2035,
- Executive Order S-01-07–Low Carbon Fuel Standard,

- ARB Advanced Clean Truck and Advanced Clean Fleet Regulations (accelerates transition to zero-emission medium- and heavy-duty vehicles),
- ARB Advanced Clean Cars II Rule (requires all new passenger vehicles sold in California to be zero-emission by 2035),
- Small Off-Road Engine Regulations (requires equipment such as leaf blowers, lawn mowers, etc. to be zero-emission by 2024),
- Large Spark Ignition Regulation (commonly referred to as the "Forklift Rule," this regulation sets average emission level requirements that decrease annually to encourage the use of EV and low-emissions engines in equipment such as forklifts, sweeper/scrubbers, industrial tow tractors and airport ground support equipment), and
- SB 375–the Sustainable Communities Strategy (SCS)–aimed at reducing VMT through community and transportation planning efforts.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations

California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted 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-efficient technologies and methods. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The current version of Title 24 adopted by the California Energy Commission (CEC) went into effect on January 1, 2023.[26]

Title 24 California Green Building Standards Code

California Code of Regulations Title 24 Part 11 is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is

[26] California Energy Commission (CEC). 2023. 2022 Building Energy Efficiency Standards. Website: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency. Accessed July 22, 2024.

updated on a regular basis, with the current version of the 2022 California Green Building Standards Code (CALGreen) that became effective January 1, 2023.[27] The 2024 Interim Green Building Standards update increased the electric vehicle (EV) charging requirements for most projects classified as "residential." These include townhomes, multi-family dwellings, hotels, motels, and multi-family parking facilities. In general, the 2024 CALGreen residential EV charging updates apply to new construction only. The single exception is for additions and alterations to existing parking facilities serving existing multi-family buildings. The revised sections of the CALGreen Code went into effect as of July 1, 2024.[28]

Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. The California Building Standards Code (CBC) provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for Ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (Executive Order B-29-15) directed the California Department of Water Resources to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems.
- Incentives for graywater usage.
- Improvements in on-site stormwater capture.
- Limits on the portion of landscapes that can be planted with high water use plants.
- Reporting requirements for local agencies.

Senate Bill 97 and the CEQA Guidelines Revisions

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. SB 97 states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

[27] State of California. 2020. California Green Building Standards Code (CALGreen).
[28] California Building Standards Code Supplement. Website: https://www.iccsafe.org/wp-content/uploads/errata_central/2022-CA_Green_July24-Supp_COMPLETE.pdf. Accessed August 3, 2024.

The 2010 CEQA Amendments first guided public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The 2010 CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change. The 2010 CEQA Amendments also revised Appendix F of the CEQA Guidelines, which focuses on energy conservation, and the sample environmental checklist in Appendix G was amended to include GHG questions.

The 2018 CEQA Amendments expanded upon the previous guidance by specifying that:

- The lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to Statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and State regulatory schemes.
- In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.
- A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision-makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

California Supreme Court GHG Ruling

In a November 30, 2015, ruling, the California Supreme Court, in *Center for Biological Diversity v. California Department of Fish and Wildlife* on the Newhall Ranch project, concluded that whether the project was consistent with meeting Statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25-–27 of the ruling to address this issue summarized below:

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a business-as-usual (BAU) comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with Statewide goals (page 25).
- **Compliance with Regulatory Programs or Performance Based Standards**. A lead agency "might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities" (page 26).

- **Compliance with GHG Reduction Plans or Climate Action Plans**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as Climate Action Plans (CAPs) or GHG emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (page 26).
- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (page 27).

The Supreme Court was concerned that new development may need to do more than existing development to reduce GHGs to demonstrate that it is doing its fair share of reductions.

3.2.3 - Regional and Local Plans, Policies, Regulations and Ordinances

The SCAQMD provides multiple options for operational GHG emissions generation significance thresholds.[29] The SCAQMD formed a working group to develop significance thresholds related to GHG emissions. At the September 28, 2010, working group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that either provides a quantitative annual thresholds of 3,500 MT CO_2e for residential uses, 1,400 MT CO_2e for commercial uses, and 3,000 MT CO_2e for mixed uses. An alternative annual threshold of 3,000 MT CO_2e for all land use types is also proposed.

SCAQMD Regulation XXVII, Climate Change

SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a GHG Reduction Program for GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

3.2.4 - Local

Local jurisdictions, such as the County of Riverside, have the authority and responsibility to reduce GHG emissions through their police power and decision-making authority. Specifically, the County is responsible for the assessment and mitigation of GHG emissions resulting from its land use decisions. In accordance with CEQA requirements and the CEQA review process, the County assesses the global climate change potential of new development projects, requires mitigation of potentially

[29] South Coast Air Quality Management District (SCAQMD). Greenhouse Gases CEQA Significance Thresholds. Website: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds. Accessed June 12, 2024.

significant global climate change impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

County of Riverside General Plan

The *County of Riverside General Plan*, prepared December 2015, provides the following GHG emissions-related goals and policies that are applicable to the proposed project.

GHG Emissions Reduction Focus Areas

Policy AQ-20.1 Reduce VMT by requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes. Improve connectivity of the multi-modal facilities by providing linkages between various uses in the developments.

Policy AQ-20.5 Reduce emissions from standard gasoline vehicles, through VMT, by requiring all new residential units to install circuits and provide capacity for electric vehicle charging stations.

Policy AQ-20.10 Reduce energy consumption of the new developments (residential, commercial, and industrial) through efficient site design that takes into consideration solar orientation and shading, as well as passive solar design.

Policy AQ-20.14 Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance 859 and increase use of non-potable water.

Policy AQ-20.18 Encourage the installation of solar panels and other energy-efficient improvements and facilitate residential and commercial renewable energy facilities (solar array installations, individual wind energy generators, etc.).

Policy AQ-20.20 Reduce the amount of solid waste generation by increasing solid waste recycle, maximizing waste diversion, and composting for residential and commercial generators. Reduction in decomposable organic solid waste will reduce the methane emissions at County landfills.

County of Riverside Climate Action Plan

The County of Riverside has adopted the County of Riverside CAP that was revised November 2019. The CAP was updated in 2019 in order to bring the CAP in conformance with SB 32 and AB 197 that set a Statewide 2030 goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. The CAP has developed a process for determining significance of GHG impacts from new development projects that includes (1) applying an emissions level that is determined to be less than significant for small projects and (2) utilizing Screening Tables to mitigate project GHG emissions that exceed the threshold level. The CAP has provided a threshold of 3,000 MT CO_2e per year used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

SECTION 4: ENERGY

4.1 - Environmental Setting

This section describes the existing energy setting in the proposed project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to energy that could result from the implementation of the proposed project. Information in this section is based on project-specific energy calculation outputs included in Appendix A.

4.1.1 - Existing Setting

Energy Basics

Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW) or megawatts (MW), or natural gas measured in British thermal units (BTU) or cubic feet. Fuel, such as gasoline or diesel, is measured in gallons or liters.

Electricity

Electricity is used primarily for lighting, appliances, and other uses associated with the proposed project.

Fuel

Fuel is used primarily for powering off-road equipment, trucks, and passenger vehicles. The typical fuel types used are diesel and gasoline.

Electricity Generation, Distribution, and Use

State of California

According to the CEC, in 2022, the State of California generated approximately 203,257 gigawatt-hours (GWh) of electricity. Approximately 47.46 percent of this energy generation was sourced from natural gas, 32.25 percent from renewable sources (i.e., solar, wind, and geothermal), 7.19 percent from large hydroelectric sources, and the remaining 13.1 percent was sourced from coal, nuclear, oil, and other nonrenewable sources. Additionally, California imported 83,962 GWh of electricity from other states in 2020.

According to the United States Energy Information Administration (EIA), in 2021, California ranked fourth in electricity production, fourth in the nation in conventional hydroelectric generation, and first as a producer of electricity from solar, geothermal, and biomass resources. California leads the nation in solar thermal electricity capacity and generation.

Electricity and natural gas are distributed through the various electric load-serving entities (LSEs) in California. These entities include investor-owned utilities (IOUs), publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.

Riverside County

Southern California Edison (SCE) provides electricity to project area. The project site is developed with agricultural land and a poultry farm located in the southern portion of the site. Therefore, there is currently some electricity consumption from the project site.

Fuel Use

State of California

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the State. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay Area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline. According to the EIA, California's field production of crude oil has steadily declined since the mid-1980s, totaling approximately 4,103 million barrels in 2022. At the same time, California refineries have become increasingly dependent on foreign imports. Foreign suppliers provide approximately half of the crude oil refined in California.

According to the EIA, transportation accounted for nearly 41 percent of California's total energy demand, amounting to approximately 2,355.5 trillion BTU in 2020 and 2,784 trillion BTU in 2021. California's transportation sector, including rail and aviation, consumed roughly 524 million barrels of petroleum fuels in 2020 and 2,731 million barrels in 2021. The CEC produces the California Annual Retail Fuel Outlet Report, which is a compilation of gasoline and diesel fuel sales data from across the State available at the County level. According to the CEC, California's 2022 fuel sales totaled 13,640 million gallons of gasoline and 1,883 million gallons of diesel.

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various Statewide regulations and plans, such as the Low Carbon Fuel Standard (LCFS) and SB 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with transportation fuels including hydrogen, biodiesel, and electricity. Currently, 54 public hydrogen refueling stations exist in California; the nearest station is located approximately 4 miles northeast of the site. Currently, 36 public biodiesel refueling stations are in California; the nearest station is located approximately 5 miles west of the site.

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid EVs directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored to use electricity generated onboard the vehicle to power electric motors. Currently, California has 105,012 public and shared private EV charging chargers, including all charger types, and 93,642 Level 2 EV supply equipment (EVSE) ports.[30]

[30] California Energy Commission. Electric Vehicle Chargers in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/electric. Accessed August 8, 2024.

Currently, there are 1,255 public and shared private Level 2 EVSE ports located within the boundaries of the County.

4.2 - Regulatory Framework

4.2.1 - Federal

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard Program. The Energy Independence and Security Act of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard Program to include diesel in addition to gasoline.
- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- Establishing new categories of renewable fuel and setting separate volume requirements for each one.
- Requiring the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard Program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation's renewable fuels sector.

Signed on December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) aims to:

- Move the United States toward greater energy independence and security.
- Increase the production of clean renewable fuels.
- Protect consumers.
- Increase the efficiency of products, buildings, and vehicles.
- Promote research on and deploy GHG capture and storage options.
- Improve the energy performance of the federal government.
- Increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy.

The EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423, as well as introduces more aggressive requirements. The three key provisions enacted are the Corporate Average Fuel Economy (CAFE) Standards, the Renewable Fuel Standard Program, and the appliance/lighting efficiency standards.

The EPA is committed to developing, implementing, and revising both regulations and voluntary programs under the following subtitles in EISA, among others:

- Increased CAFE Standards
- Federal Vehicle Fleets

- Renewable Fuel Standard
- Biofuels Infrastructure
- Carbon Capture and Sequestration

EPA and National Highway Traffic Safety Administration Light-Duty Vehicle GHG Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the CAFE law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009, President Barack Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint Final Rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million MT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016).

The EPA and NHTSA issued final rules on a second phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleet wide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

The State of California has received a waiver from the EPA to have separate, stricter CAFE standards. Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in

the incidental reduction of GHG emissions. In order to manage the State's energy needs and promote energy efficiency, AB 1575 created the CEC in 1975.

Executive Order N-79-20: Transition to 100 Percent ZEV

Executive Order N-79-20, issued by Governor Newsom in 2020, calls for elimination of new internal combustion passenger vehicles by 2035. It also directs the ARB to pursue a goal of 100 percent medium and heavy-duty vehicles in the State to be zero emissions by 2045. This establishes a target for the transportation sector that helps put the State on a path to carbon neutrality by 2045.

4.2.2 - State

California Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011. The standards applied to 2009 through 2016 model year vehicles. After adopting these initial GHG emission standards for passenger vehicles, the ARB adopted continuing standards for future model years.

The second phase of the implementation for the Pavley Bill was incorporated into amendments to the LEV Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car Program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation aims to reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs, and hydrogen fuel cell cars. The regulations also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling seeks to reduce public exposure to DPM and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location, or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets.

This measure regulates NO_X, DPM, and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or

demonstrate that it has met "best available control technology" requirements. Additionally, this measure requires medium and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

California Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, former Governor Gray Davis signed Senate Bill (SB) 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established an RPS target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Former Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's LSEs to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23.

California SB 350: Clean Energy and Pollution Reduction Act

In 2015, the State 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 RPS, higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50 percent reduction in the use of petroleum Statewide were removed from the bill due to 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, the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

California Code of Regulations Title 24

Part 6 (Energy Efficiency Standards for Residential and Nonresidential Buildings)

California Code of Regulations Title 24 Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) was first adopted 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-efficient technologies and methods. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 Building Energy Efficiency Standards went into effect on January 1, 2020. The 2022 Building Energy Efficiency Standards became effective on January 1, 2023.

Part 11 (California Green Building Standards Code)

California Code of Regulations Title 24, Part 11, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The Code is updated on a regular basis, with the most recent update consisting of the 2022 California Green Building Code Standards that became effective January 1, 2023. Local jurisdictions are permitted to adopt more stringent requirements as State law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance, provided they require a minimum 50 percent diversion requirement. The Code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The CBC provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

California Public Utilities Code

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

4.2.3 - Local

Riverside County 2018 General Plan

The County's General Plan includes policies to avoid or mitigate impacts resulting from planned development projects within the County. The following policies are specific to energy and apply to the proposed project.

Policy AQ 5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 5.2 Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.

Policy AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 5: MODELING PARAMETERS AND ASSUMPTIONS

5.1 - Model Selection and Guidance

Regional air pollutant emissions are composed of on-site construction and operational emissions generated from all facets of the proposed project. Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant over a given time or activity, for example, grams of NO_X per vehicle mile traveled or grams of NO_X per horsepower hour of equipment operation. The activity factor is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, the amount of fuel consumed in a given amount of time, or VMT per day. The ARB has published emission factors for on-road mobile vehicles/trucks in the Emission Factor (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the levels of activity and outputs the emissions for the various pieces of equipment.

The current version of the California Emissions Estimator Model (CalEEMod), Version 2022 was released as part of a coordinated development effort between the California Air Pollution Control Officers Association (CAPCOA) and the California air districts. Regional construction and operational emissions reported in this analysis were modeled using CalEEMod Version 2022.1.

5.2 - Air Pollutants and GHG Emissions Assessed

5.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- NO_X
- CO
- Sulfur oxides (SO_X)
- PM_{10}
- $PM_{2.5}$

Note that the proposed project would emit ozone precursors ROG and NOX. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

The proposed project would emit ultrafine particles. However, there is currently no standard separate from the PM2.5 standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

5.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6.

The proposed project may emit GHGs that are not defined by AB 32. For example, the proposed project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high GWP; however, the IPCC states that it has a low level of scientific certainty.[31]

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The proposed project would emit NO_x and VOCs, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the proposed project. PFCs and SF_6 are typically used in industrial applications, none of which would be used by the proposed project. Therefore, it is not anticipated that the proposed project would emit PFCs or SF_6.

5.3 - Modeling Assumptions

5.3.1 - Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, soil haul trucks, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

Construction activities for activities occurring on the 61.32-acre project site would consist of demolition, site preparation, grading, building construction, paving, and architectural coating of the building interior and exterior. The project applicant would dedicate approximately 6.27 acres along the northern portion of the project site to open space and thus is excluded from the modeling. The site grading activities would disturb approximately 55 acres.

A conceptual construction schedule is provided in that presents the duration for each construction activity. Table 6 presents the number of assumed construction equipment along with hours of

[31] Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Website: https://www.ipcc.ch/report/ar4/wg1/. Accessed August 20, 2024.

operation per day, horsepower, and load factor. Where proposed project-specific information was not available or unknown, default assumptions were used to complete emissions modeling. The CalEEMod default schedule for the grading phases was extended and the site preparation and building construction decreased to match applicant-provided information, and the construction equipment usage was adjusted to retain the CalEEMod default horsepower (hp) hours (see Appendix A). Since no specific scheduling for demolition, paving, and architectural coating was provided, the CalEEMod default duration was used for these phases. The activity for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

The estimated construction schedule, as shown in Table 5, reflects the construction start date and construction phase durations assumed for the purposes of this environmental analysis. Construction is anticipated to begin in January 2027 and last approximately four years concluding by the end of 2030. Site preparation and grading would be completed in a single initial phase followed by building construction. Per applicant-provided information, building construction (i.e., vertical construction) would occur between May 2028 through March 2030 and would occur over approximately 30 phases. However, more detailed information (i.e., phasing plan) is not available at the time of this analysis. Because it would be speculative to estimate the phasing of building construction, the analysis assumed a one-phase construction of all homes lasting from May 2028 through March 2030. As demonstrated in greater detail in Section 6.2.2, Cumulative Impacts, this approach represents a reasonable estimate for criteria pollutant emission calculations, which are compared to the applicable maximum daily thresholds. In addition, as demonstrated in greater detail in Section 6.2.3, Sensitive Receptors, for the construction health risk assessment, the off-site Maximally Impacted Sensitive Receptor (MIR) would be exposed to potential TACs for the entirety of project construction, which serves as a conservative indicator of the level of health risks experienced by new receptors moving into the site while building construction is ongoing. Furthermore, the grading phase is the most intensive construction phase, and grading would be completed prior to completion of any home construction and the subsequent introduction of new receptors.

The construction schedule used in the analysis represents a “worst-case” analysis scenario because emission factors for construction equipment decrease as the analysis year increases due to improvements in technology and compliance with more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by the CEQA Guidelines.

Table 5: Construction Schedule

Construction Activity	Conceptual Construction Schedule		Working Days per Week	Working Days
	Start Date	End Date		
Demolition	1/4/2027	4/9/2027	5	70
Site Preparation	4/12/2027	5/21/2027	5	30
Grading	5/24/2027	4/28/2028	5	245
Building Construction	5/1/2028	12/20/2030	5	690
Paving	6/5/2028	9/15/2028	5	75
Architectural Coating	5/1/2028	8/11/2028	5	75
Source: CalEEMod Output (Appendix A).				

A summary of the on-site, off-road construction equipment usage assumptions used to estimate emissions is presented in Table 6.

Table 6: Project Construction Equipment Assumptions

Construction Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8.0	33	0.73
	Excavators	3	8.0	36	0.38
	Rubber Tired Dozers	2	8.0	367	0.4
Site Preparation	Rubber Tired Dozers	4	8.0	367	0.4
	Tractors/Loaders/Backhoes	5	8.5	84	0.37
Grading	Excavators	2	3.6	36	0.38
	Graders	1	3.6	148	0.41
	Rubber Tired Dozers	1	3.6	367	0.4
	Scrapers	2	3.6	423	0.48
	Tractors/Loaders/Backhoes	2	3.6	84	0.37
Building Construction	Cranes	2	5.6	367	0.29
	Forklifts	5	7.7	82	0.2
	Generator Sets	2	6.4	14	0.74
	Tractors/Loaders/Backhoes	4	8.4	84	0.37
	Welders	2	6.4	46	0.45
	Pavers	2	8.0	81	0.42
	Paving Equipment	2	8.0	89	0.36
	Rollers	2	8.0	36	0.38

Construction Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Architectural Coating	Air Compressors	1	6.0	37	0.48
Source: CalEEMod Output (Appendix A).					

A summary of the construction-related vehicle trips is shown in Table 7. Based on proposed project applicant-provided information, site demolition activities would involve approximately 114,183 square feet of building and 131,168 square feet of hardscape removal. Approximately 244,340 cubic yards of cut and approximately 175,073 cubic yards of fill is anticipated, which equates to approximately 69,266 cubic yards of net soil export. CalEEMod default values for trip lengths and vehicle fleets were used. Note that the total number of off-site construction vehicle trips would not necessarily occur on the same day since construction activities would vary each day during the construction period.

Table 7: Construction Off-site Trips

Construction Activity	Worker (Trips per Day)	Vendor (Trips per Day)	Haul (Trips per Day)
Demolition	15	0	36
Site Preparation	23	0	0
Grading	20	0	35
Building Construction	46	14	0
Paving	15	37	0
Architectural Coating	9	0	0
Source: CalEEMod Output (Appendix A).			

Fugitive Dust

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from bulldozers moving dirt around, dust from graders or other construction equipment leveling the land, and loading or unloading dirt into haul trucks. Although not adjusted in the modeling, per SCAQMD Rule 403 “Fugitive Dust,” dust control measures shall be implemented during construction activities, such as earthmoving activities, grading, and equipment travel on unpaved roads.

5.3.2 - Operation

The major sources of operational emissions that would occur over the long-term operations of the proposed project are summarized below. As discussed above, although the proposed homes would be constructed in phases, this analysis estimates construction emissions of all proposed homes being constructed in one phase. In either scenario, year 2030 would be the full buildout year used in the analysis.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the motor vehicles that would travel to and from and within the proposed project site. The regional emissions from the proposed project's mobile sources were estimated using CalEEMod and trip generation rates from the project's traffic consultant, Urban Crossroads, Inc. Based on the standard Institute of Transportation Engineers (ITE) trip generation rates (9.43 trips per dwelling unit), using 128 dwelling units, the proposed project would be expected to generate 1,207.04 trips per day. Even if the trip generation is rounded up to 1,208 trips, the 0.08 percent difference would not have any effect on the modeling results.

The Riverside-South Coast average fleet mix for the first operational year (2030) was used to model the vehicle mix of trips generated. This includes a mixture of passenger vehicles, motorcycles, and motor homes, as well as small percentages of medium and heavy-duty vehicles and buses, in the relative proportions present on the roadways.

Other Emission Sources

Area Sources

In addition to typical mobile- and energy-source emissions, long-term operational emissions also include area source emissions. Area source emissions include occasional architectural coating activities for repainting and maintenance of the proposed residential homes. CalEEMod assumes that repainting occurs at a rate of 10 percent of the buildings per year. Therefore, on average, it is assumed that the building would be fully repainted every 10 years.

Other area source emissions include consumer products that involve solvents that emit VOCs during use. CalEEMod incorporates SCAQMD rules, specifically Rule 1113, Architectural Coatings, by assuming that all architectural coatings would consist of low VOCs per Rule 1113 (i.e., VOCs of less than 50 grams per liter [g/L]). CalEEMod includes default consumer product use rates based on building square footage. The default emission factors developed for CalEEMod were used for consumer products associated with parking uses. Lastly, CalEEMod default emission factors for landscape maintenance equipment were used in this analysis.

Energy

The proposed project would utilize gas service from Southern California Gas Company (SoCalGas) via existing utility lines. Emissions from this sector are principally from use of electricity for space and water heating at the proposed residences. The estimated energy consumption is based on CalEEMod default values for the proposed residential land use.

Indirect Emissions

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where actual emissions are generated. For example, electricity would be consumed at the proposed project site; however, emissions associated with producing that electricity are generated off-site at a power plant.

CalEEMod includes calculations for indirect GHG emissions for electricity consumption, water consumption, and solid waste disposal. For water consumption, CalEEMod calculates embedded energy (e.g., treatment, conveyance, distribution) associated with providing each gallon of potable water to the project site. For solid waste disposal, CalEEMod calculates GHG emissions generated as solid waste generated by the proposed project decomposes in a landfill. For electricity-related emissions, CalEEMod contains default electricity intensity factors for various utilities throughout California. The waste production was based on the default generation rate of 0.28 ton per resident per year. CalEEMod calculates default residential population using the California Department of Finance population estimates for cities and counties, which is 413 residents for the proposed 128 homes. The model greenhouse gas pollutant intensity factors are based on 2019 reported values.

Refrigerants

During operation, there may be leakages of refrigerants (HFCs) from air conditioners and any refrigeration systems. HFCs are typically used for refrigerants, which are long-lived GHGs. Leakage of refrigerants associated with the residential use were calculated using CalEEMod defaults based on default estimates for air conditioning, heat pumps, refrigerators, and freezers. These estimates are based on refrigerants R-134a and R-410A, which are currently being phased out and replaced with lower GWP refrigerants. Therefore, CalEEMod GHG estimates represent a conservative estimate of the impacts from refrigerants. CalEEMod defaults also assumes there would be air conditioning or refrigerators used in the "City Park" land use selected to represent the proposed park space. This represents a conservative estimate as no indoor facility that would use air conditioning or refrigerator is proposed within the park.

Vegetation

The project site currently contains agricultural uses and vegetation. Therefore, there is currently some carbon sequestration occurring on-site. The project applicant proposes to plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that the existing landscaping has on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the proposed project would be balanced; therefore, emissions due to carbon sequestration were not included.

Dispersion Modeling

An air dispersion model is a mathematical formulation used to estimate air quality impacts at specific locations (receptors) surrounding a source of emissions given the rate of emissions and prevailing meteorological conditions. The air dispersion model applied in this assessment was the AERMOD Version 23132. Specifically, the AERMOD model was used to estimate levels of air emissions at sensitive receptor locations from construction-related PM_{10} exhaust emissions associated with the proposed project. The AERMOD model provides a refined methodology for estimating localized construction impacts by utilizing long-term, measured, representative meteorological data for the project site and representative construction and operational schedules.

Terrain elevations were obtained for the project site using United Stated Geology Survey (USGS) one-third arc-second Digital Elevation Models processed by the EPA Terrain Preprocessor (AERMAP)

model, the AERMOD terrain data preprocessor. The urban dispersion option was used to describe air dispersion in the project vicinity. The air dispersion model assessment utilized 5 years (2012–2016) of SCAQMD-preprocessed meteorological data for the Riverside Airport (KRAL) which is located approximately 6 miles north of the project site.

The AERMOD model was used to estimate levels of air emissions at sensitive receptor locations from project construction PM_{10} exhaust and on-road diesel truck exhaust. Receptors within the AERMOD model were placed at grid receptors within 1,000 feet of the project site and at residence and sensitive receptor locations in areas adjacent to the site where maximum impacts are expected to occur.

Air Dispersion Modeling Assumptions–Construction

Each construction emission source to be evaluated requires geometrical and emission release specifications for use in the air dispersion model. The emission source configurations applied in this assessment are shown in Table 8.

The on-site construction area sources were assumed to cover the entire project site. Emissions from the on-site construction exhaust sources were assumed to be emitted at 5 meters above ground to account for the top of equipment exhaust stacks where emissions are released to the atmosphere and the increase in emission height due to its heated exhaust. The selection of a 5-meter release height for construction exhaust is based on the SCAQMD modeling methodology in SCAQMD's Final Localized Significance Threshold Methodology document.[32] The use of the release parameters developed by SCAQMD account for plume rise from the equipment exhaust and are based on substantial evidence using methodology from the same air district that the proposed project is in. The off-site (on-road) construction vehicle emissions were represented in the AERMOD model as line volume sources with a release height of 13.1 feet (4 meters) for diesel vehicles.

Table 8: Summary of Construction Diesel Emission Source Configurations

Emission Source Type	Configuration	Relevant Assumptions
Off-road Construction Equipment	Area Source (Sitewide)	Area source of height 5 meters to account for plume rise from exhaust. Emission factors: CalEEMod
Heavy-duty Haul Truck Traffic	Line Volume Sources	Truck travel was estimated for project-generated off-site travel extending on El Sobrante within 1,000 feet of the project site. Emission factors: CalEEMod (EMFAC2021)
Source: Appendix A.		

[32] South Coast Air Quality Management District (SCAQMD). 2008. Final Localized Significance Threshold Methodology. Page 2-2. June. Website: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed July 28, 2025.

The construction emissions were assumed to be distributed over the project area with a working schedule of up to 8 hours per day and 5 days per week. Emissions were modeled using predicted emission rates of 1 or 0 to account for the hours of the day where emissions occur.

Health Risk Assessment

The primary TAC of concern for the proposed project would be diesel exhaust, characterized by the emissions of DPM as a surrogate, emitted during construction. The emissions of potential DPM associated with construction activities would be transient, temporary, and occur in varying locations within the project site. The exposure assessment for construction is limited to emissions over the time that construction is expected to occur (i.e., 4 years).

Exhaust emissions of DPM (as PM_{10} exhaust) and $PM_{2.5}$ were obtained from the CalEEMod Version 2022.1 for the unmitigated emissions construction scenarios utilized for the criteria pollutant analysis (Appendix B). The PM_{10} exhaust emissions evaluated include on-site diesel exhaust from construction equipment and from diesel vendor and haul trucks along El Sobrante Road. Air dispersion modeling (described above) was utilized to determine the concentration of DPM at different locations off-site from the proposed project.

The DPM concentrations from AERMOD were input in the Hotspots Analysis and Reporting Program (HARP) Risk Assessment Stand-alone Tool (HARP-RAST) to determine the residential cancer risk at off-site receptors for the modeled emission scenarios. The HARP program uses the concentrations, along with equations from the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, to estimate the project's cancer and non-cancer chronic health risks using California Office of Environmental Health Hazard Assessment (OEHHA) approved toxicity and exposure parameters. For DPM, the only exposure pathway is inhalation, and the HARP tool evaluates exposure from this single pathway. The risk assessment was carried out using recommended ARB/CAPCOA Risk Management Policy assumptions.

Estimation of Cancer Risks

Cancer risks are estimated as the upper-bound incremental probability that an individual would develop cancer as a direct result of exposure to potential carcinogens over a specified exposure duration. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). Cancer risk is expressed in terms of risk per million exposed individuals. A risk level of 10 in a million implies a likelihood (or risk) that up to 10 persons out of 1 million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer risk that is in addition to any environmental cancer risk borne by a person not exposed to these toxic air contaminants.

The health risks associated with the exposure to these concentrations are then calculated for each individual receptor based on dose and response parameters. Factors such as an individual's age, body weight, and breathing rate determine the dose. Individuals also have varying responses due to a number of factors, with children being more susceptible to health effects due to development. OEHHA's risk assessment procedures were modified in 2015 to account for early childhood health

effects and age sensitivity factors are applied to the cancer health risk values. An age sensitivity factor of 10 is applied for infants, with exposure starting in the third trimester of pregnancy, until age 2. Children from ages 2 to 16 are assumed to be three times more sensitive than adults. No adjustments are made for adult exposure for ages greater than 16. OEHHA Health Risk Assessment (HRA) protocols specify that health risk assessments for residential exposure should start with exposure beginning at the third trimester, and this approach is used for the construction HRA conducted for the proposed project.

The analysis utilized the Risk Management Guidance for evaluating an individual receptor based on a 30-year residential exposure over a 70-year averaging period. Specifically, the policy recommends using the 95th percentile breathing rate for age groups less than 2 years old and the 80th percentile breathing rate for age groups that are greater than or equal to 2 years old. As per OEHHA guidance, exposure was evaluated starting in the third trimester and conservatively evaluated exposure for ages less than 2 years based on the 95th percentile breathing rate.

Sensitive receptors were modeled as residential receptors to provide a conservative estimate of risks. Residents less than 16 years of age are assumed to be exposed continuously 24 hours per day, 7 days per week and represent the maximally exposed sensitive receptor. The construction HRA considers exposure for the duration of construction (4 years), starting at the age of third trimester.

Estimation of Chronic Non-cancer Hazards

An evaluation of potential non-cancer effects of chronic chemical exposures was also conducted. Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of the project's emissions to a concentration considered acceptable to public health professionals, termed the reference exposure level (REL). The HI assumes that chronic exposures to TACs adversely affect a specific organ or organ system (toxicological endpoint) of the body. For each discrete chemical exposure, target organs presented in regulatory guidance were used. To calculate the HI, each chemical concentration or dose is divided by the appropriate toxicity REL. For compounds affecting the same toxicological endpoint, this ratio is added together. Where the total equals or exceeds 1.0, a health hazard is presumed to exist.

To quantify non-carcinogenic impacts, the chronic HI is derived by using the annual average concentration of TAC as derived from the air dispersion model ($\mu g/m^3$). This value is then compared to the REL, above which a significant impact is assumed to occur ($\mu g/m^3$).

OEHHA has defined a REL for diesel exhaust of 5.0 $\mu g/m^3$. The principal toxicological endpoint assumed in this assessment was the respiratory system via the inhalation exposure pathway. DPM does not have any identified short-term or acute recent RELs.

Estimation of Acute Non-cancer Hazards

The proposed project's non-cancer acute health risks were not estimated because OEHHA has not established an acute REL for DPM and there are no acute non-cancer risk values associated with DPM.

SECTION 6: AIR QUALITY IMPACT ANALYSIS

This section calculates expected emissions from project construction and operation as a necessary requisite for assessing the regulatory significance of project emissions on a regional and local level. The methodology follows the SCAQMD CEQA Guidelines, which set forth recommended thresholds of significance and analysis methodologies and provides guidance on mitigating significant impacts.

6.1 - CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine whether a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the proposed project must be evaluated.

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the proposed project has the potential to exceed these air pollution thresholds, the proposed project would be considered to have significant air quality impacts.

6.1.1 - Thresholds of Significance

This analysis uses the air quality significance thresholds contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the proposed project would:

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

b) Result in cumulative considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

c) Exposure sensitive receptor to substantial pollutant concentrations.

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

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If a lead agency finds that a project has the potential to exceed these air pollution thresholds, the proposed project should be considered to have significant air quality impacts. The applicable SCAQMD thresholds and methodologies are contained under each impact statement below.

The significance thresholds set forth in Riverside County's Environmental Assessment Checklist were used to evaluate the significance of the proposed project's impacts due to air quality emissions. Riverside County also has chosen to apply SCAQMD significance thresholds, as presented in SCAQMD's CEQA Air Quality Significance Thresholds (April 2019), to evaluate the proposed project's air quality impacts against the above thresholds.

Accordingly, Impact AIR-1, which addresses Section III(a) of Appendix G to the State CEQA Guidelines, evaluates whether the proposed project would conflict with SCAQMD's 2022 AQMP, which addresses State and federal requirements under the Clean Air Act. A conflict with the AQMP standards and requirements would inhibit the SCAQMD's ability to achieve State and federal standards for air quality.

Impact AIR-2 addresses Section III(b) of Appendix G to the CEQA Guidelines, and emissions generated by a development project would be significant under Impact(b) if emissions are projected to exceed the regional thresholds established by the SCAQMD for criteria pollutants.

Impact AIR-3 addresses Section III(c) of Appendix G to the State CEQA Guidelines. Under this threshold, impacts would be potentially significant if emissions are projected to exceed the localized significance thresholds (LSTs) established by the State of California and the SCAQMD for criteria pollutants, if the proposed project would cause or contribute to CO "hotspots," or if the proposed project were to result in cancer or health hazard impacts that exceed the SCAQMD thresholds of significance.

Impact AIR-4 evaluates Section III(d) of Appendix G of the State CEQA Guidelines. SCAQMD Rule 402 ("Nuisance") and California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700, prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public, including odors. The potential to violate Rule 402 or Section 41700 is used herein as a basis to consider the proposed project's odors or other emissions to be significant and require feasible mitigation measures.

6.2 - Impact Analysis

6.2.1 - Consistency with Air Quality Management Plan

Impact AIR-1:	**The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.**

Impact Analysis

A potentially significant impact to air quality would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The project is located within the jurisdiction of the SCAQMD. The SCAQMD is responsible for preparing air quality attainment plans to be transmitted to the ARB and the EPA for incorporation into the SIP. SCAQMD has designated this area as extreme nonattainment for ozone and serious nonattainment for $PM_{2.5}$.[33] To evaluate whether or not a project conflicts with or obstructs implementation of the applicable air quality plan (2022 AQMP for SoCAB), the SCAQMD CEQA Air Quality Handbook states that there are two key indicators. These indicators are identified by the criteria discussed below.

- **Indicator:** Whether the proposed 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

[33] South Coast Air Quality Management District (SCAQMD). 2022. Air Quality Management Plan.

timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

- **Indicator:** According to Chapter 12 of the SCAQMD CEQA Air Quality Handbook, the purpose of the General Plan consistency findings is to determine whether a proposed project is inconsistent with the growth assumptions incorporated into the air quality plan and, thus, whether it would interfere with the region's ability to comply with federal and California air quality standards.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis uses the following criteria to address this potential impact:

- **Criterion 1:** Proposed project's contribution to air quality violations (SCAQMD's first indictor);
- **Criterion 2:** Assumptions in AQMP (SCAQMD's second indictor); and
- **Criterion 3:** Compliance with applicable emission control measures in the AQMP.

Criterion 1: Project's Contribution to Air Quality Violations

According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.[34]

If a project's emissions do not exceed the SCAQMD regional thresholds for VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$, it follows that the project's emissions would not exceed the allowable limit for each project in order for the region to attain and maintain ambient air quality standards, which is the primary goal of air quality plans. As shown in Impact AIR-2, the proposed project would not exceed the SCAQMD's regional thresholds of significance during construction and operation.

Criterion 2: Assumptions in AQMP

The development of emission burdens used in AQMPs to demonstrate compliance with ambient air quality standards is based, in part, on land use patterns contained within local general plans. Therefore, it is reasonable to conclude that if a project is consistent with the applicable general plan land use designation, and the general plan was adopted prior to the applicable AQMP, then the growth of VMT and/or population generated by said project would be consistent with growth in VMT and population assumed within the AQMP.

According to the General Plan, the Medium Density Residential designation under the Community Development Foundation permits a density range of 2 to 5 du/acre. The Low Density Residential designation under the Rural Community foundation allows for a density range of 1 to 2 du/acre.

A project would conflict with the AQMP if it would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase. The proposed project would have a

[34] South Coast Air Quality Management District (SCAQMD). 1993. CEQA Handbook. Available at SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765.

density of 2 du/acre, which is within the permissible density for both Medium Density Residential and Low Density Residential land use designation.

Because the General Plan identifies the location of future land uses throughout Riverside County, the General Plan serves to identify the future population number and demographic distribution for the County and is therefore relied upon by SCAQMD for making long-term buildout assumptions. Additionally, and as discussed under the analysis of Impact AIR-2, the proposed project would not exceed regional thresholds for construction or operational air quality emissions.

Accordingly, the proposed project would be consistent with the growth assumptions used by the AQMP and is therefore consistent with the second criterion.

Criterion 3: Control Measures

As described previously, the AQMP contains several control measures which are enforceable requirements through the adoption of rules and regulations. The proposed project would comply with all applicable SCAQMD rules and regulations as part of the issuance of grading and building permits by the City. Because of the nature of the proposed project, which includes earthmoving activity, SCAQMD Rule 403 applies. As previously mentioned, Rule 403 governs emissions of fugitive dust during construction and operation activities. The rule requires that fugitive dust be controlled with BACMs so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Compliance with this rule is achieved through application of standard BMPs. These BMPs include application of water or chemical stabilizers to disturbed soils; covering haul vehicles; restricting vehicle speeds on unpaved roads to 15 mph; sweeping loose dirt from paved site access roadways; cessation of construction activity when winds exceed 25 mph; and establishing a permanent ground cover on finished sites. The proposed project's compliance with all applicable SCAQMD rules and regulations would result in consistency with the applicable AQMP control measures.

Summary

In summary, the proposed project would not exceed the growth assumptions in the AQMP. The proposed project would not result in a regional exceedance of criteria air pollutants. Furthermore, the proposed project would comply with all applicable SCAQMD rules and regulations. Therefore, this impact would be less than significant with incorporation of mitigation.

Level of Significance

Less than significant impact.

Mitigation Measures

None.

6.2.2 - Cumulative Impacts

Impact AIR-2:	**The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality (including releasing emissions which exceed quantitative thresholds for ozone precursors).**

Impact Analysis

This impact is related to the cumulative effect of a project's regional criteria pollutant emissions. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants results from past and present development within the SoCAB, and this regional impact is a cumulative impact. Therefore, new development projects (such as the proposed project) within the SoCAB would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited but cumulatively considerable when evaluated in combination with past, present, and future development projects. All new development that would result in an increase in air pollutant emissions above those assumed in regional air quality plans would contribute to cumulative air quality impacts.

The cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the project's incremental effects would be cumulatively considerable.

Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the project would result in regional emissions that exceed the SCAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the SCAQMD significance thresholds would be considered consistent with regional air quality planning efforts would not generate cumulatively considerable emissions.

The proposed project's regional construction and operational emissions, which include both on- and off-site emissions, are evaluated separately below. Construction and operational emissions from the proposed project were estimated using CalEEMod Version 2022.1. A detailed description of the assumptions used to estimate emissions and the complete CalEEMod output files are contained in Appendix A.

Cumulative Construction Emissions

Construction emissions are described as "short-term" or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the proposed project would result in the temporary generation of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions from construction activities such as site preparation, grading, building construction, architectural coating, and asphalt paving. Fugitive dust emissions are primarily associated with earth disturbance and grading activities and vary as a function of soil silt content, soil moisture, wind

speed, acreage of disturbance area, and miles traveled by construction vehicles on-site and off-site. Construction-related NO_X emissions are primarily generated by exhaust emissions from heavy-duty construction equipment, material and haul trucks, and construction worker vehicles. VOC emissions are mainly generated by exhaust emissions from construction vehicles, off-gas emissions associated with architectural coatings, and asphalt paving.

For the purpose of this analysis, the project construction is analyzed as one phase, beginning in the January 2027 and December 2030. Project buildout or full operation is expected in 2030. The anticipated construction schedule reflects the construction start date and the construction phase durations estimated by the project applicant. The construction schedule used in the analysis represents a reasonable worst-case analysis scenario since a delay in construction dates into the future would result in using emission factors for construction equipment that decrease as the analysis year increases, due to improvements in technology and the need to meet more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines. For a more detailed description of the construction emissions modeling parameters and assumptions, please refer to Section 5–Modeling Parameters and Assumptions.

Table 9 presents the proposed project's maximum daily construction emissions during the entire construction duration using the worst-case summer or winter daily construction-related criteria pollutant emissions. Complete CalEEMod output files are included as part of Appendix A.

Table 9:Construction Maximum Daily Emissions

Year	Regional Pollutant Emissions (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10} (Total)	$PM_{2.5}$ (Total)
Maximum Daily Emissions–Summer	36.62	37.35	39.16	0.07	28.07	14.98
Maximum Daily Emissions–Winter	2.31	22.72	23.00	0.05	5.57	2.37
Overall Maximum Daily Emissions	*36.62*	*37.35*	*39.16*	*0.07*	*28.07*	*14.98*
Regional Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
VOC = Volatile Organic Compounds;
NO_X = nitrogen oxides;
CO = carbon monoxide;
SO_X = sulfur dioxides;
PM_{10} = respirable particulate matter less than 10 microns in diameter;
$PM_{2.5}$ = fine particulate matter less than 2.5 microns in diameter;
SCAQMD = South Coast Air Quality Management District.

Source: SCAQMD 2023 (thresholds).; see Appendix A for CalEEMod Outputs.

As shown above in Table 9, the proposed project's construction emissions would not exceed any of the applicable significance thresholds. Therefore, the proposed project would not result in a considerable net increase of any criteria pollutant for which the project region is nonattainment during construction. Impacts would be less than significant.

Cumulative Operational Emissions

Following project construction, long-term operational emissions would be generated resulting from daily operations. Operational emissions would include area, energy, and mobile sources. Area sources would include emissions from architectural coatings, consumer products, and landscape equipment. Mobile sources include exhaust and road dust emissions from the automobiles that would travel to and from the project site. Energy-source emissions are those associated with natural gas consumption. The proposed project would not include stationary sources during operation.

Project operations were analyzed at full buildout in 2030. Table 10 presents the proposed project's maximum daily operational emissions.

Table 10: Maximum Daily Operational Regional Pollutants

Emissions Source	VOC	NO_X	CO	SO_2	PM_{10} Total	$PM_{2.5}$ Total
	Max Daily Emissions (pounds)					
Mobile	4.29	4.21	39.71	0.11	10.50	2.71
Area	9.48	1.87	8.05	0.01	0.15	0.15
Energy	0.07	1.15	0.49	0.01	0.09	0.09
Total (pounds/day)	*13.84*	*7.23*	*48.25*	*0.13*	*10.74*	*2.95*
SCAQMD Significance Threshold (pounds/day)	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur dioxides
VOC = volatile organic compound

Emissions shown represent the maximum daily emissions from summer and winter seasons for each operational emission source and pollutant. Therefore, total daily operational emissions represent maximum daily emissions that could occur throughout the year.

Source: Appendix A.

As shown in Table 10, the proposed project's regional daily operational emissions would not exceed any of the SCAQMD thresholds of significance. Therefore, the proposed project would have a less than significant impact related to air quality during project operation.

The analysis above presents a reasonable estimate for criteria pollutant emissions during project construction and operation. As discussed in Section 5.3, Modeling Assumptions, because phasing detail is not known at the time of this analysis, this analysis is based on a one-phase construction of all homes lasting from May 2028 through March 2030. A phased construction could generate emissions from potential overlapping of construction and could result in the overlap of construction and operation emissions. However, building construction would occur after the entire site is graded. The grading phase is the most intensive construction phase and generally results in the highest level of emissions compared to other phases. In other words, subsequent construction phases (i.e., building construction, architectural coating, and paving) generate significantly lower emissions after grading is complete. Therefore, even if construction phases, and construction and operation, would overlap, the emissions would not be materially different from the level of emissions analyzed herein. Furthermore, given that the proposed project's construction and operation criteria emission pollutants (shown in Tables 9 and 10) are substantially below SCAQMD's regional emission thresholds, the proposed project would not exceed SCAQMD thresholds even if building construction occurs in phases. Impacts would be less than significant.

In summary, the proposed project would not result in regional emissions that exceed the SCAQMD significance thresholds for construction or operations. Impacts would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

6.2.3 - Sensitive Receptors

Impact AIR-3:	**The proposed project would not expose sensitive receptors to substantial pollutant concentrations.**

Impact Analysis

This impact evaluates the potential for the proposed project's construction and operational emissions to expose sensitive receptors to substantial pollutant concentration. Sensitive receptors are defined as those individuals who are sensitive to air pollution, including children, the elderly, and persons with preexisting respiratory or cardiovascular illnesses. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities.[35] Commercial and industrial facilities are not included in the definition because no individual employee typically remains on-site for 24 hours at a time. However, when assessing the impact of pollutants with 1-hour or 8-hour standards (such as NO_2 and CO), commercial and/or industrial facilities would be considered sensitive receptors. For the

[35] South Coast Air Quality Management District (SCAQMD). 2008. Final Localized Significance Threshold Methodology. Revised July 2008. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed July 10, 2024.

proposed project, the closest off-site sensitive receptors may include single-family homes which are being constructed west of the project site, approximately 50 feet from the project boundary.

To result in a less than significant impact, the following criteria must be true:

- **Criterion 1:** LST assessment: emissions and air quality impacts during project construction or operation must be below the applicable LSTs to screen out of needing to provide a more detailed air quality analysis. If the proposed project exceeds any applicable LST when the mass rate lookup tables are used as a screening analysis, then project-specific air quality modeling may be performed to determine significance.
- **Criterion 2:** A CO hotspot assessment must demonstrate that the proposed project would not result in the development of a CO hotspot that would result in an exceedance of the CO ambient air quality standards.
- **Criterion 3:** TAC analysis must demonstrate that TAC emissions from construction and operations of the proposed project would not result in significant health risk impacts to existing or proposed sensitive receptors.

Criterion 1: Localized Significance Threshold Analysis—Criteria Pollutants

The localized construction and operational analyses use thresholds (i.e., LSTs) that represent maximum emissions for a project that would not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard.[36] If the proposed project's construction or operational emissions are under those thresholds, it follows that the proposed project would not cause or contribute to an exceedance of the standard and would not expose sensitive receptors to substantial pollutant concentrations.

Localized Construction Analysis

The LST Methodology only applies to on-site emissions and states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only on-site emissions were compared with the applicable LSTs.

Utilizing the construction equipment list and associated area disturbed by equipment usage provided in the SCAQMD "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds," the maximum number of acres disturbed in a day would be 2 acres per day, which would occur during the "site preparation" phase. Table 11 represents the maximum daily disturbed area. Site Preparation and grading are assumed to occur sequentially and without overlap in the conceptual construction schedule. The maximum disturbed value of 2 acres is used for comparison of emissions to LST screening values.

[36] South Coast Air Quality Management District (SCAQMD). Revised October 21, 2009. Final Localized Significance Threshold Methodology, Appendix C. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed July 10, 2024.

Table 11: Maximum Number of Acres Disturbed Per Day

Activity Equipment	CalEEMod Acres Graded	Phase Duration Days	Total Acres Disturbed per Day
Site Preparation	60	30	2.0
Grading	330.75	245	1.35
Maximum Number of Acres Disturbed per Day[1]			**2.0**

Notes:
[1] Assumes schedule construction activities presented in Table 5.
Sources: CalEEMod output.
South Coast Air Quality Management District (SCAQMD). Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf. Accessed August 11, 2024.

Table 12 presents the proposed project's maximum daily on-site emissions compared with the applicable LSTs. As described previously, the closest sensitive receptor is 50 feet (15.24 meters) west from the closest project boundary. The LSTs have been obtained from the LST Methodology for a 2-acre project site located in Source Receptor Area (SRA) 23 (Metropolitan Riverside), where sensitive receptors are 25 meters away (the lowest available distance thresholds). The construction vehicle trip lengths were adjusted to 0.25 mile to represent localized emissions.

Table 12: Construction Localized Significance Screening Analysis–Unmitigated

Activity	On-site Emissions (pounds per day)			
	NO_X	CO	PM_{10} (Total)	$PM_{2.5}$ (Total)
Maximum Daily Emissions[1]	37.29	37.84	5.76	3.59
Year	2027	2027	2027	2027
Season	Summer	Summer	Summer	Summer
Construction Phase	Site Preparation	Site Preparation	Site Preparation	Site Preparation
Localized Significance Threshold (SRA 23, 2-acre site, 25 meters)	170	883	7	4
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
$PM_{2.5}$ = particulate matter with an aerodynamic resistance diameter of 2.5 micrometers
SRA = Source Receptor Area
[1] Assumes construction activities based on schedule presented in Table 5, and implementation of dust control measures per SCAQMD Rule 403.
Source of emissions: Appendix A.
Source of thresholds: South Coast Air Quality Management District (SCAQMD). SCAQMD 2009 for SRA 23 and 25 meters from nearest sensitive receptor. SCAQMD Mass Rate Lookup Tables for a 2-acre site in SRA 23 for sensitive receptors located 25 meters from the project site.

As shown in Table 12, the proposed project's maximum daily on-site emissions would not exceed the applicable SCAQMD LSTs; therefore, localized construction impacts related to these air pollutants would be less than significant.

Localized Operational Analysis

Similar to the construction LST analysis above, the applicable operational LSTs were obtained for a project located in SRA 23 with the nearest sensitive receptor being 25 meters away. Long-term operations would occur for the proposed project on the 55-acre project site (the 6.27-acres of preserved open space is not modeled as part of the 55-acre calculation) and LSTs were obtained for a 5-acre site.

As described above, the LST Methodology recommends that only on-site emissions are evaluated using LSTs. Because most of the proposed project's mobile source emissions would occur on the local and regional roadway network away from the project site, on-site area, energy, and mobile source emissions were included in this analysis. A trip length of 0.25 mile was used in the modeling input assumptions to account for on-site emissions and from mobile sources. The 0.25-mile on-site trip length is a conservative estimate that accounts for on-site mobile source emissions, not the most likely or fastest route, to ensure all potential impacts are considered. Table 13 presents the project's maximum daily on-site emissions compared with the appropriate LSTs.

Table 13: Operational Localized Screening Significance Analysis

Emissions Source	Pounds per Day			
	NO_X	CO	PM_{10} (Total)	$PM_{2.5}$ (Total)
Mobile	0.94	6.24	0.22	0.06
Area	1.87	8.05	0.15	0.15
Energy	1.15	0.49	0.09	0.09
Daily Maximum	**3.96**	**14.79**	**0.46**	**0.30**
Localized Significance Thresholds (SRA 23, 5-acre site, 25 meter)	270	1,577	4	2
Exceeds Screening Threshold?	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SRA = Source Receptor Area
Source of Emissions: Appendix A.
Source of thresholds: South Coast Air Quality Management District (SCAQMD). SCAQMD 2009 for SRA 23, a 5-acre site, and 25 meters from nearest sensitive receptor. SCAQMD Mass Rate Lookup Tables for a 5-acre site in SRA 23 for sensitive receptors located 25 meters from the project site.

As shown in Table 13, the proposed project's maximum daily on-site operational emissions would not exceed any applicable SCAQMD LSTs. Therefore, the proposed project's operational activities

would not cause or contribute substantially to an existing or future ambient air quality standard violation. Accordingly, the proposed project's operational criteria air pollutant and ozone precursor concentrations would not expose sensitive receptors to substantial pollutant concentrations. The impact would be less than significant.

Criterion 2: Carbon Monoxide Hotspot Analysis

As identified within SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak CO concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. To establish a more accurate record of baseline CO concentrations affecting the SoCAB, a CO "hotspot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This hot spot analysis did not predict any violation of CO standards. It can therefore be reasonably concluded that projects (such as the proposed project) that are not subject to the extremes in vehicle volumes and vehicle congestion that was evidenced in the 2003 Los Angeles hot spot analysis would similarly not create or result in CO hotspots. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (Bay Area Air District) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The proposed project would generate approximately 1,207 average daily passenger vehicle trips and therefore would not produce the volume of traffic required to generate a CO hotspot either in the context of the 2003 Los Angeles hot spot study or based on representative Bay Area Air District CO threshold considerations. The project-generated passenger car trips would be distributed throughout the day and would not impact local roadways at one time, further reducing the potential impacts to CO. Therefore, CO hotspots are not an environmental impact of concern for the proposed project. Localized air quality impacts related to mobile source emissions would therefore be less than significant.

Criterion 3: Toxic Air Contaminants

A project-specific construction HRA was performed to assess the proposed project's health risk impacts to nearby sensitive receptors during construction. The proposed project would result in a significant health impact if the carcinogenic or toxic air contaminants individually or cumulatively are equal to or exceed the maximum individual cancer risk of 10 in 1 million persons, or an chronic and acute HI of 1.0, or the cancer burden of 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million).[37]

[37] South Coast Air Quality Management District (SCAQMD). 2023. South Coast AQMD Air Quality Significance Thresholds. March. Website: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25. Accessed August 10, 2024.

Toxic Air Pollutants—On-site Workers

A variety of State and national programs protect workers from safety hazards, including high air pollutant concentrations.[38,39]

On-site workers are not required to be addressed through this HRA process. A document published by CAPCOA, Health Risk Assessments for Proposed Land Use Projects, indicates that on-site receptors are included in risk assessments if they are persons not employed by the project.[40] Persons not employed by the project would not remain on-site for any significant period. Therefore, an HRA for on-site workers is not required or recommended. No further discussion is necessary.

Health Risk Assessment

During construction and operation, the proposed project would result in emissions of several TACs that could potentially impact nearby sensitive receptors. The SCAQMD has defined health risk significance thresholds. These thresholds are represented as a cancer risk to the public and a non-cancer hazard from exposures to TACs. Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a period of several years. The principal TAC emission analyzed in this assessment was DPM from operation of off-road equipment and diesel-powered delivery and worker vehicles during construction and operation. DPM has been identified by the ARB as a carcinogenic substance. For purposes of this analysis, DPM is represented as exhaust emissions of PM_{10}. As the proposed project did not screen out from the need to complete project-specific air quality modeling to determine significance for PM_{10} and $PM_{2.5}$ by applying the applicable LSTs (see Table 12), this construction HRA is used to determine localized impacts related to PM. DPM represented as exhaust PM_{10} adequately addresses impacts from PM_{10} and $PM_{2.5}$ emissions, as $PM_{2.5}$ comprises a component of PM_{10}. Fugitive dust components of PM_{10} and $PM_{2.5}$ would be controlled through adherence to SCAQMD Rule 403, which requires the use of dust control practices during project construction. The SCAQMD and OEHHA recommend that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the maximally individual resident.[41] Exposures to TACs can also result in both short-term (acute) or long-term (chronic) non-cancer health impacts. Such impacts could include illnesses related to reproductive effects, respiratory effects, eye sensitivity, immune effects, kidney effects, blood effects, central nervous system, birth defects, or other adverse environmental effects.

Estimation of Cancer Risks

Cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer as a direct result of exposure to potential carcinogens over a specified exposure duration. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific CPF. The inhalation dose is determined by factors such as the concentration of the pollutant in the air, an individual's

[38] Occupational Safety and Health Administration (OSHA). 2003. United States Department of Labor. Safety and Health Topics: Methane. Website: www.osha.gov/dts/chemicalsampling /data/CH_250700.html. Accessed July 11, 2024.
[39] Centers for Disease Control and Prevention (CDC). 2012. Construction—website: www.cdc.gov/niosh/construction/. Indoor Environmental Quality—website: www.cdc.gov/niosh/topics/indoorenv/constructionieq.html. Accessed July 11, 2024.
[40] California Air Pollution Control Officers Association (CAPCOA). 2009. Health Risk Assessments for Proposed Land Use Projects.
[41] Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program-Risk Assessment Guidelines. February.

breathing rate, and the amount of time they inhale the contaminated air. Age sensitivity factors are applied as multipliers to the cancer risks for exposures during infancy and childhood to account for increased sensitivity to carcinogens during early-in-life exposures.

A risk level of 10 in 1 million implies a likelihood (or risk) that up to 10 persons, out of 1 million equally exposed people, would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer risk that is in addition to any environmental cancer risk borne by a person not exposed to these air toxics. It should be noted that the risk of cancer described here is an increased probability of contracting cancer during a lifetime as a result of exposure to toxics from a project. It does not represent an actual incidence of cancer in an exposed population, nor does it equate to deaths from cancer, because not every cancer case results in death.

Project cancer risks are cumulative and are defined by the combination of construction impacts followed by operational impacts. Construction project impacts were calculated at nearby sensitive receptors based on the concentrations estimated from construction emissions over 1035 workdays, or 4 years, assuming residential exposure starting at third trimester (-0.25 years) and until 3.75 years of age.

Estimation of Non-cancer Chronic Hazards

Non-cancer chronic impacts are not cumulative like cancer risks but are based on maximum annual concentrations, which for this proposed project would occur during the construction phase.

Risk characterization for non-cancer health hazards from TACs is expressed as an HI. The HI is a ratio of the predicted concentration of the proposed project's emissions to a concentration considered acceptable to public health professionals, termed the reference exposure limit. The HI assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). For each discrete chemical exposure, target organs presented in regulatory guidance were used. Each chemical concentration or dose is divided by the appropriate toxicity REL to calculate the HI. For compounds affecting the same toxicological endpoint, this ratio is summed up. Where the total equals or exceeds 1, a health hazard is presumed to exist. An HI of 1.0 is the target threshold for assessing non-cancer hazards by project, although a value greater than 1.0 does not necessarily correlate to a statistical probability of harm.

For purposes of this assessment, the TAC of concern is DPM for which the OEHHA has defined a reference exposure limit for DPM of 5 micrograms per cubic meter ($\mu g/m^3$). The principal toxicological endpoint assumed in this assessment was through inhalation.

Toxic Air Contaminant Construction Analysis

Major sources of DPM during construction include off-road construction equipment and heavy-duty delivery truck activities. The results of the HRA prepared for project construction for cancer risk and long-term chronic cancer risk are summarized below. Air dispersion modeling was utilized to assess the project's potential health risks using AERMOD (Version 23132), which is the air dispersion model accepted by the EPA and the SCAQMD for preparing HRAs. Exhaust emissions of DPM (as PM_{10} exhaust) were estimated using CalEEMod (Version 2022.1). The construction emissions were

assumed to be distributed over the project area with a working schedule of 8 hours per day and 5 days per week. Emissions were modeled only during construction operating hours, by invoking the use of variable emissions and modeling zero emissions during nighttime and weekend hours. Detailed parameters, a description of methodology, and complete calculations are contained in Appendix A. Table 14 summarizes emission rates of DPM during project construction.

Table 14: Project DPM Construction Emissions

Scenario	On-site DPM—Area (lbs)	Off-site DPM—Road Segments[1]
Annual Construction Emissions		
Construction total (lbs total)	539.45	0.844
Construction (lbs/hour)	0.065	0.0001

Notes:
DPM = diesel particulate matter
lbs = pounds
[1] El Sobrante Road was modeled as the off-site road segment.
Source of Emissions: Appendix A.

To assess impacts to off-site sensitive receptors, the AERMOD air dispersion model was used to estimate the concentrations from PM_{10} and $PM_{2.5}$ exhaust at nearby sensitive receptors within 1,000 feet of the project site to determine the MIR, which is defined as the single receptor with the highest exposure in a given study area (i.e., worst-case estimate). The MIR was determined to be a single-family residence within the new construction immediately west of the project site (604434.52 UTM E and 4121356.43 UTM N). (See Location of Maximum Exposed Receptor map within Appendix A for a depiction of receptors within the 1,000-foot buffer area and the location of the MIR.)

The estimated health and hazard impacts at the MIR from the proposed project's construction emissions are provided in Table 15. As shown in Table 15, the proposed project's construction DPM emissions would not exceed cancer risk and chronic non-cancer HI per SCAQMD thresholds. Impacts would be less than significant.

Table 15: Estimated Health Risks and Hazards During Project Construction

Source	Cancer Risk (risk per million)	Chronic Non-Cancer HI
Risks and Hazards at the MIR: Starting at exposure in third trimester	5.47	0.00279
Significance Threshold	**10**	**1**
Exceeds Individual Source Threshold?	**No**	**No**

Notes:
MIR = Maximally Impacted Sensitive Receptor
HI = hazard index
Source: Appendix B.

The analysis above presents a reasonable estimate for health risks from construction DPM emissions. As discussed in Section 5.3, Modeling Assumptions, because phasing detail is not known at the time of this analysis, this analysis is based on a one-phase construction of all homes lasting from May 2028 through March 2030. A phased construction could generate emissions from potential overlapping of construction and could result in the overlap of construction and operation emissions. For the construction HRA, the off-site MIR would be exposed to potential TACs for the entirety of project construction, which serves as a conservative indicator of the level of health risks experienced by new receptors moving into the site while building construction is ongoing. Furthermore, the grading phase is the most intensive construction phase, and grading would be completed prior to completion of any home construction and the subsequent introduction of new receptors. Given the project's cancer risk and chronic non-cancer HI at the MIR during the entire construction is significantly below the SCAQMD thresholds, the proposed project would not exceed the acceptable cancer risk or chronic non-cancer HI even if new receptors moved into the site and become exposed to a portion of construction DPM emissions and associated health risks. Impacts would be less than significant.

Estimation of Cancer Burden

SCAQMD also requires analysis of cancer burden. Cancer burden is the total cancer risk for all receptors divided by the estimated population within the modeling domain. The cancer burden due to DPM emissions during construction was estimated based on the area where the risk exceeds 1 in 1 million (and is less than 10 in 1 million) using calculation methods from SCAQMD. SCAQMD's cancer burden threshold is 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million).

The SCAQMD has established a screening approach for estimating cancer burden, which includes the following steps:[42]

- Recalculate cancer risk from all TACs using a 70-year exposure duration.
- Estimate the distance at which the maximum individual cancer risk from a 70-year exposure duration falls below 1 in a million.
- Define a zone of impact in the shape of a circle, with the radius equal to the distance between the TAC source and the point at which the risk falls below 1 in a million.
- Estimate the residential population within this zone of impact based on census data or a worse-case estimate; Generally, the residential population in the SoCAB is less than 4,000 persons/square kilometers ($km^{2)}$, but some areas are as high as 7,000 persons/km^2. For areas where census data is available, it should be used. Where there is no census data, 7,000 persons/km^2 should be used for the areas with high population densities and 4,000 persons/km^2 should be used for areas with low population densities (such as locations along the Pacific Ocean). Where the population densities are unknown, use 7,000 persons/km^2.
- Calculate the screening level cancer burden by multiplying the total residential population in the zone of impact by the maximum individual cancer risk.

[42] South Coast Air Quality Management District (SCAQMD). 2017. Risk Assessment Procedures for Rules 1401, 1401.1, and 212. August. Website: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf. Accessed August 13, 2024.

The radius where the risk is between 1 and 10 in 1 million is 825 meters. The project's site area is 223,132 square meters (m^2). Subtracting the project site area from the burden area, the burdened area is 1.92km^2. Given the surrounding area is relatively undeveloped, a density of 4,000 persons/km^2 is used and the population within the burden area is calculated to be 7,660 persons. Multiplying back the maximum individual cancer risk (10 x 10^{-6}), the maximum cancer burden is estimated at 0.08 additional cases, which is less than the 0.5 significance threshold established by SCAQMD. Thus, the impact with respect to potential cancer burden due to project construction DPM emissions would be less than significant.

In summary, the proposed project would not expose sensitive receptors to substantial pollutant concentrations during construction or operation. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

6.2.4 - Objectionable Odors

Impact AIR-4:	**The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**

Impact Analysis

The proposed project would not create objectionable odors affecting a substantial number of people. Individual responses to odors are highly variable and can result in a variety of effects. Generally, the impact of an odor results from a variety of factors such as frequency, duration, offensiveness, location, and sensory perception. The frequency is a measure of how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity in which he or she is engaged; and the sensitivity of the impacted receptor.

Sensory perception has four major components: detectability, intensity, character, and hedonic tone. The detection (or threshold) of an odor is based on a panel of responses to the odor. There are two types of thresholds: the odor detection threshold and the recognition threshold. The detection threshold is the lowest concentration of an odor that will elicit a response in a percentage of the people that live and work in the immediate vicinity of the project site and is typically presented as the mean (or 50 percent of the population). The recognition threshold is the minimum concentration that is recognized as having a characteristic odor quality; this is typically represented by recognition by 50 percent of the population. The intensity refers to the perceived strength of the odor. The odor character is what the substance smells like. The hedonic tone is a judgment of the pleasantness or

unpleasantness of the odor. The hedonic tone varies in subjective experience, frequency, odor character, odor intensity, and duration.

SCAQMD Rule 402 ("Nuisance") and California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public, including odors. Potential odor impacts have been analyzed separately for construction and operations below.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents and from emissions from diesel equipment. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. As such, the objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the project site's boundaries. Through compliance with the applicable regulations that reduce odors and due to the transitory nature of construction odors, a less than significant odor impact would occur and no mitigation would be required.

Operations-Related Odor Impacts

The proposed project would consist of the development of a single-family residential development. The proposed project would not contain any known sources of odors. Therefore, no significant impact related to odors would occur during the on-going operations of the proposed project.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

SECTION 7: GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

7.1 - Thresholds of Significance for the Proposed Project

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine whether a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to greenhouse gas emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The adopted CEQA Guidelines provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for assessment and mitigation of GHG and global climate change impacts.

Section 15064.4(b) of the CEQA Guidelines for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration 1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration 2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration 3:** The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the project.

7.1.1 - Applicable GHG Thresholds

The project site is within the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD formed a working group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SoCAB in 2008. The working group developed several different options that are contained in the SCAQMD Draft Guidance Document—Interim CEQA GHG Significance Threshold (Interim GHG Thresholds) that could be applied by lead agencies. The working group has not provided additional guidance since the release of the interim guidance in 2008. In 2010, the SCAQMD Tier 3 threshold was expanded to include non-industrial projects, as explained in

the minutes from the most recent working group meeting.[43] The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose but which must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 MT CO_2e per year.
  - Based on land use type: residential: 3,500 MT CO_2e per year; commercial: 1,400 MT CO_2e per year; or mixed use: 3,000 MT CO_2e per year.
- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
  - Option 3: 2020 target for service population (SP), which includes residents and employees: 4.8 MT CO_2e/SP/year for projects and 6.6 MT CO_2e/SP/year for plans.
  - Option 3–2035 target: 3.0 MT CO_2e/SP/year for projects and 4.1 MT CO_2e/SP/year for plans.
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD provided substantial evidence in support of its threshold approach. The SCAQMD discusses its draft thresholds in the following excerpt:[44]

> The overarching policy objective with regard to establishing a GHG significance threshold for the purposes of analyzing GHG impacts pursuant to CEQA is to establish a performance standard or target GHG reduction objective that will ultimately contribute to reducing GHG emissions to stabilize climate change. Full implementation of the Governor's Executive Order S-3-05 would reduce GHG emissions 80 percent below 1990 levels or 90 percent below current levels by 2050. It is anticipated that achieving the Executive Order's objective would contribute to worldwide efforts to cap GHG concentrations at 450 ppm, thus, stabilizing global climate.

[43] South Coast Air Quality Management District (SCAQMD). 2010. Greenhouse Gas CEQA Threshold Stakeholder Working Group Meeting #15. September 28.

[44] South Coast Air Quality Management District (SCAQMD). 2008. Draft Guidance Document—Interim CEQA Greenhouse (GHG) Significance Threshold Document.

> . . . staff's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 3, which is expected to be the primary tier by which the AQMD will determine significance for projects where it is the lead agency, uses the Executive Order S-3-05 goal as the basis for deriving the screening level. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to some type of CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact.

In summary, the SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

The Riverside County 2019 CAP Update aims to reduce GHG emissions from development projects under County jurisdiction. The CAP Update builds on State and regional policies aimed at reducing GHG emissions consistent with the SB 32 2030 GHG reduction target and Statewide post-2030 reduction goals. The CAP Update identifies a two-step approach in evaluating GHG emissions. First, a screening threshold of 3,000 MT CO_2e per year is used to determine whether additional analysis is required. Projects that exceed 3,000 MT CO_2e per year will be required to quantify and disclose the anticipated GHG emissions and then either (1) demonstrate GHG emissions at project buildout year levels of efficiency and include project design features and/or mitigation measures to reduce GHG emissions or (2) garner 100 points through the CAP Update Screening Tables. Projects that garner at least 100 points (equivalent to an approximate 49 percent reduction in GHG emissions) may be determined to be consistent with the reduction quantities anticipated in the County's GHG Technical Report and consequently may be considered consistent with the CAP Update. As such, projects that achieve a total of 100 points or more normally are considered to have a less than significant individual and cumulative impact on GHG emissions.

7.2 - Impact Analysis

7.2.1 - Greenhouse Gas Inventory

Impact GHG-1:	**The proposed project would not generate direct and indirect greenhouse gas emissions that would result in a significant impact on the environment.**

Impact Analysis

Both construction and operational activities have the potential to generate GHG emissions. The proposed project would generate direct GHG emissions during construction activities such as site grading, operation of construction equipment, operation of on-site heavy-duty construction vehicles, hauling of materials to and from the project site, asphalt paving, and construction worker vehicle trips. Construction activities would vary over the duration of the proposed project's construction.

Long-term, directly emitted operational GHGs would result from project-generated vehicular traffic and operation of any landscaping equipment. Indirect GHG emissions would be generated through

off-site production of electrical power over the life of the proposed project, the energy required to convey water to and wastewater from the proposed project site, the emissions associated with the hauling and disposal of solid waste from the proposed project site, and any fugitive refrigerants from air conditioning or refrigerators.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this section measures the proposed project's incremental contribution to the cumulative environmental impact. The following is a discussion of the proposed project's contribution to GHG emissions during both the construction and operation phases.

Construction

At the time of this analysis, the construction of the proposed project was anticipated to begin in January 2027 and conclude in December 2030. The proposed project would emit GHG emissions during construction from the off-road equipment, worker vehicles, vendor trucks, and haul trucks. Appendix A includes detailed construction assumptions used in estimating the construction GHG emissions. As shown in Table 16, the proposed project would generate approximately 2,539 MT CO_2e during construction.

As vehicle and equipment fuel efficiencies and emission control standards continue to incrementally improve with each year, project construction emissions are likely to decrease nominally from what is shown in Table 16 should the construction schedule move to later years. Therefore, the construction GHG emissions contained in Table 16 represent a conservative assessment of project construction emissions. CalEEMod outputs which detail the GHG emissions during each construction phase are shown in Appendix A.

Table 16: Proposed Project Construction GHG Emissions

Construction Year	Total GHG Emissions (MT CO_2e per year)
2027	706
2028	713
2029	570
2030	550
Total Construction Emissions	**2,539**
Emissions Amortized Over 30 Years[1]	**84.6**

Notes:
GHG = greenhouse gas
MT CO_2e = metric tons carbon dioxide equivalent
Totals may not appear to sum exactly due to rounding.
[1] Construction GHG emissions are amortized over the 30-year lifetime of the proposed project.
Source: Appendix A.

Operation

Operational or long-term emissions occur over the life of the proposed project. Sources of emissions include motor vehicles and trucks, energy usage and water usage, waste generation, and other area sources such as landscaping activities. Project operations were modeled for the 2030 operational year, immediately following the completion of construction. Sources for operational emissions are summarized below and are described in more detail in Section 5–Modeling Parameters and Assumptions. Sources for operational GHG emissions include:

- **Motor Vehicles:** These emissions refer to GHG emissions contained in the exhaust from the cars and trucks that would travel to and from the project site. Based on the project's Traffic Analysis, the proposed project would generate 1,028 passenger car trips per day.
- **Natural Gas:** These emissions refer to the GHG emissions that occur when natural gas is burned on the project site. Natural gas uses could include heating water, space heating, dryers, stoves, or other uses.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the project.
- **Area Sources:** These emissions refer to those produced during activities such as landscape maintenance.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the GHG emissions produced by decomposing waste generated by the project.

Table 17 presents the estimated annual GHG emissions from the project's operational activities. As shown in Table 17, the proposed project would generate approximately 2,658 MT CO_2e per year after the inclusion of 86 MT CO_2e per year from project construction (amortized over 30 years). CalEEMod outputs which detail the GHG emissions during operation are shown in Appendix B.

Table 17: Operational Greenhouse Gas Emissions

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Mobile	1,801
Area	28
Energy	532
Water	62
Waste	37
Refrigerants	0.44
Amortized Construction Emissions	84.6
Total Annual Project Emissions	**2,545.04**
County CAP Threshold	**3,000**

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Exceed Applicable Threshold?	**No**
Notes: MT CO_2e = metric tons carbon dioxide equivalent Source: Appendix A.	

As shown in Table 17, the proposed project's operational GHG emissions would not exceed the applicable threshold. Thus, the proposed project's construction and operational GHG emissions would have a less than significant GHG emission impact.

Level of Significance

Less than significant impact

Mitigation Measures

None Required.

7.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: **The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.**

Impact Analysis

The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions.

Riverside County CAP

The County of Riverside adopted the County of Riverside CAP on December 2015 and updated November 2019. The 2015 CAP utilized a GHG emissions reduction target of a 15 percent decrease from 2008 levels by the year 2020 in order to meet the requirements of AB 32 and SB 375. The CAP was updated in 2019 in order to address a 2017 Settlement Agreement with the Sierra Club and other groups as well as to bring the CAP in conformance with SB 32 and AB 197 that set a Statewide 2030 goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. The 2017 Settlement Agreement updated the CAP to also be in alignment with the goals and policies for new development provided in California's 2017 Climate Change Scoping Plan, prepared by the ARB in November 2017. Specifically, the 2017 Settlement Agreement now requires all new residential developments to install EV charging stations in the garages of new residential units, requires rooftop solar photovoltaics (PV) systems to be installed on all new homes and new commercial buildings that total more than 100,000 square feet of building space, and requires the use of high-efficiency bulbs in new traffic signals.

The CAP has developed a process for determining significance of GHG impacts from new development projects that includes (1) applying an emissions level that is determined to be less than significant for small projects and (2) utilizing Screening Tables to mitigate project GHG emissions that exceed the threshold level. The CAP has provided a threshold of 3,000 MT CO_2e per year, which was

based on capturing 90 percent of emission from all projects in the County, to be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. As detailed above in Impact GHG-1, the proposed project would generate 2,545.04 MT CO_2e per year, which is within the 3,000 MT CO_2e per year threshold. The CAP Update also includes measure R2-CE1, which requires on-site renewable energy production. This measure is required for any tentative tract map, plot plan, or conditional use permit that proposes to add more than 75 dwelling units. Renewable energy production shall be on-site generation of at least 30 percent of energy demand for single-family residential development. The proposed project is required to comply with this measure. Therefore, the proposed project would be consistent with the County's CAP.

2022 Scoping Plan

The 2022 Scoping Plan reaffirms and clarifies the role of local governments in achieving the State's climate goals, particularly as it concerns the approval of new land use development projects and their environmental review under CEQA. It outlines three distinct approaches that lead agencies may consider for evaluating the consistency of proposed plans and residential and mixed-use development projects with the State's climate goals. The first approach involves consistency with a GHG reduction plan, such as a CEQA-qualified CAP. As stated above, the Riverside County CAP is consistent with SB 32 reduction goals and is a qualified CAP. As demonstrated above in Impact GHG-1, the proposed project is consistent with the County's CAP.

The proposed project would not impede the State's progress toward carbon neutrality by 2045 under the 2022 Scoping Plan. The proposed project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. Some of the current transportation sector policies the proposed project would comply with (through vehicle manufacturer compliance) include: Advanced Clean Cars II, Advanced Clean Trucks, Advanced Clean Fleets, Zero-Emission Forklifts, the Off-road Zero-emission Targeted Manufacturer rule, Clean Off-road Fleet Recognition Program, In-use Off-road Diesel-fueled Fleets Regulation, Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation, carbon pricing through the Cap-and-Trade Program, and the LCFS. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases. Impacts would be less than significant.

2024 Connect SoCal

The Connect SoCal 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted by SCAG in April 2024, outlines a long-term vision for sustainable growth, mobility, and climate resilience in the Southern California region. The plan is built around four key pillars—Mobility, Communities, Environment, and Economy—and includes strategies to reduce greenhouse gas emissions, improve air quality, and support compact, sustainable development.[45] The proposed project would include EV charging in individual garages and on-site renewable energy generation that meets at least 30 percent of the project's energy demand. The proposed project would further the RTP/SCS's Mobility goal to support investments that improve air quality and minimize GHG

[45] South California Association of Governments (SCAG). 2024. Connect SoCal A Plan for Navigating to a Brighter Future. April. Website: https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf. Accessed July 28, 2025.

emissions. Further, by providing EV charging infrastructure, the proposed project would contribute to RTP/SCS's Environmental goal to reduce GHG emissions and air quality impacts related to vehicular travel. The proposed project supports the plan's objectives to expand clean transportation options, reduce regional emissions, promote energy self-sufficiency, and increase equitable access to sustainable infrastructure. The proposed project is consistent with the community policies by providing housing on a site that is designated for residential development consistent with the General Plan. Although the proposed project would not include permanent employment, it would generate construction jobs and support local workforce development—advancing the Economy policies through SCAG's emphasis on economic growth tied to sustainable housing and mobility investments. Therefore, the proposed project would be consistent with the SCAG 2024 RTP/SCS.

In summary, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases. Impact would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

SECTION 8: ENERGY IMPACT ANALYSIS

8.1 - Introduction

This section describes the existing energy setting in the proposed project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to energy that could result from the implementation of the proposed project. Information in this section is based on project-specific energy calculation.

8.1.1 - Thresholds of Significance

For the purposes of this analysis, the approach is based on the 2019 CEQA Guidelines Appendix F (Energy Conservation). CEQA Guidelines Appendix F is focused on energy conservation through the efficient use of energy resources.

The lead agency utilizes the criteria in CEQA Guidelines Appendix G Environmental Checklist to determine whether impacts related to energy are significant environmental effects. Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

8.2 - Impact Analysis

8.2.1 - Project Energy Consumption

Impact ENER-1:	**The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation.**

Impact Analysis

A discussion of the proposed project's anticipated energy usage is presented below. Energy use consumed by the proposed project was estimated and includes electricity and fuel consumption for the proposed project's construction and operation. Energy calculations are included as part of Appendix A.

Construction Impacts

The proposed project's construction was assumed to begin in January 2027 and conclude in December 2030 based on project applicant-provided information. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment. The proposed project would require demolition, site preparation, grading, building construction, architectural coating, and paving. The construction phase would

require energy for the manufacture and transportation of building materials, preparation of the site (e.g., site clearing and grading), and the actual construction of the buildings. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks.

The types of on-site equipment used during construction of the proposed project could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, front-end loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of 186,252 gallons of diesel fuel over the entire construction duration (Appendix A).

Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the proposed project site was based on (1) the projected number of trips the proposed project would generate during construction, (2) average trip distances by trip type, and (3) fuel efficiencies estimated in the ARB EMFAC mobile source emission model. The specific parameters used to estimate fuel usage are included in Appendix D. In total, the proposed project is estimated to generate 1,093,161 VMT and a combined 79,132 gallons of combined gasoline and diesel for vehicle travel during construction. The proposed project's construction VMT would be approximately 0.025 percent of the County's overall VMT in 2017.[46]

Construction practices would comply with all local and State regulatory requirements related to equipment age, operation, and design. Construction equipment would be maintained and tuned according to manufacturer specifications which would promote fuel efficiency. Compliance with ARB Regulation for In-use Off-road Diesel-fueled Fleets (Off-road Diesel Regulation) addresses unnecessary idling for off-road construction equipment preventing the unnecessary or wasteful use of energy. The overall construction schedule and process is already designed to be efficient in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for future efficiency gains during construction are limited. Therefore, it is anticipated that the construction phase of the proposed project would not result in wasteful, inefficient, and unnecessary consumption of energy. Construction-related energy impacts would be less than significant.

Operational Impacts

The proposed project would consume energy as part of building operations and transportation activities. Operation of the proposed project would consume an estimated 1,194,423 kWh of electricity and an estimated 4,552,232 kilo-British Thermal Unit (kBTU) of natural gas on an annual basis. The proposed project's electricity demand represents approximately 0.04 percent of the community-wide electricity use in unincorporated areas in Riverside County in 2017.[47] The proposed

[46] County of Riverside. 2019. Climate Action Plan Update Table 3-1. November. Website: https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-CAP-2019-2019-CAP-Update-Full.pdf. Accessed July 28, 2025.
[47] Ibid.

project's natural gas demand represents approximately 5 percent of the 89,469,089 therms of natural gas delivered from SoCalGas to unincorporated areas of Riverside County in 2017.[48]

Project-related vehicle trips would consume an estimated 170,045 gallons of gasoline, 27,082 gallons of diesel, 1,659 gallons of natural gas annually for conventional vehicles, and 135,737 kW-hr electricity for ZEVs and would involve activities and travel routes typical of a single-family residential project.

The proposed project would be required to comply with Title 24 standards which include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. Title 24 standards, widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. Furthermore, the proposed project would comply with CALGreen, a Statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. Compliance with the mandatory policies would ensure that building energy consumption would not result in the use of energy in a wasteful, inefficient, or unnecessary manner.

The proposed project would also be consistent with the County's CAP. The project applicant would be required to install solar panels on future buildings to achieve more than 30 percent of energy from on-site renewable sources as required by CAP Update measure R2-CE1, Clean Energy.

Overall

As discussed above, the proposed project's energy consumption would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. The construction-related and operation-related impacts related to electricity and fuel consumption would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

[48] County of Riverside. 2019. Climate Action Plan Update Table 3-1. November. Website: https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-CAP-2019-2019-CAP-Update-Full.pdf. Accessed July 28, 2025.

8.2.2 - Energy Plan Consistency

Impact ENER-2: The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

The proposed project's consistency with applicable State and local plan for renewable energy or energy efficiency is discussed below.

Consistency with Renewable Portfolio Standard

California's RPS is not applicable to the proposed project as it is a Statewide measure that establishes a renewable energy mix. No feature of the proposed project would interfere with implementation of the requirements under RPS.

Consistency with Senate Bill 350

The proposed project would use energy from Southern California Edison (SCE), which has committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the proposed project would interfere with implementation of SB 350.

Consistency with the County of Riverside Climate Action Plan

The proposed project would be required to comply with the 2022 Title 24 standards. The project applicant would be required to install solar panels on future buildings to achieve more than 30 percent of energy from on-site renewable sources as required by CAP Update measure R2-CE1, Clean Energy. The project applicant also would be required to incorporate environmentally sound landscaping into the proposed project, as required by CAP measure R2- L1, Tree Planting for Shading and Energy Saving. As such, no feature of the proposed project would conflict with the County's CAP.

As demonstrated, the proposed project would comply with existing State, regional, and local energy standards and goals to reduce energy use and promote renewable energy. The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, the impacts would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

Appendix A: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

Table of Contents

CalEEMod Regional Custom Report 1

CalEEMod LST Custom Report 57

CalEEMod Additional Calculations 104

Diesel Particulate Matters Emission Rates 108

AERMOD Source Parameters 109

AERMOD Source Receptor Figure 110

Riverside - KRAL Windrose with Captions 111

AERMOD Max Impact Figure 112

AERMOD Report 113

HRA – HARP Approach 140

HARP Results 144

Cancer Burden HARP Input 148

Energy Calculations 164

Riverside County - Highland Grove II Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

3.3. Site Preparation (2027) - Unmitigated

3.5. Grading (2027) - Unmitigated

3.7. Grading (2028) - Unmitigated

3.9. Building Construction (2028) - Unmitigated

3.11. Building Construction (2029) - Unmitigated

3.13. Building Construction (2030) - Unmitigated

3.15. Paving (2028) - Unmitigated

3.17. Architectural Coating (2028) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Riverside County - Highland Grove II
Construction Start Date	1/4/2027
Operational Year	2030
Lead Agency	Riverside County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	9.00
Location	13300 El Sobrante Rd, Riverside, CA 92503, USA
County	Riverside-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5461
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	128	Dwelling Unit	39.3	374,100	1,727,753	165,260	413	(SF home Lot Area 35.48 + 3.79 acre Basin and Downslope Area) -480 sqft driveway space -
Other Asphalt Surfaces	535	1000sqft	12.3	0.00	0.00	—	—	—
Other Non-Asphalt Surfaces	45.9	1000sqft	1.05	0.00	0.00	—	—	—
City Park	1.80	Acre	1.80	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	32.0	1000sqft	0.74	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	37.2	36.6	37.4	39.2	0.07	1.56	26.5	28.1	1.44	13.5	15.0	—	8,064	8,064	0.29	0.41	5.81	8,177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.81	2.31	22.7	23.0	0.05	0.84	5.06	5.57	0.78	1.89	2.37	—	6,034	6,034	0.19	0.41	0.14	6,162
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	8.33	13.6	16.9	0.03	0.51	5.13	5.65	0.48	2.07	2.54	—	4,243	4,243	0.14	0.26	1.48	4,306

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	1.52	2.49	3.09	0.01	0.09	0.94	1.03	0.09	0.38	0.46	—	703	703	0.02	0.04	0.24	713

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.94	4.16	37.4	39.2	0.07	1.56	26.5	28.1	1.44	13.5	15.0	—	7,362	7,362	0.29	0.41	5.36	7,391
2028	37.2	36.6	23.9	36.7	0.07	0.78	5.06	5.55	0.72	1.89	2.34	—	8,064	8,064	0.27	0.40	5.81	8,177
2029	2.04	1.72	14.3	23.4	0.04	0.45	0.72	1.17	0.41	0.17	0.59	—	4,823	4,823	0.17	0.11	2.39	4,862
2030	1.98	1.66	13.9	23.2	0.04	0.42	0.72	1.14	0.39	0.17	0.56	—	4,802	4,802	0.17	0.11	2.12	4,841
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.81	2.31	22.7	20.0	0.05	0.84	5.06	5.57	0.78	1.89	2.37	—	6,034	6,034	0.19	0.41	0.14	6,162
2028	2.09	1.76	14.9	23.0	0.04	0.49	5.06	5.55	0.45	1.89	2.34	—	5,509	5,509	0.17	0.40	0.13	5,633
2029	2.03	1.70	14.3	22.8	0.04	0.45	0.72	1.17	0.41	0.17	0.59	—	4,775	4,775	0.17	0.11	0.06	4,812
2030	1.97	1.65	14.0	22.6	0.04	0.42	0.72	1.14	0.39	0.17	0.56	—	4,755	4,755	0.17	0.11	0.05	4,792
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.71	1.41	13.6	13.1	0.03	0.51	5.13	5.65	0.48	2.07	2.54	—	4,180	4,180	0.13	0.26	1.48	4,262
2028	8.60	8.33	12.2	16.9	0.03	0.41	1.65	2.06	0.38	0.56	0.93	—	4,243	4,243	0.14	0.19	1.33	4,306
2029	1.45	1.21	10.2	16.4	0.03	0.32	0.51	0.83	0.29	0.12	0.42	—	3,416	3,416	0.12	0.08	0.74	3,443
2030	1.37	1.14	9.67	15.8	0.03	0.29	0.50	0.79	0.27	0.12	0.39	—	3,298	3,298	0.12	0.08	0.63	3,325
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.31	0.26	2.49	2.39	0.01	0.09	0.94	1.03	0.09	0.38	0.46	—	692	692	0.02	0.04	0.24	706
2028	1.57	1.52	2.23	3.09	0.01	0.07	0.30	0.38	0.07	0.10	0.17	—	703	703	0.02	0.03	0.22	713

2029	0.26	0.22	1.86	2.99	0.01	0.06	0.09	0.15	0.05	0.02	0.08	—	566	566	0.02	0.01	0.12	570
2030	0.25	0.21	1.77	2.87	0.01	0.05	0.09	0.14	0.05	0.02	0.07	—	546	546	0.02	0.01	0.11	550

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.5	13.8	6.95	48.3	0.13	0.31	10.4	10.7	0.31	2.65	2.95	73.2	17,142	17,215	8.04	0.52	29.3	17,599
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.5	13.0	7.16	34.5	0.12	0.31	10.4	10.7	0.31	2.65	2.95	73.2	16,437	16,510	8.05	0.53	3.37	16,872
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.8	13.3	5.60	39.9	0.11	0.18	10.4	10.5	0.17	2.63	2.80	73.2	14,415	14,488	8.01	0.53	14.2	14,861
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.51	2.42	1.02	7.29	0.02	0.03	1.89	1.92	0.03	0.48	0.51	12.1	2,387	2,399	1.33	0.09	2.34	2,460

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.70	4.29	3.93	39.7	0.11	0.07	10.4	10.5	0.07	2.65	2.71	—	11,300	11,300	0.40	0.47	26.6	11,476
Area	9.62	9.48	1.87	8.05	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,310	2,310	0.04	< 0.005	—	2,313
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212

Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	14.5	13.8	6.95	48.3	0.13	0.31	10.4	10.7	0.31	2.65	2.95	73.2	17,142	17,215	8.04	0.52	29.3	17,599
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.46	4.04	4.21	33.2	0.10	0.07	10.4	10.5	0.07	2.65	2.71	—	10,614	10,614	0.41	0.48	0.69	10,769
Area	8.95	8.85	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212
Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	13.5	13.0	7.16	34.5	0.12	0.31	10.4	10.7	0.31	2.65	2.95	73.2	16,437	16,510	8.05	0.53	3.37	16,872
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.42	4.00	4.28	34.4	0.10	0.07	10.4	10.4	0.07	2.63	2.70	—	10,713	10,713	0.41	0.49	11.5	10,880
Area	9.21	9.18	0.17	5.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	170	170	< 0.005	< 0.005	—	170
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212
Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	13.8	13.3	5.60	39.9	0.11	0.18	10.4	10.5	0.17	2.63	2.80	73.2	14,415	14,488	8.01	0.53	14.2	14,861
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.81	0.73	0.78	6.28	0.02	0.01	1.89	1.91	0.01	0.48	0.49	—	1,774	1,774	0.07	0.08	1.90	1,801
Area	1.68	1.68	0.03	0.92	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	28.2	28.2	< 0.005	< 0.005	—	28.2
Energy	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	530	530	0.04	< 0.005	—	532
Water	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44
Total	2.51	2.42	1.02	7.29	0.02	0.03	1.89	1.92	0.03	0.48	0.51	12.1	2,387	2,399	1.33	0.09	2.34	2,460

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	3.12	3.12	—	0.47	0.47	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	3.12	3.12	—	0.47	0.47	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.51	0.42	3.82	3.57	0.01	0.15	—	0.15	0.14	—	0.14	—	657	657	0.03	0.01	—	659
Demolition	—	—	—	—	—	—	0.60	0.60	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.65	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Demolition	—	—	—	—	—	—	0.11	0.11	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	1.00	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.63	206
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.04	2.63	0.65	0.02	0.05	0.66	0.71	0.05	0.18	0.23	—	2,419	2,419	0.05	0.38	4.66	2,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.75	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	187	187	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.04	2.76	0.66	0.02	0.05	0.66	0.71	0.05	0.18	0.23	—	2,420	2,420	0.05	0.38	0.12	2,534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.3	36.3	< 0.005	< 0.005	0.05	36.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.53	0.13	< 0.005	0.01	0.13	0.14	0.01	0.04	0.04	—	464	464	0.01	0.07	0.39	486

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.00	6.00	< 0.005	< 0.005	0.01	6.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.8	76.8	< 0.005	0.01	0.06	80.5

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.84	4.07	37.3	37.7	0.07	1.56	—	1.56	1.44	—	1.44	—	7,058	7,058	0.29	0.06	—	7,082
Dust From Material Movement	—	—	—	—	—	—	26.2	26.2	—	13.5	13.5	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.06	3.10	0.01	0.13	—	0.13	0.12	—	0.12	—	580	580	0.02	< 0.005	—	582
Dust From Material Movement	—	—	—	—	—	—	2.15	2.15	—	1.11	1.11	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	96.0	96.0	< 0.005	< 0.005	—	96.4
Dust From Material Movement	—	—	—	—	—	—	0.39	0.39	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	1.49	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	305	305	< 0.005	0.01	0.95	309
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.3	23.3	< 0.005	< 0.005	0.03	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.86	3.86	< 0.005	< 0.005	0.01	3.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.33	11.5	12.3	0.03	0.47	—	0.47	0.43	—	0.43	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	4.15	4.15	—	1.65	1.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.33	11.5	12.3	0.03	0.47	—	0.47	0.43	—	0.43	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	4.15	4.15	—	1.65	1.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.00	5.33	0.01	0.20	—	0.20	0.19	—	0.19	—	1,290	1,290	0.05	0.01	—	1,294

Dust From Material Movement	—	—	—	—	—	—	1.80	1.80	—	0.72	0.72	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.91	0.97	< 0.005	0.04	—	0.04	0.03	—	0.03	—	214	214	0.01	< 0.005	—	214
Dust From Material Movement	—	—	—	—	—	—	0.33	0.33	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	1.33	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	< 0.005	0.01	0.84	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.04	2.55	0.63	0.02	0.05	0.64	0.69	0.05	0.18	0.23	—	2,347	2,347	0.05	0.37	4.52	2,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	249	249	< 0.005	0.01	0.02	252
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.04	2.68	0.64	0.02	0.05	0.64	0.69	0.05	0.18	0.23	—	2,348	2,348	0.05	0.37	0.12	2,459
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.16	111
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.04	0.02	1.17	0.28	0.01	0.02	0.28	0.30	0.02	0.08	0.10	—	1,020	1,020	0.02	0.16	0.85	1,069
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.03	18.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.21	0.05	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	< 0.005	0.03	0.14	177

3.7. Grading (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.54	1.30	10.9	12.2	0.03	0.44	—	0.44	0.41	—	0.41	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	4.15	4.15	—	1.65	1.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.54	1.30	10.9	12.2	0.03	0.44	—	0.44	0.41	—	0.41	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	4.15	4.15	—	1.65	1.65	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.55	2.85	0.01	0.10	—	0.10	0.09	—	0.09	—	691	691	0.03	0.01	—	694
Dust From Material Movement	—	—	—	—	—	—	0.97	0.97	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.47	0.52	< 0.005	0.02	—	0.02	0.02	—	0.02	—	114	114	< 0.005	< 0.005	—	115
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	1.24	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	< 0.005	0.01	0.75	269
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.04	2.49	0.62	0.02	0.05	0.64	0.69	0.05	0.18	0.23	—	2,294	2,294	0.05	0.37	4.17	2,409
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.08	0.94	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	244	244	< 0.005	0.01	0.68	247

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.10	0.04	2.60	0.63	0.02	0.05	0.64	0.69	0.05	0.18	0.23	—	2,295	2,295	0.05	0.37	0.11	2,406
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.6	57.6	< 0.005	< 0.005	0.08	58.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.61	0.14	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	534	534	0.01	0.09	0.42	561
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.54	9.54	< 0.005	< 0.005	0.01	9.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	88.5	88.5	< 0.005	0.01	0.07	92.8

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.59	14.3	20.7	0.04	0.48	—	0.48	0.44	—	0.44	—	3,838	3,838	0.16	0.03	—	3,851
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.59	14.3	20.7	0.04	0.48	—	0.48	0.44	—	0.44	—	3,838	3,838	0.16	0.03	—	3,851

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.85	9.93	0.02	0.23	—	0.23	0.21	—	0.21	—	1,840	1,840	0.07	0.01	—	1,846
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.25	1.81	< 0.005	0.04	—	0.04	0.04	—	0.04	—	305	305	0.01	< 0.005	—	306
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.16	2.85	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	612	612	0.01	0.02	1.74	621
Vendor	0.02	0.01	0.40	0.13	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	395	395	0.01	0.06	0.94	414
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.17	0.18	2.16	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	563	563	0.01	0.02	0.05	570
Vendor	0.02	0.01	0.42	0.13	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	396	396	0.01	0.06	0.02	414
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.09	1.09	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	273	273	< 0.005	0.01	0.36	277
Vendor	0.01	< 0.005	0.20	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	190	190	< 0.005	0.03	0.19	198

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.20	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	45.3	45.3	< 0.005	< 0.005	0.06	45.8
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.4	31.4	< 0.005	< 0.005	0.03	32.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.54	13.7	20.7	0.04	0.44	—	0.44	0.41	—	0.41	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.54	13.7	20.7	0.04	0.44	—	0.44	0.41	—	0.41	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.32	1.10	9.81	14.8	0.03	0.32	—	0.32	0.29	—	0.29	—	2,741	2,741	0.11	0.02	—	2,750

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.79	2.69	< 0.005	0.06	—	0.06	0.05	—	0.05	—	454	454	0.02	< 0.005	—	455
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.17	0.14	2.67	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	601	601	0.01	0.02	1.55	609
Vendor	0.02	0.01	0.39	0.13	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	385	385	0.01	0.06	0.84	403
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	0.16	2.00	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	553	553	0.01	0.02	0.04	560
Vendor	0.02	0.01	0.40	0.13	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	385	385	0.01	0.06	0.02	403
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.51	0.00	0.00	0.43	0.43	0.00	0.10	0.10	—	400	400	0.01	0.02	0.48	405
Vendor	0.01	0.01	0.29	0.09	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	275	275	< 0.005	0.04	0.26	288
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.28	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	66.2	66.2	< 0.005	< 0.005	0.08	67.1
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	45.5	45.5	< 0.005	0.01	0.04	47.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	13.4	20.6	0.04	0.42	—	0.42	0.38	—	0.38	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	13.4	20.6	0.04	0.42	—	0.42	0.38	—	0.38	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.04	9.31	14.3	0.03	0.29	—	0.29	0.27	—	0.27	—	2,658	2,658	0.11	0.02	—	2,667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.70	2.61	< 0.005	0.05	—	0.05	0.05	—	0.05	—	440	440	0.02	< 0.005	—	442

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	0.12	2.48	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	591	591	0.01	0.02	1.38	599
Vendor	0.02	0.01	0.37	0.12	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	374	374	0.01	0.06	0.74	392
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	0.14	1.89	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	544	544	0.01	0.02	0.04	551
Vendor	0.02	0.01	0.39	0.13	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	374	374	0.01	0.06	0.02	391
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.10	1.37	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	382	382	< 0.005	0.02	0.41	387
Vendor	0.01	0.01	0.27	0.09	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	259	259	< 0.005	0.04	0.22	271
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	63.2	63.2	< 0.005	< 0.005	0.07	64.0
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	42.9	42.9	< 0.005	0.01	0.04	44.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.43	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.36	2.04	< 0.005	0.05	—	0.05	0.05	—	0.05	—	310	310	0.01	< 0.005	—	312
Paving	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.4	51.4	< 0.005	< 0.005	—	51.6
Paving	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.93	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	199	199	< 0.005	0.01	0.57	202

Vendor	0.07	0.03	1.57	0.51	0.01	0.02	0.34	0.37	0.02	0.10	0.12	—	1,252	1,252	0.03	0.20	2.22	1,315
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.1	38.1	< 0.005	< 0.005	0.05	38.6
Vendor	0.02	0.01	0.34	0.11	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	—	257	257	0.01	0.04	0.20	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.31	6.31	< 0.005	< 0.005	0.01	6.40
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.6	42.6	< 0.005	0.01	0.03	44.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	33.5	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.17	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.4	27.4	< 0.005	< 0.005	—	27.5
Architectural Coatings	6.88	6.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.54	4.54	< 0.005	< 0.005	—	4.56
Architectural Coatings	1.26	1.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.57	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	122	122	< 0.005	< 0.005	0.35	124
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.4	23.4	< 0.005	< 0.005	0.03	23.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.88	3.88	< 0.005	< 0.005	0.01	3.93
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.70	4.29	3.93	39.7	0.11	0.07	10.4	10.5	0.07	2.65	2.71	—	11,300	11,300	0.40	0.47	26.6	11,476
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	4.70	4.29	3.93	39.7	0.11	0.07	10.4	10.5	0.07	2.65	2.71	—	11,300	11,300	0.40	0.47	26.6	11,476
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.46	4.04	4.21	33.2	0.10	0.07	10.4	10.5	0.07	2.65	2.71	—	10,614	10,614	0.41	0.48	0.69	10,769
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.46	4.04	4.21	33.2	0.10	0.07	10.4	10.5	0.07	2.65	2.71	—	10,614	10,614	0.41	0.48	0.69	10,769
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.81	0.73	0.78	6.28	0.02	0.01	1.89	1.91	0.01	0.48	0.49	—	1,774	1,774	0.07	0.08	1.90	1,801
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.81	0.73	0.78	6.28	0.02	0.01	1.89	1.91	0.01	0.48	0.49	—	1,774	1,774	0.07	0.08	1.90	1,801

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	288	288	0.02	< 0.005	—	290

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	288	288	0.02	< 0.005	—	290

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	242
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	242

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.21	0.11	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293

Consumer Product	8.05	8.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.66	0.63	0.07	7.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Total	9.62	9.48	1.87	8.05	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,310	2,310	0.04	< 0.005	—	2,313
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.21	0.11	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Consumer Products	8.05	8.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	8.95	8.85	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	26.0	26.0	< 0.005	< 0.005	—	26.0
Consumer Products	1.47	1.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipm	0.08	0.08	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.20	2.20	< 0.005	< 0.005	—	2.21
Total	1.68	1.68	0.03	0.92	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	28.2	28.2	< 0.005	< 0.005	—	28.2

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	63.1	0.00	63.1	6.31	0.00	—	221
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Total	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	63.1	0.00	63.1	6.31	0.00	—	221
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Total	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.4	0.00	10.4	1.04	0.00	—	36.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/4/2027	4/9/2027	5.00	70.0	—
Site Preparation	Site Preparation	4/12/2027	5/21/2027	5.00	30.0	—
Grading	Grading	5/24/2027	4/28/2028	5.00	245	—
Building Construction	Building Construction	5/1/2028	12/20/2030	5.00	690	—
Paving	Paving	6/5/2028	9/15/2028	5.00	75.0	—
Architectural Coating	Architectural Coating	5/1/2028	8/11/2028	5.00	75.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	5.00	8.50	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	3.60	36.0	0.38
Grading	Graders	Diesel	Average	1.00	3.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	3.60	367	0.40
Grading	Scrapers	Diesel	Average	2.00	3.60	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	3.60	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	5.60	367	0.29
Building Construction	Forklifts	Diesel	Average	5.00	7.70	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	6.40	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.40	84.0	0.37

Building Construction	Welders	Diesel	Average	2.00	6.40	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	36.4	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	22.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	35.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	46.1	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	37.0	10.2	HHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.22	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	757,553	252,518	0.00	0.00	36,773

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	10,200	—

Site Preparation	0.00	0.00	60.0	0.00	—
Grading	0.00	69,266	331	0.00	—
Paving	0.00	0.00	0.00	0.00	15.5

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.41	0%
Other Asphalt Surfaces	12.3	100%
Other Non-Asphalt Surfaces	1.05	0%
City Park	0.00	0%
Other Non-Asphalt Surfaces	0.74	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

Single Family Housing	1,207	1,207	1,207	440,570	14,731	14,731	14,731	5,376,688
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	109
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	13
Conventional Wood Stoves	0
Catalytic Wood Stoves	6
Non-Catalytic Wood Stoves	6
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

757552.5	252,518	0.00	0.00	36,773

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	1,195,423	532	0.0330	0.0040	4,552,232
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	5,206,243	36,102,790
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	117	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—
City Park	0.15	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.2	annual days of extreme heat
Extreme Precipitation	1.80	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	19.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	91.1
AQ-PM	67.9
AQ-DPM	8.08

Drinking Water	76.1
Lead Risk Housing	2.41
Pesticides	18.2
Toxic Releases	58.2
Traffic	16.6
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	30.9
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	0.00
Solid Waste	23.0
Sensitive Population	—
Asthma	43.7
Cardio-vascular	52.3
Low Birth Weights	15.5
Socioeconomic Factor Indicators	—
Education	30.0
Housing	14.7
Linguistic	2.81
Poverty	12.2
Unemployment	7.14

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	77.55678173
Employed	38.00846914

Median HI	85.12767869
Education	—
Bachelor's or higher	34.23585269
High school enrollment	26.43397921
Preschool enrollment	8.17400231
Transportation	—
Auto Access	73.42486847
Active commuting	15.02630566
Social	—
2-parent households	65.73848325
Voting	49.13383806
Neighborhood	—
Alcohol availability	93.71230592
Park access	9.303220839
Retail density	5.979725395
Supermarket access	2.399589375
Tree canopy	8.225330425
Housing	—
Homeownership	97.06146542
Housing habitability	91.50519697
Low-inc homeowner severe housing cost burden	85.15334274
Low-inc renter severe housing cost burden	50.78916977
Uncrowded housing	87.19363531
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	54.9
High Blood Pressure	0.0

Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	38.4
Cognitively Disabled	4.9
Physically Disabled	41.1
Heart Attack ER Admissions	48.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	70.9
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	33.4
SLR Inundation Area	0.0
Children	72.4
Elderly	47.3
English Speaking	61.7
Foreign-born	17.2
Outdoor Workers	43.1
Climate Change Adaptive Capacity	—

Impervious Surface Cover	93.8
Traffic Density	13.4
Traffic Access	23.0
Other Indices	—
Hardship	33.6
Other Decision Support	—
2016 Voting	64.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	16.0
Healthy Places Index Score for Project Location (b)	55.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use Appendix A	land use information based on site plan and applicant-provided information 56

Riverside County - Highland Grove II - LST Run Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

3.3. Site Preparation (2027) - Unmitigated

3.5. Grading (2027) - Unmitigated

3.7. Grading (2028) - Unmitigated

3.9. Building Construction (2028) - Unmitigated

3.11. Building Construction (2029) - Unmitigated

3.13. Building Construction (2030) - Unmitigated

3.15. Paving (2028) - Unmitigated

3.17. Architectural Coating (2028) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Riverside County - Highland Grove II - LST Run
Construction Start Date	1/4/2027
Operational Year	2030
Lead Agency	Riverside County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	9.00
Location	13300 El Sobrante Rd, Riverside, CA 92503, USA
County	Riverside-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5461
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	128	Dwelling Unit	39.3	374,100	1,727,753	165,260	413	(SF home Lot Area 35.48 + 3.79 acre Basin and Downslope Area) -480 sqft driveway space -
Other Asphalt Surfaces	535	1000sqft	12.3	0.00	0.00	—	—	—
Other Non-Asphalt Surfaces	45.9	1000sqft	1.05	0.00	0.00	—	—	—
City Park	1.80	Acre	1.80	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	32.0	1000sqft	0.74	0.00	0.00	—	—	—

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.91	4.14	37.3	37.8	0.07	1.56	4.20	5.76	1.44	2.16	3.59	—	7,066	7,066	0.29	0.06	0.07	7,090
2028	37.0	36.5	22.4	32.7	0.05	0.75	0.68	1.12	0.69	0.27	0.70	—	5,614	5,614	0.25	0.07	0.11	5,641
2029	1.99	1.68	13.9	21.1	0.04	0.44	0.01	0.45	0.41	< 0.005	0.41	—	3,875	3,875	0.17	0.04	0.04	3,890
2030	1.94	1.64	13.6	21.0	0.04	0.42	0.01	0.43	0.38	< 0.005	0.39	—	3,874	3,874	0.17	0.04	0.04	3,889
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.72	2.28	20.5	19.1	0.03	0.80	2.01	2.80	0.73	0.31	1.04	—	3,519	3,519	0.16	0.04	< 0.005	3,536
2028	2.04	1.72	14.5	21.2	0.04	0.48	0.68	1.12	0.44	0.27	0.67	—	3,876	3,876	0.17	0.04	< 0.005	3,891
2029	1.98	1.67	13.9	21.1	0.04	0.44	0.01	0.45	0.41	< 0.005	0.41	—	3,874	3,874	0.17	0.04	< 0.005	3,890

2030	1.93	1.63	13.6	21.0	0.04	0.42	0.01	0.43	0.38	< 0.005	0.39	—	3,874	3,874	0.17	0.04	< 0.005	3,889
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.66	1.39	12.2	12.3	0.02	0.49	1.02	1.51	0.45	0.35	0.80	—	2,585	2,585	0.11	0.03	0.02	2,596
2028	8.55	8.30	11.2	15.5	0.03	0.39	0.17	0.55	0.36	0.06	0.42	—	2,928	2,928	0.13	0.03	0.02	2,941
2029	1.42	1.20	9.93	15.1	0.03	0.32	0.01	0.32	0.29	< 0.005	0.29	—	2,767	2,767	0.12	0.03	0.01	2,778
2030	1.33	1.13	9.42	14.6	0.03	0.29	0.01	0.30	0.27	< 0.005	0.27	—	2,683	2,683	0.12	0.03	0.01	2,694
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.30	0.25	2.23	2.25	< 0.005	0.09	0.19	0.28	0.08	0.06	0.15	—	428	428	0.02	< 0.005	< 0.005	430
2028	1.56	1.51	2.05	2.83	0.01	0.07	0.03	0.10	0.07	0.01	0.08	—	485	485	0.02	0.01	< 0.005	487
2029	0.26	0.22	1.81	2.75	< 0.005	0.06	< 0.005	0.06	0.05	< 0.005	0.05	—	458	458	0.02	< 0.005	< 0.005	460
2030	0.24	0.21	1.72	2.66	< 0.005	0.05	< 0.005	0.05	0.05	< 0.005	0.05	—	444	444	0.02	< 0.005	< 0.005	446

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.40	3.32	0.94	6.24	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	434	434	0.14	0.08	0.54	463
Area	9.62	9.48	1.87	8.05	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,310	2,310	0.04	< 0.005	—	2,313
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212
Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	13.1	12.9	3.96	14.8	0.02	0.25	0.21	0.46	0.25	0.05	0.30	73.2	6,277	6,350	7.78	0.13	3.22	6,587
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.18	3.09	1.00	7.00	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	423	423	0.16	0.09	0.01	453

Area	8.95	8.85	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212
Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	12.3	12.0	3.95	8.26	0.02	0.24	0.21	0.46	0.24	0.05	0.30	73.2	6,246	6,319	7.80	0.13	2.69	6,557
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.13	3.05	0.99	7.08	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	424	424	0.16	0.09	0.24	455
Area	9.21	9.18	0.17	5.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	170	170	< 0.005	< 0.005	—	170
Energy	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	3,201	3,201	0.24	0.02	—	3,212
Water	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Waste	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Total	12.5	12.3	2.31	12.6	0.01	0.11	0.21	0.32	0.11	0.05	0.16	73.2	4,127	4,200	7.76	0.13	2.91	4,436
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.57	0.56	0.18	1.29	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	70.3	70.3	0.03	0.01	0.04	75.3
Area	1.68	1.68	0.03	0.92	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	28.2	28.2	< 0.005	< 0.005	—	28.2
Energy	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	530	530	0.04	< 0.005	—	532
Water	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1
Waste	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44
Total	2.28	2.24	0.42	2.30	< 0.005	0.02	0.04	0.06	0.02	0.01	0.03	12.1	683	695	1.28	0.02	0.48	734

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	2.00	2.00	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	2.00	2.00	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.42	3.82	3.57	0.01	0.15	—	0.15	0.14	—	0.14	—	657	657	0.03	0.01	—	659
Demolition	—	—	—	—	—	—	0.38	0.38	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.09	0.08	0.70	0.65	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Demolition	—	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.23	5.23	< 0.005	< 0.005	0.01	5.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.52	0.37	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	85.5	85.5	0.01	0.01	0.06	89.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.05	5.05	< 0.005	< 0.005	< 0.005	5.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.55	0.38	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.9	86.9	0.01	0.01	< 0.005	91.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	1.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.5	16.5	< 0.005	< 0.005	< 0.005	17.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.73	2.73	< 0.005	< 0.005	< 0.005	2.87

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.84	4.07	37.3	37.7	0.07	1.56	—	1.56	1.44	—	1.44	—	7,058	7,058	0.29	0.06	—	7,082
Dust From Material Movement	—	—	—	—	—	—	4.19	4.19	—	2.16	2.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.06	3.10	0.01	0.13	—	0.13	0.12	—	0.12	—	580	580	0.02	< 0.005	—	582
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	96.0	96.0	< 0.005	< 0.005	—	96.4

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	7.84	7.84	< 0.005	< 0.005	0.01	8.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.33	11.5	12.3	0.03	0.47	—	0.47	0.43	—	0.43	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	0.66	0.66	—	0.26	0.26	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.33	11.5	12.3	0.03	0.47	—	0.47	0.43	—	0.43	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	0.66	0.66	—	0.26	0.26	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.00	5.33	0.01	0.20	—	0.20	0.19	—	0.19	—	1,290	1,290	0.05	0.01	—	1,294
Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.91	0.97	< 0.005	0.04	—	0.04	0.03	—	0.03	—	214	214	0.01	< 0.005	—	214
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.01	0.15	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	6.97	6.97	< 0.005	< 0.005	0.01	7.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.51	0.35	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	83.0	83.0	0.01	0.01	0.06	87.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	6.73	6.73	< 0.005	< 0.005	< 0.005	7.24
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.54	0.37	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	84.3	84.3	0.01	0.01	< 0.005	88.8
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.94	2.94	< 0.005	< 0.005	< 0.005	3.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.23	0.16	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	36.3	36.3	0.01	0.01	0.01	38.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.01	6.01	< 0.005	< 0.005	< 0.005	6.31

3.7. Grading (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.54	1.30	10.9	12.2	0.03	0.44	—	0.44	0.41	—	0.41	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	0.66	0.66	—	0.26	0.26	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.54	1.30	10.9	12.2	0.03	0.44	—	0.44	0.41	—	0.41	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	—	0.66	0.66	—	0.26	0.26	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.55	2.85	0.01	0.10	—	0.10	0.09	—	0.09	—	691	691	0.03	0.01	—	694

Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.47	0.52	< 0.005	0.02	—	0.02	0.02	—	0.02	—	114	114	< 0.005	< 0.005	—	115
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.01	0.14	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	6.83	6.83	< 0.005	< 0.005	0.01	7.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.50	0.36	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	81.6	81.6	0.01	0.01	0.05	85.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	< 0.005	7.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.53	0.37	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	82.9	82.9	0.01	0.01	< 0.005	87.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.55	1.55	< 0.005	< 0.005	< 0.005	1.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	0.01	0.12	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.01	20.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.17	3.17	< 0.005	< 0.005	< 0.005	3.33

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.59	14.3	20.7	0.04	0.48	—	0.48	0.44	—	0.44	—	3,838	3,838	0.16	0.03	—	3,851
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	1.59	14.3	20.7	0.04	0.48	—	0.48	0.44	—	0.44	—	3,838	3,838	0.16	0.03	—	3,851
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.85	9.93	0.02	0.23	—	0.23	0.21	—	0.21	—	1,840	1,840	0.07	0.01	—	1,846

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.25	1.81	< 0.005	0.04	—	0.04	0.04	—	0.04	—	305	305	0.01	< 0.005	—	306
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.03	0.33	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.7	15.7	0.01	< 0.005	0.02	16.9
Vendor	0.01	0.01	0.14	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.7	22.7	< 0.005	< 0.005	0.02	23.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.03	0.38	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.2	15.2	0.01	< 0.005	< 0.005	16.4
Vendor	0.01	< 0.005	0.14	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.0	23.0	< 0.005	< 0.005	< 0.005	24.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.02	0.18	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	7.33	7.33	< 0.005	< 0.005	< 0.005	7.90
Vendor	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	< 0.005	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.31
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.81	1.81	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.54	13.7	20.7	0.04	0.44	—	0.44	0.41	—	0.41	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.54	13.7	20.7	0.04	0.44	—	0.44	0.41	—	0.41	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.32	1.10	9.81	14.8	0.03	0.32	—	0.32	0.29	—	0.29	—	2,741	2,741	0.11	0.02	—	2,750
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.79	2.69	< 0.005	0.06	—	0.06	0.05	—	0.05	—	454	454	0.02	< 0.005	—	455

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.03	0.31	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.4	15.4	0.01	< 0.005	0.02	16.6
Vendor	0.01	0.01	0.13	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	0.02	23.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.03	0.35	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.9	14.9	0.01	< 0.005	< 0.005	16.1
Vendor	0.01	< 0.005	0.14	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	< 0.005	23.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.02	0.26	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	0.01	< 0.005	0.01	11.5
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.0	16.0	< 0.005	< 0.005	0.01	16.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.65	2.65	< 0.005	< 0.005	< 0.005	2.78
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	13.4	20.6	0.04	0.42	—	0.42	0.38	—	0.38	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	13.4	20.6	0.04	0.42	—	0.42	0.38	—	0.38	—	3,837	3,837	0.16	0.03	—	3,850
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.04	9.31	14.3	0.03	0.29	—	0.29	0.27	—	0.27	—	2,658	2,658	0.11	0.02	—	2,667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.70	2.61	< 0.005	0.05	—	0.05	0.05	—	0.05	—	440	440	0.02	< 0.005	—	442
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.13	0.13	0.03	0.29	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.2	15.2	0.01	< 0.005	0.02	16.3
Vendor	0.01	0.01	0.13	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	0.02	23.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.03	0.33	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	0.01	< 0.005	< 0.005	15.8
Vendor	0.01	< 0.005	0.14	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	< 0.005	23.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.23	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	11.0
Vendor	0.01	< 0.005	0.09	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.01	16.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.82
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.52	2.52	< 0.005	< 0.005	< 0.005	2.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.43	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.36	2.04	< 0.005	0.05	—	0.05	0.05	—	0.05	—	310	310	0.01	< 0.005	—	312
Paving	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.4	51.4	< 0.005	< 0.005	—	51.6
Paving	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.12	5.12	< 0.005	< 0.005	0.01	5.51
Vendor	0.04	0.02	0.53	0.37	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	85.4	85.4	0.02	0.01	0.05	89.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.10

Vendor	0.01	< 0.005	0.11	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.7	17.7	< 0.005	< 0.005	< 0.005	18.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.93	2.93	< 0.005	< 0.005	< 0.005	3.08
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	33.5	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.17	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.4	27.4	< 0.005	< 0.005	—	27.5

Architectural	6.88	6.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.54	4.54	< 0.005	< 0.005	—	4.56
Architectural Coatings	1.26	1.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.15	3.15	< 0.005	< 0.005	< 0.005	3.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.40	3.32	0.94	6.24	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	434	434	0.14	0.08	0.54	463
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.40	3.32	0.94	6.24	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	434	434	0.14	0.08	0.54	463
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.18	3.09	1.00	7.00	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	423	423	0.16	0.09	0.01	453
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.18	3.09	1.00	7.00	< 0.005	0.01	0.21	0.22	0.01	0.05	0.06	—	423	423	0.16	0.09	0.01	453
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.57	0.56	0.18	1.29	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	70.3	70.3	0.03	0.01	0.04	75.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.57	0.56	0.18	1.29	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	70.3	70.3	0.03	0.01	0.04	75.3

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,742	1,742	0.11	0.01	—	1,749
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	288	288	0.02	< 0.005	—	290
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	288	288	0.02	< 0.005	—	290

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.13	0.07	1.15	0.49	0.01	0.09	—	0.09	0.09	—	0.09	—	1,459	1,459	0.13	< 0.005	—	1,463
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	242

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	242

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.21	0.11	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Consumer Products	8.05	8.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.66	0.63	0.07	7.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Total	9.62	9.48	1.87	8.05	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,310	2,310	0.04	< 0.005	—	2,313
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.21	0.11	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Consumer Products	8.05	8.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	8.95	8.85	1.80	0.77	0.01	0.15	—	0.15	0.15	—	0.15	0.00	2,291	2,291	0.04	< 0.005	—	2,293
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	26.0	26.0	< 0.005	< 0.005	—	26.0
Consumer Products	1.47	1.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.20	2.20	< 0.005	< 0.005	—	2.21
Total	1.68	1.68	0.03	0.92	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	28.2	28.2	< 0.005	< 0.005	—	28.2

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.98	331	341	1.04	0.03	—	375
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.65	54.8	56.4	0.17	< 0.005	—	62.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	63.1	0.00	63.1	6.31	0.00	—	221
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Total	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	63.1	0.00	63.1	6.31	0.00	—	221
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.29
Total	—	—	—	—	—	—	—	—	—	—	—	63.2	0.00	63.2	6.31	0.00	—	221
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.4	0.00	10.4	1.04	0.00	—	36.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68	2.68
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44	0.44

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/4/2027	4/9/2027	5.00	70.0	—
Site Preparation	Site Preparation	4/12/2027	5/21/2027	5.00	30.0	—
Grading	Grading	5/24/2027	4/28/2028	5.00	245	—
Building Construction	Building Construction	5/1/2028	12/20/2030	5.00	690	—
Paving	Paving	6/5/2028	9/15/2028	5.00	75.0	—
Architectural Coating	Architectural Coating	5/1/2028	8/11/2028	5.00	75.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	5.00	8.50	84.0	0.37

Grading	Excavators	Diesel	Average	2.00	3.60	36.0	0.38
Grading	Graders	Diesel	Average	1.00	3.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	3.60	367	0.40
Grading	Scrapers	Diesel	Average	2.00	3.60	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	3.60	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	5.60	367	0.29
Building Construction	Forklifts	Diesel	Average	5.00	7.70	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	6.40	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.40	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	6.40	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	0.25	LDA,LDT1,LDT2
Demolition	Vendor	—	0.25	HHDT,MHDT
Demolition	Hauling	36.4	0.25	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	22.5	0.25	LDA,LDT1,LDT2
Site Preparation	Vendor	—	0.25	HHDT,MHDT

Site Preparation	Hauling	0.00	0.25	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	0.25	LDA,LDT1,LDT2
Grading	Vendor	—	0.25	HHDT,MHDT
Grading	Hauling	35.3	0.25	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	46.1	0.25	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	0.25	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	0.25	LDA,LDT1,LDT2
Paving	Vendor	37.0	0.25	HHDT
Paving	Hauling	0.00	0.25	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.22	0.25	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	0.25	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.25	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Apply dust suppressants to unpaved roads	84%	84%

Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	757,553	252,518	0.00	0.00	36,773

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	10,200	—
Site Preparation	0.00	0.00	60.0	0.00	—
Grading	0.00	69,266	60.0	0.00	—
Paving	0.00	0.00	0.00	0.00	15.5

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	84%	84%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.41	0%
Other Asphalt Surfaces	12.3	100%

Other Non-Asphalt Surfaces	1.05	0%
City Park	0.00	0%
Other Non-Asphalt Surfaces	0.74	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005
2030	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	1,207	1,207	1,207	440,570	302	302	302	110,142
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	109
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	13
Conventional Wood Stoves	0
Catalytic Wood Stoves	6
Non-Catalytic Wood Stoves	6
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
757552.5	252,518	0.00	0.00	36,773

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	1,195,423	532	0.0330	0.0040	4,552,232
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	5,206,243	36,102,790
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	117	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—
City Park	0.15	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

8. User Changes to Default Data

Screen	Justification

Land Use	land use information based on site plan and applicant-provided information
Construction: Construction Phases	schedule based on applicant provided information
Construction: Off-Road Equipment	equipment based on applicant provided information
Construction: Architectural Coatings	architectural coatings based on applicant provided information
Operations: Hearths	per SCAQMD rule 445 - wood burning devices
Operations: Vehicle Data	updated per trip generation summary for the project. Trip lengths set to 0.25 for localized emissions and comparison to Operational LSTs.
Construction: Trips and VMT	additional Asphalt vendor trips, All trip lengths set to 0.25 miles to calculate local emissions for comparison to SCAQMDs LSTs
Construction: Dust From Material Movement	The project will implement all applicable SCAQMD Rule 403 Best Available Control Measures. These include daily watering, wind fencing, speed controls, and stabilized construction access. Based on published control efficiencies, these measures are expected to reduce fugitive dust emissions by approximately 80% to 90%, which is adjusted here. SCAQMD's Air Quality Analysis Handbook mitigation tables (Tables XI A to XI E)

Construction: Construction Phases	schedule based on applicant provided information
Construction: Off-Road Equipment	equipment based on applicant provided information
Construction: Architectural Coatings	architectural coatings based on applicant provided information
Operations: Hearths	per SCAQMD rule 445 - wood burning devices
Operations: Vehicle Data	updated per trip generation summary for the project.

Riverside County - Highland Grove II - Horsepower-Hour Conservation Calculation Sheet

	Activity Duration		
	CalEEMod Defaults	Revisions	Difference
Demolition	70	70	0
Site Preparation	40	30	-10
Grading	110	245	135
Building Construction	1110	690	-420
Paving	75	75	0
Architectural Coating	75	75	0
Total Working Days	**1480**	**1185**	**-295**

CalEEMod Defaults						Revisions						Cross-Check	
Equipment	Amount	Usage Hours	Horsepower	Load Factor	HP Hours	Equipment	Amount	Usage Hours	Horsepower	Load Factor	HP Hours	Goal HP Hours	Difference
Demolition													
Concrete/Industrial Saws	1	8	33	0.73	13,490	Concrete/Industrial Saws	1	8.0	33	0.73	**13,490**	13,490	-
Rubber Tired Dozers	3	8	367	0.4	246,624	Rubber Tired Dozers	3	8.0	367	0.4	**246,624**	246,624	-
Excavators	2	8	36	0.38	15,322	Excavators	2	8.0	36	0.38	**15,322**	15,322	-
Tractors/Loaders/Backhoes	0	8	84	0.37	-	Tractors/Loaders/Backhoes	0	-	84	0.37	-	-	-
				Total	**275,436**					**Total**	**275,436**	275,436	-
Site Preparation													
Tractors/Loaders/Backhoes	4	8	84	0.37	39,782	Tractors/Loaders/Backhoes	5	8.5	84	0.37	**39,782**	39,782	-
Rubber Tired Dozers	3	8	367	0.4	140,928	Rubber Tired Dozers	4	8.0	367	0.4	**140,928**	140,928	-
Graders	0	-	148	0.41	-	Graders	0	-	148	0.41	-	-	-
Scrapers	0	-	423	0.48		Scrapers	0	-	423	0.48	-	-	-
				Total	**180,710**					**Total**	**180,710**	180,710	-
Grading													
Graders	1	8	148	0.41	53,398	Graders	1	3.6	148	0.41	**53,398**	53,398	-
Rubber Tired Dozers	1	8	367	0.4	129,184	Rubber Tired Dozers	1	3.6	367	0.4	**129,184**	129,184	-
Tractors/Loaders/Backhoes	2	8	84	0.37	54,701	Tractors/Loaders/Backhoes	2	3.6	84	0.37	**54,701**	54,701	-
Excavators	2	8	36	0.38	24,077	Excavators	2	3.6	36	0.38	**24,077**	24,077	-
Scrapers	2	8	423	0.48	357,350	Scrapers	2	3.6	423	0.48	**357,350**	357,350	-
				Total	**618,710**					**Total**	**618,710**	618,710	-
Building Construction													
Cranes	1	7	367	0.29	826,961	Cranes	2	5.6	367	0.29	**826,961**	826,961	-
Forklifts	3	8	82	0.2	436,896	Forklifts	5	7.7	82	0.2	**436,896**	436,896	-
Generator Sets	1	8	14	0.74	91,997	Generator Sets	2	6.4	14	0.74	**91,997**	91,997	-
Tractors/Loaders/Backhoes	3	7	84	0.37	724,475	Tractors/Loaders/Backhoes	4	8.4	84	0.37	**724,475**	724,475	-
Welders	1	8	46	0.45	183,816	Welders	2	6.4	46	0.45	**183,816**	183,816	-
				Total	**2,264,145**					**Total**	**2,264,145**	**2,264,145**	-
Paving													
Cement and Mortar Mixers	0	-	10	0.56	-	Cement and Mortar Mixers	0	-	10	0.56	-	-	-
Pavers	2	8	81	0.42	40,824	Pavers	2	8.0	81	0.42	**40,824**	40,824	-
Paving Equipment	2	8	89	0.36	38,448	Paving Equipment	2	8.0	89	0.36	**38,448**	38,448	-
Rollers	2	8	36	0.38	16,416	Rollers	2	8.0	36	0.38	**16,416**	16,416	-
Tractors/Loaders/Backhoes	0	-	84	0.37	-	Tractors/Loaders/Backhoes	0	-	84	0.37	-	-	-
				Total	95,688					Total	95,688	95,688	-
Architectural Coating													
Air Compressors	1	6	37	0.48	7,992	Air Compressors	1	6.0	37	0.48	**7,992**	7,992	-
				Total	**7,992**					**Total**	**7,992**	**7,992**	-

Riverside County - Highland Grove II
Demolition Debris Calculations

Parameters[1]			
1	building st	10	cf building volume
1	cf building volume	0.25	cf waste volume
1	cf	0.037	cy
1	cy waste volume	0.5	ton waste weight
1	**sf**	**0.04625**	**ton waste material**

Description	square feet[2]	height/ depth (ft)[3]	density (lbs/cf)[4]	Demo Amount (lbs)	Demolition Amount tons)
Buildings	114,183	-	-	-	5,281
Pavement	131,168	0.5	150	9,837,600	4,919
Totals	**245,351**	-	-	-	**10,200**

Notes:
cy = cubic yard
gsf = gross square feet
sf = square feet
cf = cubic feet

[1] Source: California Air Pollution Control Officers Association (CAPCOA). 2017. Appendix A Calculation Details for CalEEMod. October.

[2] Source: Google Maps

[3] Source: DC Construction Services. 2017. How Thick Is Parking Lot Asphalt? Website: https://dccpaving.com/how-thick-is-parking-lot-asphalt/.

[4] Source: SFGate. 2019. How to Calculate Asphalt Weight Per Yard. Website: https://homeguides.sfgate.com/calculate-asphalt-weight-per-yard-81825.html.

Riverside County - Highland Grove II
Asphalt Paving Construction Trips Calculation

Paved area (sf)	534,903
Asphalt volume (cube feet) assume 6 inch pavement	267,452
Asphalt volume (cy)	9,906
Capacity per vendor truck (CY per truck)	16
Trips	**1,238.20**
Days in paving phase	**75**
One-way Vendor Trips per day	33

Concrete area (sf)	45,738
Concrete volume (cube feet) assume 4 inch thick sidewalks	15,246
Concrete volume (cy)	565
Capacity per concrete mixer truck (CY per truck)	8
Trips	**141.17**
Days in paving phase	**75**
One-way Vendor Trips per day	4

Total Trips during Paving Phase	**37**

Riverside County - Highland Grove II

Operational Vehicle Trip Generation Rate Adjustments

Trip-Generating Land Use	Traffic Study & ITE Trip Generation Rates and CalEEMod Inputs					
	Size Metric	Size	ITE Code	Weekday Daily Rate[1,2] (trips/DU)	Saturday Daily Rate[2] (trips/DU)	Sunday Daily Rate[2] (trips/DU)
Single Famly Residential detached	DU	128	210	9.430	9.43	9.43

Notes:
DU = Dwelling Unit
trip = one-way end trip

1 Source: Urban Crossroads, email from Jared Brawner to Cecial So, July 2,2024.
2 Source: ITE Trip Generation Manual, 11th Edition, 2021.

Riverside Co - Highland Grove II
Health Risk Assessment Inputs
DPM Emissions for AERMOD Inputs

Net Work Days	1,035
Net Construction Years	4.00
Total Working Hours	8,280

Construction Year	On-site Construction Activity	On-site PM10E (lbs)	Off-Site PM10E (lbs)	Off-Site PM10E(lbs)		
				Worker	Vendor	Haul
2027	Demolition	55.72	3.37	-	-	3.37
2027	Site Preparation	46.85	0.00	-	-	-
2027	Grading	74.43	7.41	-	-	7.41
2028	Grading	37.68	3.97	-	-	3.97
2028	Building Construction	84.12	1.08	-	1.08	-
2029	Building Construction	115.05	1.60	-	1.60	-
2030	Building Construction	105.29	1.56	-	1.56	-
2028	Paving	19.17	1.87	-	1.87	-
2028	Architectural Coating	1.15	0.00	-	-	-
Total PM Exhaust (On-site)		**539.45**	**20.87**	-	6.11	14.760

CalEEMod Distance (miles)	18.5	10.2	20
Total Roadways Included within 1,000 ft	0.63	0.63	0.63
Roadway Emissions included	3%	6%	3%

	On-site Construction	Offsite Roadway	Off-Site Diesel PM10E (lbs) within 1,000 ft Roadways		
			Worker	Vendor	Haul
Modeled Emissions (lbs)	**539.45**	**0.844**	-	0.38	0.47
Hourly Emissions (lb/hr)	0.0652	0.00010	0.00E+00	4.57E-05	5.63E-05

Note: PM10E = PM10 Exhaust which is a surrogate for Diesel Exhaust, particulate matter

Source	**percentage**	**Modeling Inputs**	
Site Emissions	100%	6.52E-02	lb/hr
Roadway 1 Emissions	100%	1.02E-04	lb/hr

Riverside Co - Highland Grove II
Modeling Parameters for Construction HRA
Diesel Particulate Matter Emission Sources

Source ID	Modeled Source	Location Description	AERMOD Source Type	Size		Initial Source Release Parameters (m): Release Height	Initial Lateral Dimension	Initial Vertical Dimension	Emissions[4] (lb/hr)	AERMOD Source Emission Rate	
SITE_UM	Site - Off-Road Equipment Diesel Exhaust[1]	Project Site - Construction Area	Area	223132	m2	5	—	1.4	0.0652	3.7E-08	g/m2-sec
ROAD1_DPM	Roadway 1 - On-Road Diesel Exhaust[2,3]	Truck Route - El Sobrante Road	Line-Volume	1016	meters	3.40	6.98	3.16	1.0E-04	1.3E-05	g/s

1 Construction exhaust modeled as an area source. Release parameters for construction equipment DPM exhaust modeling from SCAQMD (2008) for gaseous exhaust from construction equipment.

2 Emissions for On-Road Mobile Sources (Vendor and Haul Diesel Exhaust) modeled only for roadways within 1,000 feet of the site within the modeling domain.

3 Parameters calculated as per US EPA Haul Road Workgroup Final Report released on March 2, 2012 which suggests the use of Adjacent Volume Sources to represent the haul road.

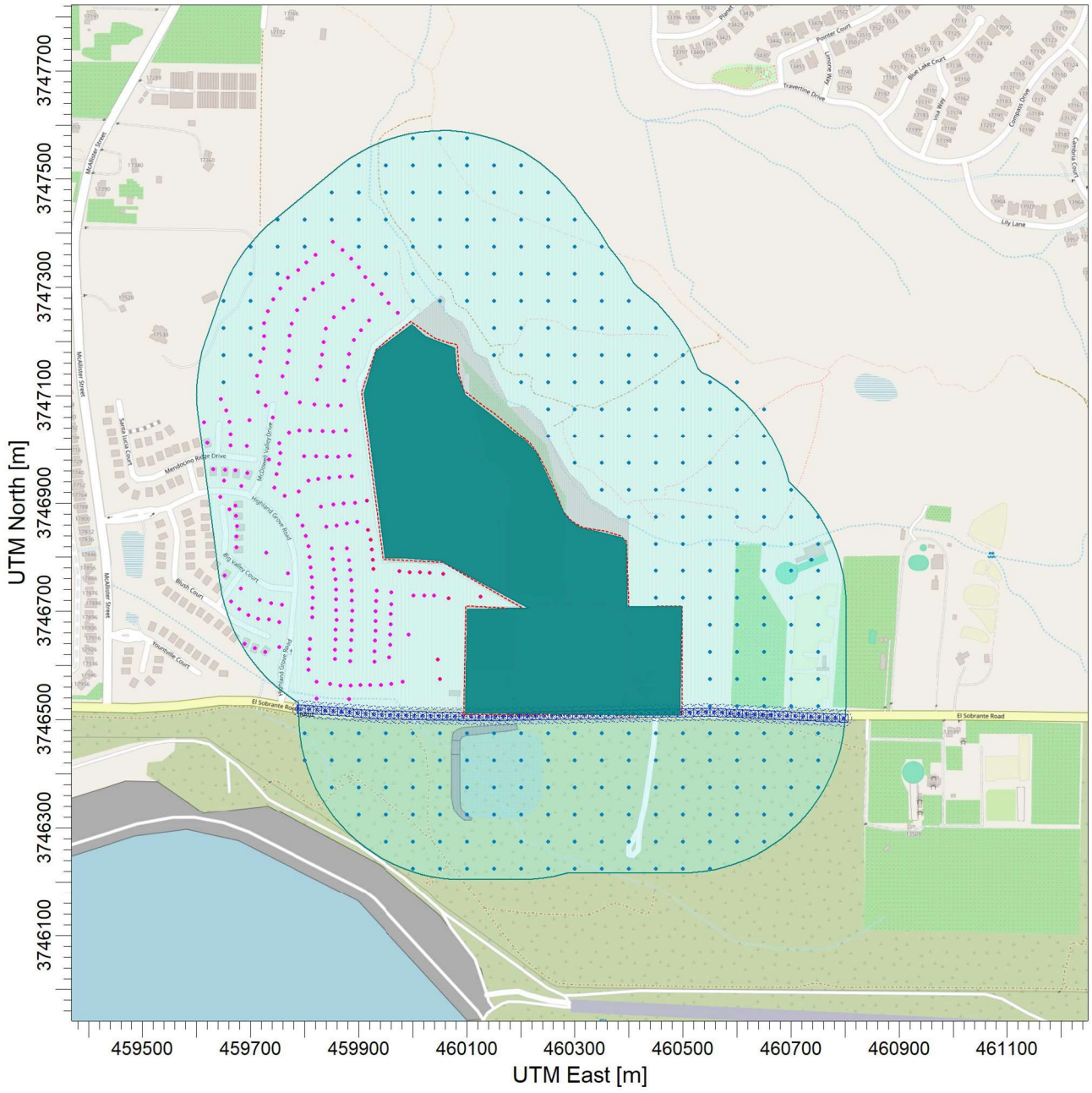
4 Emissions from CalEEModeling for Construction modeled during construction hours as included in Attachment A. See Note 2 above regarding roadway emission portion modeled.

Variable Emission Factors: ALL Sources

Monday - Friday						
1-6	0	0	0	0	0	0
7-12	0	0	1	1	1	1
13-18	0	1	1	1	1	0
19-24	0	0	0	0	0	0
Saturday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0
Sunday						
1-6	0	0	0	0	0	0
7-12	0	0	0	0	0	0
13-18	0	0	0	0	0	0
19-24	0	0	0	0	0	0

PROJECT TITLE:

Riverside County - Highland Grove II
AERMOD Modeling - Source - Receptor Set-up



Source Legend:

Site Area Source
Line-Volume

Receptor Legend:

- Residential
- Sensitive (nearest residential)
- Grid Receptor

Sources / Receptors ;

2 / 512

SCALE: 1:11,826

0 0.4 km

8/`2024
FirstCarbon Solutions

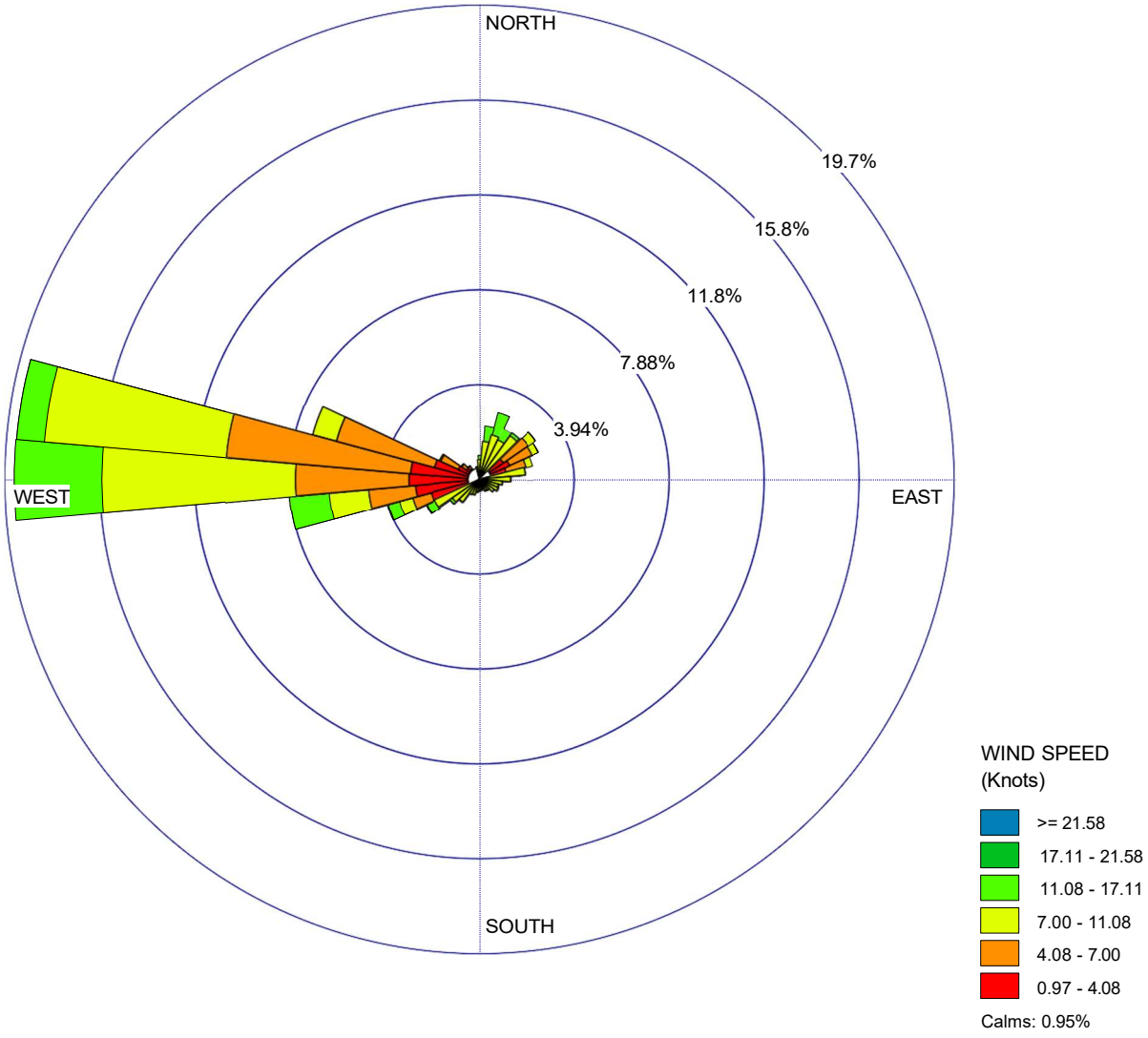
AERMOD View - Lakes Environmental Software

WIND ROSE PLOT:

Riverside Airport KRAL Met Data
Wind Direction for Daytime Construction Hours

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

Start Date: 1/1/2012 - 08:00
End Date: 12/31/2016 - 17:00

CALM WINDS:

0.95%

AVG. WIND SPEED:

6.19 Knots

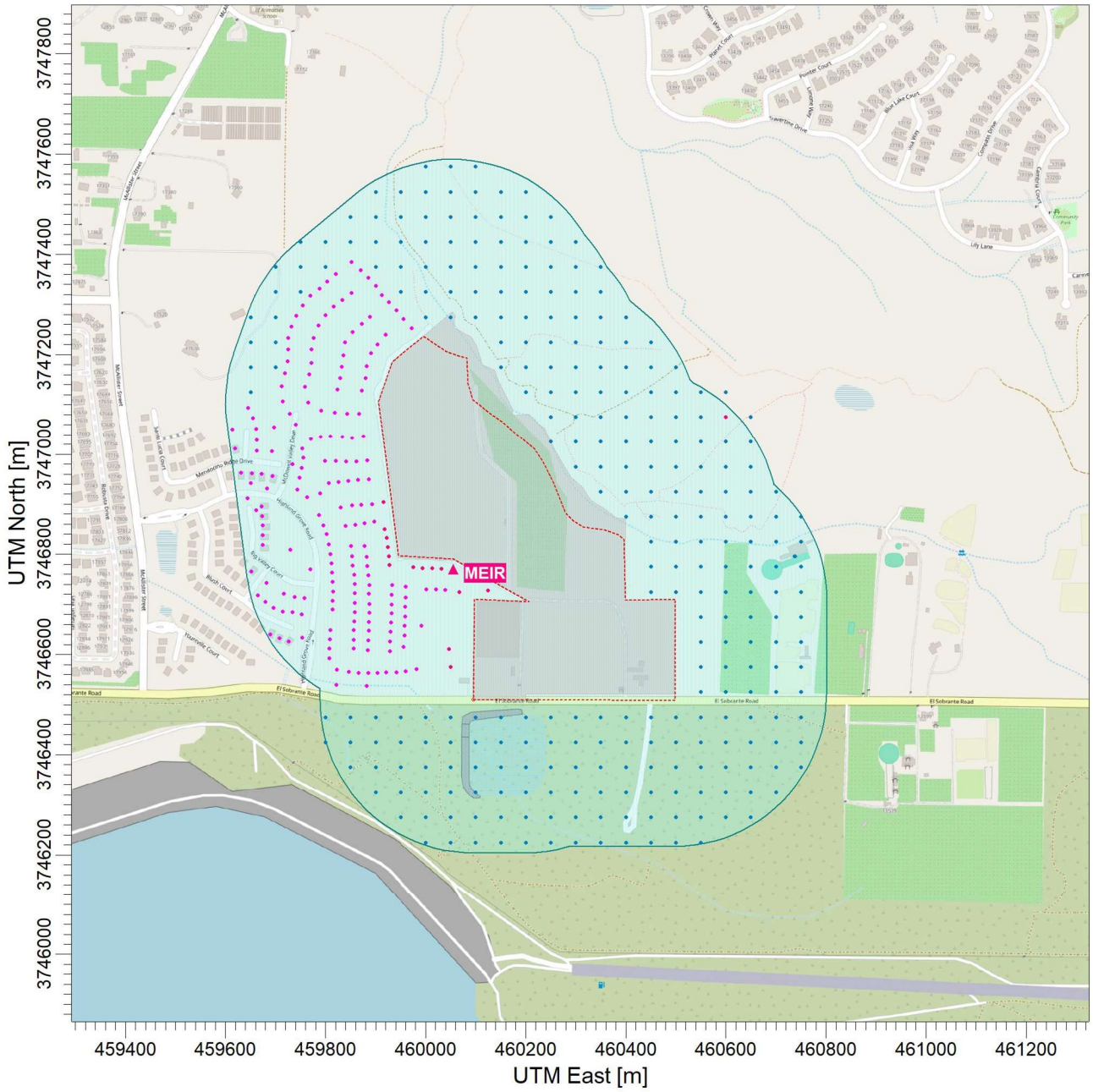
How to Read a Wind Rose Diagram

The wind rose above shows the general wind direction and speed for the meteorological data set used in the AERMOD modeling for the project.'

The circular format of the wind rose shows the direction the winds blew from and the length of each "spoke" around the circle shows how often the wind blew from that direction.

PROJECT TITLE:

Riverside County - Highland Grove II
AERMOD Modeling – Maximum Impact



PROJECT LEGEND:

- Site Boundary -----
- Site

RECEPTOR LEGEND:

- Residential
- Sensitive (nearest residential)
- Grid Receptor

SENSITIVE RECEPTOR LEGEND:

- MEIR = Maximally Exposed Individual Resident

SCALE: 1:12,784
0 0.4 km

8/1/2024
FirstCarbon Solutions

AERMOD View - Lakes Environmental Software

Control Pathway

AERMOD

Dispersion Options

Titles

Riverside Co. Highland Grove II - Construction HRA
Diesel PM

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Urban

Population:
Name (Optional):
Roughness Length:

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM10

Averaging Time Options

Hours ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

Exponential Decay

Default half-life of 4 hrs will be used

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

Optional Files

☐ Re-Start File ☐ Init File ☐ Multi-Year Analyses ☐ Event Input File ☑ Error Listing File

Detailed Error Listing File

Filename: ConHRA.err

Source Pathway - Source Inputs

AERMOD

Source Pathway - Source Inputs

AERMOD

Polygon Area Sources

Source Type: AREA POLY

Source: SITE

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
405.52	5.00	3.67E-8	1.40	32	460094.77	3746510.10
		3.67E-8			460199.11	3746508.93
		3.67E-8			460258.95	3746508.74
		3.67E-8			460367.66	3746508.91
		3.67E-8			460497.41	3746508.23
		3.67E-8			460499.24	3746710.57
		3.67E-8			460399.58	3746708.23
		3.67E-8			460395.98	3746829.84
		3.67E-8			460384.51	3746839.55
		3.67E-8			460356.12	3746848.72
		3.67E-8			460315.25	3746854.87
		3.67E-8			460295.78	3746865.98
		3.67E-8			460279.16	3746882.85
		3.67E-8			460254.52	3746945.93
		3.67E-8			460233.12	3746987.68
		3.67E-8			460217.08	3747010.51
		3.67E-8			460185.44	3747037.61
		3.67E-8			460151.57	3747066.44
		3.67E-8			460132.05	3747079.91
		3.67E-8			460094.49	3747109.62
		3.67E-8			460084.86	3747142.15
		3.67E-8			460082.16	3747193.52
		3.67E-8			460065.44	3747197.56
		3.67E-8			460041.66	3747206.39
		3.67E-8			459995.91	3747236.66
		3.67E-8			459953.53	3747202.85
		3.67E-8			459932.47	3747184.59
		3.67E-8			459905.47	3747107.17
		3.67E-8			459945.45	3746796.77
		3.67E-8			460055.80	3746790.28

Source Pathway - Source Inputs

Source Type: AREA POLY
Source: SITE

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
		3.67E-8			460206.64	3746704.71
		3.67E-8			460097.99	3746710.77

Line Volume Sources

Source Type: LINE VOLUME
Source: HAUL

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
15.00	0.00001		459785.82	3746520.65	401.33	0.00
			459826.79	3746517.24	401.32	0.00
			459944.57	3746508.70	402.82	0.00
			460127.21	3746505.29	406.28	0.00
			460550.53	3746513.83	417.90	0.00
			460801.26	3746502.41	426.44	0.00

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL	L0000001	459793.29	3746520.03	401.37	0.00	1.89E-7	15.00		6.98	3.16
	L0000002	459808.24	3746518.78	401.39	0.00	1.89E-7	15.00		6.98	3.16
	L0000003	459823.19	3746517.54	401.36	0.00	1.89E-7	15.00		6.98	3.16
	L0000004	459838.15	3746516.42	401.23	0.00	1.89E-7	15.00		6.98	3.16
	L0000005	459853.11	3746515.33	401.19	0.00	1.89E-7	15.00		6.98	3.16
	L0000006	459868.07	3746514.25	401.29	0.00	1.89E-7	15.00		6.98	3.16
	L0000007	459883.03	3746513.16	401.49	0.00	1.89E-7	15.00		6.98	3.16
	L0000008	459897.99	3746512.08	401.76	0.00	1.89E-7	15.00		6.98	3.16
	L0000009	459912.95	3746511.00	402.09	0.00	1.89E-7	15.00		6.98	3.16
	L0000010	459927.91	3746509.91	402.44	0.00	1.89E-7	15.00		6.98	3.16
	L0000011	459942.87	3746508.83	402.73	0.00	1.89E-7	15.00		6.98	3.16
	L0000012	459957.87	3746508.46	402.95	0.00	1.89E-7	15.00		6.98	3.16
	L0000013	459972.86	3746508.18	403.18	0.00	1.89E-7	15.00		6.98	3.16
	L0000014	459987.86	3746507.89	403.45	0.00	1.89E-7	15.00		6.98	3.16
	L0000015	460002.86	3746507.61	403.63	0.00	1.89E-7	15.00		6.98	3.16
	L0000016	460017.86	3746507.33	403.92	0.00	1.89E-7	15.00		6.98	3.16
	L0000017	460032.85	3746507.05	404.24	0.00	1.89E-7	15.00		6.98	3.16
	L0000018	460047.85	3746506.77	404.58	0.00	1.89E-7	15.00		6.98	3.16
	L0000019	460062.85	3746506.49	404.90	0.00	1.89E-7	15.00		6.98	3.16
	L0000020	460077.85	3746506.21	405.21	0.00	1.89E-7	15.00		6.98	3.16
	L0000021	460092.84	3746505.93	405.52	0.00	1.89E-7	15.00		6.98	3.16
	L0000022	460107.84	3746505.65	405.84	0.00	1.89E-7	15.00		6.98	3.16
	L0000023	460122.84	3746505.37	406.18	0.00	1.89E-7	15.00		6.98	3.16
	L0000024	460137.83	3746505.50	406.55	0.00	1.89E-7	15.00		6.98	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL	L0000025	460152.83	3746505.81	406.95	0.00	1.89E-7	15.00		6.98	3.16
	L0000026	460167.83	3746506.11	407.36	0.00	1.89E-7	15.00		6.98	3.16
	L0000027	460182.83	3746506.41	407.76	0.00	1.89E-7	15.00		6.98	3.16
	L0000028	460197.82	3746506.71	408.18	0.00	1.89E-7	15.00		6.98	3.16
	L0000029	460212.82	3746507.02	408.62	0.00	1.89E-7	15.00		6.98	3.16
	L0000030	460227.82	3746507.32	409.04	0.00	1.89E-7	15.00		6.98	3.16
	L0000031	460242.81	3746507.62	409.47	0.00	1.89E-7	15.00		6.98	3.16
	L0000032	460257.81	3746507.92	409.88	0.00	1.89E-7	15.00		6.98	3.16
	L0000033	460272.81	3746508.23	410.27	0.00	1.89E-7	15.00		6.98	3.16
	L0000034	460287.80	3746508.53	410.70	0.00	1.89E-7	15.00		6.98	3.16
	L0000035	460302.80	3746508.83	411.11	0.00	1.89E-7	15.00		6.98	3.16
	L0000036	460317.80	3746509.13	411.46	0.00	1.89E-7	15.00		6.98	3.16
	L0000037	460332.80	3746509.44	411.80	0.00	1.89E-7	15.00		6.98	3.16
	L0000038	460347.79	3746509.74	412.14	0.00	1.89E-7	15.00		6.98	3.16
	L0000039	460362.79	3746510.04	412.44	0.00	1.89E-7	15.00		6.98	3.16
	L0000040	460377.79	3746510.34	412.75	0.00	1.89E-7	15.00		6.98	3.16
	L0000041	460392.78	3746510.64	413.04	0.00	1.89E-7	15.00		6.98	3.16
	L0000042	460407.78	3746510.95	413.32	0.00	1.89E-7	15.00		6.98	3.16
	L0000043	460422.78	3746511.25	413.64	0.00	1.89E-7	15.00		6.98	3.16
	L0000044	460437.77	3746511.55	414.07	0.00	1.89E-7	15.00		6.98	3.16
	L0000045	460452.77	3746511.85	414.54	0.00	1.89E-7	15.00		6.98	3.16
	L0000046	460467.77	3746512.16	415.01	0.00	1.89E-7	15.00		6.98	3.16
	L0000047	460482.76	3746512.46	415.49	0.00	1.89E-7	15.00		6.98	3.16
	L0000048	460497.76	3746512.76	415.98	0.00	1.89E-7	15.00		6.98	3.16
	L0000049	460512.76	3746513.06	416.46	0.00	1.89E-7	15.00		6.98	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL	L0000050	460527.76	3746513.37	416.94	0.00	1.89E-7	15.00		6.98	3.16
	L0000051	460542.75	3746513.67	417.52	0.00	1.89E-7	15.00		6.98	3.16
	L0000052	460557.74	3746513.50	418.14	0.00	1.89E-7	15.00		6.98	3.16
	L0000053	460572.73	3746512.81	418.79	0.00	1.89E-7	15.00		6.98	3.16
	L0000054	460587.71	3746512.13	419.42	0.00	1.89E-7	15.00		6.98	3.16
	L0000055	460602.70	3746511.45	419.91	0.00	1.89E-7	15.00		6.98	3.16
	L0000056	460617.68	3746510.77	420.31	0.00	1.89E-7	15.00		6.98	3.16
	L0000057	460632.67	3746510.09	420.63	0.00	1.89E-7	15.00		6.98	3.16
	L0000058	460647.65	3746509.40	420.96	0.00	1.89E-7	15.00		6.98	3.16
	L0000059	460662.63	3746508.72	421.25	0.00	1.89E-7	15.00		6.98	3.16
	L0000060	460677.62	3746508.04	421.48	0.00	1.89E-7	15.00		6.98	3.16
	L0000061	460692.60	3746507.36	421.75	0.00	1.89E-7	15.00		6.98	3.16
	L0000062	460707.59	3746506.67	422.13	0.00	1.89E-7	15.00		6.98	3.16
	L0000063	460722.57	3746505.99	422.63	0.00	1.89E-7	15.00		6.98	3.16
	L0000064	460737.56	3746505.31	423.16	0.00	1.89E-7	15.00		6.98	3.16
	L0000065	460752.54	3746504.63	423.78	0.00	1.89E-7	15.00		6.98	3.16
	L0000066	460767.53	3746503.94	424.50	0.00	1.89E-7	15.00		6.98	3.16
	L0000067	460782.51	3746503.26	425.24	0.00	1.89E-7	15.00		6.98	3.16
	L0000068	460797.50	3746502.58	426.11	0.00	1.89E-7	15.00		6.98	3.16

Source Pathway

Building Downwash Information

Option not in use

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Groups

Source Group ID: DPMUNMIT	List of Sources in Group (Source Range or Single Sources)
	SITE
	HAUL

Source Group ID: ALL	List of Sources in Group (Source Range or Single Sources)
	All Sources Included

Variable Emissions

Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

Source ID:	**SITE**							
Weekdays								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00	
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Saturday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Sunday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Source ID:	**HAUL**							
Weekdays								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00	
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Saturday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Sunday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	460046.29	3746611.32	SENS	404.08	
2	459821.92	3746539.32	RES	399.88	
3	460738.16	3746795.66	UCART	413.13	
4	459753.06	3746633.92	RES	400.17	
5	459768.99	3746770.01	RES	400.86	
6	459683.22	3746931.36	RES	398.36	
7	459740.38	3747059.89	RES	390.92	
8	459728.16	3747081.93	RES	391.40	
9	459714.24	3747106.61	RES	392.79	
10	459712.05	3747136.87	RES	393.28	
11	459718.23	3747162.99	RES	393.30	
12	459723.64	3747186.57	RES	392.24	
13	459724.93	3747210.12	RES	390.45	
14	459725.04	3747233.71	RES	389.58	
15	459732.13	3747255.88	RES	388.53	
16	459741.84	3747277.76	RES	387.08	
17	459754.67	3747298.32	RES	385.76	
18	459769.32	3747317.94	RES	384.06	
19	459787.86	3747331.87	RES	383.32	
20	459803.18	3747345.82	RES	384.18	
21	459820.13	3747360.57	RES	385.05	
22	459851.86	3747322.95	RES	387.29	
23	459833.45	3747308.58	RES	386.52	
24	459815.74	3747295.99	RES	385.78	
25	459799.84	3747279.15	RES	385.34	
26	459786.11	3747258.04	RES	385.25	
27	459775.61	3747233.41	RES	385.91	
28	459771.50	3747210.59	RES	386.69	
29	459771.33	3747183.18	RES	387.45	
30	459767.58	3747161.08	RES	388.30	

31	459758.50	3747135.74	RES	389.55
32	459765.49	3747104.47	RES	389.35
33	459791.24	3747088.27	RES	390.27
34	459817.97	3747084.19	RES	390.47
35	459842.90	3747082.24	RES	390.89
36	459867.11	3747081.70	RES	391.88
37	459823.12	3747130.18	RES	390.16
38	459829.00	3747153.72	RES	390.19
39	459832.05	3747176.17	RES	390.15
40	459835.09	3747198.97	RES	390.15
41	459839.18	3747224.28	RES	390.08
42	459853.98	3747245.39	RES	391.09
43	459872.02	3747261.89	RES	391.89
44	459888.65	3747275.89	RES	390.58
45	459872.75	3747128.25	RES	393.99
46	459880.04	3747153.22	RES	395.10
47	459882.01	3747177.09	RES	394.56
48	459890.73	3747202.78	RES	395.70
49	459904.12	3747220.68	RES	396.66
50	459919.53	3747239.40	RES	394.76
51	459971.84	3747252.70	RES	387.02
52	459955.38	3747271.12	RES	386.87
53	459941.69	3747288.19	RES	386.13
54	459926.41	3747304.80	RES	385.22
55	459912.24	3747319.30	RES	384.50
56	459900.54	3747337.00	RES	383.42
57	459885.83	3747353.27	RES	383.30
58	459870.41	3747369.10	RES	384.34
59	459852.13	3747384.73	RES	385.55
60	459726.54	3746625.59	RES	399.20
61	459707.71	3746632.13	RES	398.67
62	459689.14	3746640.18	RES	398.18
63	459664.02	3746718.02	RES	398.39
64	459679.26	3746704.78	RES	398.58
65	459696.20	3746693.19	RES	398.82
66	459714.26	3746686.12	RES	399.51
67	459734.09	3746685.09	RES	400.28
68	459752.60	3746680.62	RES	400.99

69	459757.97	3746712.44	RES	402.08
70	459737.64	3746715.11	RES	401.12
71	459716.56	3746721.23	RES	399.73
72	459681.72	3746742.75	RES	399.21
73	459651.48	3746765.99	RES	398.78
74	459672.20	3746895.14	RES	398.07
75	459672.96	3746876.43	RES	397.96
76	459674.28	3746857.46	RES	398.17
77	459673.80	3746838.76	RES	398.31
78	459673.74	3746818.96	RES	398.54
79	459644.12	3746911.93	RES	397.43
80	459729.25	3746808.95	RES	399.42
81	459813.69	3746689.46	RES	402.80
82	459813.49	3746706.82	RES	402.75
83	459815.23	3746725.82	RES	402.59
84	459814.27	3746744.69	RES	402.13
85	459813.26	3746763.05	RES	401.77
86	459811.24	3746781.57	RES	401.42
87	459809.06	3746800.36	RES	401.06
88	459806.45	3746820.03	RES	400.69
89	459802.37	3746839.97	RES	400.19
90	459795.82	3746858.15	RES	399.45
91	459786.93	3746877.92	RES	397.86
92	459840.07	3746856.78	RES	400.15
93	459859.15	3746858.72	RES	399.79
94	459878.26	3746862.22	RES	399.38
95	459897.46	3746865.49	RES	398.97
96	459917.51	3746850.16	SENS	399.54
97	459922.19	3746832.64	SENS	400.62
98	459924.23	3746814.10	SENS	401.36
99	459925.94	3746795.91	SENS	401.99
100	459927.36	3746778.45	SENS	402.54
101	459975.18	3746774.40	SENS	405.18
102	459994.06	3746772.42	SENS	405.10
103	460012.72	3746772.11	SENS	405.08
104	460031.10	3746771.18	SENS	405.14
105	460056.05	3746769.77	SENS	405.62
106	460125.06	3746727.39	SENS	405.89

107	460066.69	3746724.69	SENS	406.15
108	460038.89	3746729.37	RES	405.86
109	460020.71	3746729.88	RES	404.96
110	460001.63	3746729.60	RES	404.68
111	459981.42	3746570.53	RES	403.13
112	459960.15	3746566.41	RES	403.01
113	459941.09	3746564.00	RES	403.48
114	459921.50	3746564.22	RES	403.25
115	459903.35	3746563.73	RES	402.83
116	459884.85	3746562.89	RES	402.39
117	459865.97	3746563.47	RES	401.94
118	459846.66	3746565.80	RES	401.53
119	459822.41	3746569.97	RES	401.13
120	459806.94	3746592.57	RES	401.12
121	459807.37	3746612.40	RES	401.51
122	459808.81	3746630.21	RES	401.93
123	459809.90	3746649.16	RES	402.30
124	459855.68	3746611.80	RES	402.94
125	459856.48	3746629.06	RES	403.43
126	459856.55	3746648.55	RES	403.70
127	459857.06	3746666.64	RES	403.67
128	459858.55	3746684.53	RES	403.61
129	459857.95	3746702.76	RES	403.50
130	459857.88	3746722.54	RES	403.14
131	459858.37	3746740.56	RES	402.99
132	459856.74	3746759.35	RES	402.79
133	459854.41	3746777.83	RES	402.12
134	459852.43	3746796.34	RES	401.61
135	459850.42	3746816.54	RES	401.13
136	459878.26	3746816.54	RES	401.25
137	459881.56	3746794.48	RES	401.87
138	459883.61	3746776.42	RES	402.33
139	459885.66	3746758.62	RES	402.87
140	459887.37	3746738.22	RES	403.29
141	459886.65	3746720.83	RES	403.55
142	459887.77	3746701.33	RES	403.90
143	459887.47	3746683.10	RES	404.35
144	459886.60	3746665.14	RES	404.46

145	459886.03	3746647.33	RES	404.30
146	459885.17	3746628.47	RES	404.02
147	459884.46	3746608.46	RES	403.54
148	459928.96	3746607.17	RES	404.48
149	459928.82	3746626.45	RES	404.80
150	459929.61	3746645.81	RES	405.03
151	459930.74	3746664.39	RES	404.90
152	459931.33	3746682.42	RES	404.57
153	459931.42	3746699.93	RES	404.22
154	459932.35	3746719.32	RES	403.82
155	459932.86	3746738.41	RES	403.41
156	459960.30	3746735.09	RES	405.10
157	459959.80	3746713.80	RES	405.13
158	459958.81	3746695.35	RES	404.79
159	459959.29	3746676.35	RES	404.98
160	459957.94	3746657.68	RES	405.25
161	459957.64	3746638.47	RES	405.41
162	459955.96	3746614.96	RES	405.05
163	459882.41	3746537.74	RES	401.73
164	459991.82	3746657.57	RES	404.64
165	459613.64	3747050.34	RES	400.83
166	459619.56	3747011.90	RES	398.16
167	459630.97	3746962.29	RES	397.43
168	459652.44	3746961.99	RES	397.63
169	459672.07	3746960.53	RES	397.31
170	459693.46	3746955.80	RES	397.46
171	459692.84	3747005.91	RES	394.67
172	459662.85	3747006.58	RES	396.04
173	459662.49	3747028.85	RES	396.15
174	459661.18	3747051.63	RES	396.82
175	459654.38	3747073.03	RES	398.67
176	459644.96	3747093.57	RES	401.99
177	459762.55	3746913.88	RES	396.57
178	459744.02	3746929.07	RES	396.56
179	459747.77	3746953.21	RES	395.45
180	459752.63	3746972.56	RES	394.56
181	459755.33	3746992.52	RES	393.82
182	459753.30	3747011.07	RES	392.91

183	459770.53	3747031.38	RES	392.98
184	459790.16	3747035.52	RES	393.75
185	459809.59	3747036.11	RES	394.66
186	459832.89	3747035.03	RES	394.71
187	459852.62	3747033.57	RES	393.99
188	459875.69	3747036.03	RES	393.24
189	459882.82	3746987.51	RES	395.03
190	459861.82	3746985.97	RES	397.33
191	459840.51	3746985.69	RES	398.50
192	459820.87	3746986.53	RES	397.67
193	459799.15	3746986.30	RES	395.73
194	459806.54	3746942.05	RES	396.17
195	459825.26	3746944.85	RES	397.38
196	459845.37	3746946.65	RES	398.80
197	459864.88	3746948.24	RES	398.14
198	459886.58	3746950.14	RES	396.10
199	459830.18	3746893.44	RES	399.64
200	459853.18	3746897.62	RES	398.60
201	459871.78	3746899.18	RES	397.70
202	459892.60	3746900.27	RES	397.54
203	459915.26	3746904.55	SENS	397.31
204	459650.39	3746941.67	RES	397.66
205	459697.47	3747054.83	RES	393.67
206	459734.11	3746980.38	RES	395.01
207	459788.68	3746922.02	RES	396.46
208	459660.99	3746888.22	RES	397.79
209	460000.00	3746225.00	UCART	408.60
210	460050.00	3746225.00	UCART	407.50
211	460100.00	3746225.00	UCART	408.82
212	460150.00	3746225.00	UCART	410.11
213	460200.00	3746225.00	UCART	409.72
214	460250.00	3746225.00	UCART	409.56
215	460300.00	3746225.00	UCART	410.37
216	460350.00	3746225.00	UCART	411.18
217	460400.00	3746225.00	UCART	411.99
218	460450.00	3746225.00	UCART	413.79
219	460500.00	3746225.00	UCART	414.21
220	460550.00	3746225.00	UCART	414.80

221	459950.00	3746275.00	UCART	407.50
222	460000.00	3746275.00	UCART	407.34
223	460050.00	3746275.00	UCART	407.44
224	460100.00	3746275.00	UCART	409.36
225	460150.00	3746275.00	UCART	411.15
226	460200.00	3746275.00	UCART	408.50
227	460250.00	3746275.00	UCART	408.79
228	460300.00	3746275.00	UCART	409.92
229	460350.00	3746275.00	UCART	411.02
230	460400.00	3746275.00	UCART	412.03
231	460450.00	3746275.00	UCART	413.65
232	460500.00	3746275.00	UCART	414.36
233	460550.00	3746275.00	UCART	415.84
234	460600.00	3746275.00	UCART	417.01
235	460650.00	3746275.00	UCART	417.53
236	459900.00	3746325.00	UCART	408.58
237	459950.00	3746325.00	UCART	406.44
238	460000.00	3746325.00	UCART	406.05
239	460050.00	3746325.00	UCART	407.37
240	460100.00	3746325.00	UCART	409.18
241	460150.00	3746325.00	UCART	409.76
242	460200.00	3746325.00	UCART	407.78
243	460250.00	3746325.00	UCART	409.03
244	460300.00	3746325.00	UCART	410.31
245	460350.00	3746325.00	UCART	411.32
246	460400.00	3746325.00	UCART	412.32
247	460450.00	3746325.00	UCART	413.35
248	460500.00	3746325.00	UCART	414.53
249	460550.00	3746325.00	UCART	416.64
250	460600.00	3746325.00	UCART	418.49
251	460650.00	3746325.00	UCART	418.98
252	460700.00	3746325.00	UCART	419.32
253	459850.00	3746375.00	UCART	405.41
254	459900.00	3746375.00	UCART	405.69
255	459950.00	3746375.00	UCART	404.66
256	460000.00	3746375.00	UCART	406.26
257	460050.00	3746375.00	UCART	406.33
258	460100.00	3746375.00	UCART	406.62

259	460150.00	3746375.00	UCART	406.19
260	460200.00	3746375.00	UCART	407.66
261	460250.00	3746375.00	UCART	408.94
262	460300.00	3746375.00	UCART	410.64
263	460350.00	3746375.00	UCART	411.57
264	460400.00	3746375.00	UCART	412.24
265	460450.00	3746375.00	UCART	413.86
266	460500.00	3746375.00	UCART	415.35
267	460550.00	3746375.00	UCART	416.18
268	460600.00	3746375.00	UCART	417.50
269	460650.00	3746375.00	UCART	419.20
270	460700.00	3746375.00	UCART	420.87
271	460750.00	3746375.00	UCART	421.53
272	459800.00	3746425.00	UCART	413.45
273	459850.00	3746425.00	UCART	404.49
274	459900.00	3746425.00	UCART	403.56
275	459950.00	3746425.00	UCART	404.37
276	460000.00	3746425.00	UCART	404.51
277	460050.00	3746425.00	UCART	404.91
278	460100.00	3746425.00	UCART	405.23
279	460150.00	3746425.00	UCART	406.24
280	460200.00	3746425.00	UCART	407.71
281	460250.00	3746425.00	UCART	409.08
282	460300.00	3746425.00	UCART	410.35
283	460350.00	3746425.00	UCART	411.10
284	460400.00	3746425.00	UCART	411.95
285	460450.00	3746425.00	UCART	413.22
286	460500.00	3746425.00	UCART	414.60
287	460550.00	3746425.00	UCART	415.72
288	460600.00	3746425.00	UCART	416.98
289	460650.00	3746425.00	UCART	418.72
290	460700.00	3746425.00	UCART	420.47
291	460750.00	3746425.00	UCART	422.03
292	459800.00	3746475.00	UCART	403.83
293	459850.00	3746475.00	UCART	402.51
294	459900.00	3746475.00	UCART	402.56
295	459950.00	3746475.00	UCART	403.23
296	460000.00	3746475.00	UCART	403.64

297	460050.00	3746475.00	UCART	404.05
298	460100.00	3746475.00	UCART	405.07
299	460150.00	3746475.00	UCART	406.34
300	460200.00	3746475.00	UCART	407.78
301	460250.00	3746475.00	UCART	409.26
302	460300.00	3746475.00	UCART	410.63
303	460350.00	3746475.00	UCART	411.41
304	460400.00	3746475.00	UCART	412.18
305	460450.00	3746475.00	UCART	413.73
306	460500.00	3746475.00	UCART	415.09
307	460550.00	3746475.00	UCART	416.84
308	460600.00	3746475.00	UCART	418.42
309	460650.00	3746475.00	UCART	419.18
310	460700.00	3746475.00	UCART	419.99
311	460750.00	3746475.00	UCART	422.84
312	460550.00	3746525.00	UCART	417.75
313	460600.00	3746525.00	UCART	420.60
314	460650.00	3746525.00	UCART	422.37
315	460700.00	3746525.00	UCART	421.67
316	460750.00	3746525.00	UCART	422.57
317	460050.00	3746575.00	SENS	404.16
318	460550.00	3746575.00	UCART	418.93
319	460600.00	3746575.00	UCART	421.34
320	460650.00	3746575.00	UCART	424.32
321	460700.00	3746575.00	UCART	423.45
322	460750.00	3746575.00	UCART	423.03
323	460550.00	3746625.00	UCART	418.72
324	460600.00	3746625.00	UCART	422.52
325	460650.00	3746625.00	UCART	424.95
326	460700.00	3746625.00	UCART	421.75
327	460750.00	3746625.00	UCART	423.19
328	460550.00	3746675.00	UCART	418.45
329	460600.00	3746675.00	UCART	420.87
330	460650.00	3746675.00	UCART	419.62
331	460700.00	3746675.00	UCART	417.49
332	460750.00	3746675.00	UCART	423.45
333	460450.00	3746725.00	UCART	412.12
334	460500.00	3746725.00	UCART	414.22

335	460550.00	3746725.00	UCART	412.90
336	460600.00	3746725.00	UCART	415.82
337	460650.00	3746725.00	UCART	414.36
338	460700.00	3746725.00	UCART	416.21
339	460750.00	3746725.00	UCART	420.16
340	460450.00	3746775.00	UCART	408.38
341	460500.00	3746775.00	UCART	408.23
342	460550.00	3746775.00	UCART	409.95
343	460600.00	3746775.00	UCART	411.77
344	460650.00	3746775.00	UCART	412.54
345	460700.00	3746775.00	UCART	413.12
346	460750.00	3746775.00	UCART	415.40
347	460450.00	3746825.00	UCART	401.26
348	460500.00	3746825.00	UCART	402.20
349	460550.00	3746825.00	UCART	403.27
350	460600.00	3746825.00	UCART	404.23
351	460650.00	3746825.00	UCART	403.48
352	460700.00	3746825.00	UCART	405.26
353	460750.00	3746825.00	UCART	412.21
354	460450.00	3746875.00	UCART	404.12
355	460500.00	3746875.00	UCART	408.34
356	460550.00	3746875.00	UCART	408.53
357	460600.00	3746875.00	UCART	409.01
358	460650.00	3746875.00	UCART	411.06
359	460700.00	3746875.00	UCART	411.46
360	460750.00	3746875.00	UCART	411.78
361	460350.00	3746925.00	UCART	397.96
362	460400.00	3746925.00	UCART	401.99
363	460450.00	3746925.00	UCART	409.54
364	460500.00	3746925.00	UCART	412.82
365	460550.00	3746925.00	UCART	412.71
366	460600.00	3746925.00	UCART	411.85
367	460650.00	3746925.00	UCART	412.96
368	460700.00	3746925.00	UCART	413.69
369	460650.00	3746975.00	UCART	414.96
370	460650.00	3747025.00	UCART	417.94
371	459650.00	3747125.00	UCART	402.51
372	460200.00	3747125.00	UCART	391.36

373	460250.00	3747125.00	UCART	396.10
374	460300.00	3747125.00	UCART	400.01
375	460350.00	3747125.00	UCART	400.78
376	460400.00	3747125.00	UCART	401.94
377	460450.00	3747125.00	UCART	404.52
378	460500.00	3747125.00	UCART	409.11
379	460550.00	3747125.00	UCART	413.57
380	459650.00	3747175.00	UCART	402.02
381	459700.00	3747175.00	UCART	395.83
382	460150.00	3747175.00	UCART	385.19
383	460200.00	3747175.00	UCART	393.65
384	460250.00	3747175.00	UCART	397.31
385	460300.00	3747175.00	UCART	399.99
386	460350.00	3747175.00	UCART	403.01
387	460400.00	3747175.00	UCART	405.31
388	460450.00	3747175.00	UCART	408.44
389	460500.00	3747175.00	UCART	409.96
390	459650.00	3747225.00	UCART	400.44
391	459700.00	3747225.00	UCART	392.64
392	460150.00	3747225.00	UCART	389.34
393	460200.00	3747225.00	UCART	397.25
394	460250.00	3747225.00	UCART	399.50
395	460300.00	3747225.00	UCART	402.91
396	460350.00	3747225.00	UCART	402.81
397	460400.00	3747225.00	UCART	407.21
398	460450.00	3747225.00	UCART	411.27
399	459650.00	3747275.00	UCART	400.22
400	459700.00	3747275.00	UCART	392.12
401	460000.00	3747275.00	UCART	383.91
402	460100.00	3747275.00	UCART	386.51
403	460150.00	3747275.00	UCART	390.21
404	460200.00	3747275.00	UCART	397.15
405	460250.00	3747275.00	UCART	396.71
406	460300.00	3747275.00	UCART	397.93
407	460350.00	3747275.00	UCART	401.14
408	460400.00	3747275.00	UCART	406.92
409	459700.00	3747325.00	UCART	390.44
410	459750.00	3747325.00	UCART	385.15

411	459950.00	3747325.00	UCART	382.44
412	460000.00	3747325.00	UCART	376.83
413	460050.00	3747325.00	UCART	383.43
414	460100.00	3747325.00	UCART	386.63
415	460150.00	3747325.00	UCART	389.16
416	460200.00	3747325.00	UCART	391.59
417	460250.00	3747325.00	UCART	392.81
418	460300.00	3747325.00	UCART	396.98
419	460350.00	3747325.00	UCART	401.16
420	459700.00	3747375.00	UCART	386.70
421	459750.00	3747375.00	UCART	382.70
422	459800.00	3747375.00	UCART	385.08
423	459900.00	3747375.00	UCART	380.79
424	459950.00	3747375.00	UCART	378.82
425	460000.00	3747375.00	UCART	377.21
426	460050.00	3747375.00	UCART	382.56
427	460100.00	3747375.00	UCART	384.42
428	460150.00	3747375.00	UCART	388.32
429	460200.00	3747375.00	UCART	390.61
430	460250.00	3747375.00	UCART	393.87
431	460300.00	3747375.00	UCART	396.08
432	460350.00	3747375.00	UCART	397.85
433	459750.00	3747425.00	UCART	381.60
434	459800.00	3747425.00	UCART	381.77
435	459850.00	3747425.00	UCART	383.08
436	459900.00	3747425.00	UCART	378.39
437	459950.00	3747425.00	UCART	372.62
438	460000.00	3747425.00	UCART	379.45
439	460050.00	3747425.00	UCART	380.82
440	460100.00	3747425.00	UCART	386.46
441	460150.00	3747425.00	UCART	390.19
442	460200.00	3747425.00	UCART	393.05
443	460250.00	3747425.00	UCART	396.04
444	460300.00	3747425.00	UCART	399.12
445	459850.00	3747475.00	UCART	380.80
446	459900.00	3747475.00	UCART	376.22
447	459950.00	3747475.00	UCART	376.41
448	460000.00	3747475.00	UCART	377.26

449	460050.00	3747475.00	UCART	380.74
450	460100.00	3747475.00	UCART	387.74
451	460150.00	3747475.00	UCART	392.60
452	460200.00	3747475.00	UCART	396.23
453	460250.00	3747475.00	UCART	397.80
454	459900.00	3747525.00	UCART	375.42
455	459950.00	3747525.00	UCART	375.56
456	460000.00	3747525.00	UCART	375.81
457	460050.00	3747525.00	UCART	379.09
458	460100.00	3747525.00	UCART	382.99
459	460150.00	3747525.00	UCART	387.90
460	460200.00	3747525.00	UCART	389.76
461	460000.00	3747575.00	UCART	374.36
462	460050.00	3747575.00	UCART	376.15
463	460100.00	3747575.00	UCART	379.25
464	460737.52	3746795.84	UCART	413.13
465	460400.00	3746875.00	UCART	394.12
466	460450.00	3746875.00	UCART	404.12
467	460500.00	3746875.00	UCART	408.34
468	460550.00	3746875.00	UCART	408.53
469	460600.00	3746875.00	UCART	409.01
470	460650.00	3746875.00	UCART	411.06
471	460350.00	3746925.00	UCART	397.96
472	460400.00	3746925.00	UCART	401.99
473	460450.00	3746925.00	UCART	409.54
474	460500.00	3746925.00	UCART	412.82
475	460550.00	3746925.00	UCART	412.71
476	460600.00	3746925.00	UCART	411.85
477	460650.00	3746925.00	UCART	412.96
478	460300.00	3746975.00	UCART	395.93
479	460350.00	3746975.00	UCART	400.03
480	460400.00	3746975.00	UCART	404.55
481	460450.00	3746975.00	UCART	409.09
482	460500.00	3746975.00	UCART	411.89
483	460550.00	3746975.00	UCART	416.63
484	460600.00	3746975.00	UCART	414.55
485	460650.00	3746975.00	UCART	414.96
486	460250.00	3747025.00	UCART	388.78

487	460300.00	3747025.00	UCART	397.21	
488	460350.00	3747025.00	UCART	401.19	
489	460400.00	3747025.00	UCART	403.28	
490	460450.00	3747025.00	UCART	405.75	
491	460500.00	3747025.00	UCART	410.65	
492	460550.00	3747025.00	UCART	415.22	
493	460600.00	3747025.00	UCART	418.13	
494	460650.00	3747025.00	UCART	417.94	
495	460250.00	3747075.00	UCART	394.36	
496	460300.00	3747075.00	UCART	395.98	
497	460350.00	3747075.00	UCART	398.46	
498	460400.00	3747075.00	UCART	401.69	
499	460450.00	3747075.00	UCART	404.86	
500	460500.00	3747075.00	UCART	408.35	
501	460550.00	3747075.00	UCART	413.07	
502	460600.00	3747075.00	SENS	417.53	
503	460650.00	3747075.00	UCART	421.50	
504	460250.00	3747125.00	UCART	396.10	
505	460300.00	3747125.00	UCART	400.01	
506	460350.00	3747125.00	UCART	400.78	
507	460400.00	3747125.00	UCART	401.94	
508	460450.00	3747125.00	UCART	404.52	
509	460500.00	3747125.00	UCART	409.11	
510	460550.00	3747125.00	UCART	413.57	
511	460600.00	3747125.00	UCART	417.15	
512	460050.00	3747275.00	UCART	379.66	

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	UCART	GRID RECEPTORS - UNSPECIFIED
2	RES	RESIDENTIAL RECEPTORS
3	SENS	SENSITIVE RECEPTOR

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: ..\MetData\KRAL_v9.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: ..\MetData\KRAL_v9.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 245.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2012			
Upper Air		2012			

Data Period

Data Period to Process

Start Date: 1/1/2012 Start Hour: 1 End Date: 12/31/2016 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Results Summary

Riverside Co. Highland Grove II - Construction HRA
Diesel PM

PM10 - Concentration - Source Group: DPMUNMIT

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.02080	ug/m^3	460450.00	3746725.00	412.12	0.00	415.35	

Sensitive Receptor Summary

Riverside Co. Highland Grove II - Construction HRA
Diesel PM

PM10 - Concentration - Source Group: DPMUNMIT

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00586	ug/m^3		460046.29	3746611.32	404.08	0.00	404.08	
PERIOD		0.00786	ug/m^3		459917.51	3746850.16	399.54	0.00	399.54	
PERIOD		0.00811	ug/m^3		459922.19	3746832.64	400.62	0.00	400.62	
PERIOD		0.00786	ug/m^3		459924.23	3746814.10	401.36	0.00	401.36	
PERIOD		0.00730	ug/m^3		459925.94	3746795.91	401.99	0.00	401.99	
PERIOD		0.00646	ug/m^3		459927.36	3746778.45	402.54	0.00	402.54	
PERIOD		0.00902	ug/m^3		459975.18	3746774.40	405.18	0.00	405.18	
PERIOD		0.00991	ug/m^3		459994.06	3746772.42	405.10	0.00	405.10	
PERIOD		0.01108	ug/m^3		460012.72	3746772.11	405.08	0.00	405.08	
PERIOD		0.01216	ug/m^3		460031.10	3746771.18	405.14	0.00	405.14	
PERIOD		0.01395	ug/m^3	MEIR	460056.05	3746769.77	405.62	0.00	405.62	
PERIOD		0.01382	ug/m^3		460125.06	3746727.39	405.89	0.00	405.89	
PERIOD		0.00827	ug/m^3		460066.69	3746724.69	406.15	0.00	406.15	
PERIOD		0.00821	ug/m^3		459915.26	3746904.55	397.31	0.00	397.31	
PERIOD		0.00598	ug/m^3		460050.00	3746575.00	404.16	0.00	404.16	

HEALTH RISK ASSESSMENT CALCULATIONS

The HRA was conducted utilizing the CARB's Hot Spots Analysis and Reporting Program Version 2 (HARP2) to automatically calculate risks for the projects using OEHHA promulgated cancer potency and reference exposure levels. The approach used in HARP is consistent with district's risk assessment guidance methodology under permitting rules 1401 and 212. Since AERMOD was run with project emission rates to directly calculate potential DPM and PM2.5 concentrations, the Health Risk Assessment Standalone Tool (RAST) version of HARP2 was used.

The HRA follows SCAQMD Risk Assessment Guidelines and is based on foundational OEHHA Guidance from the Hot Spots Program Guidance (2015). This risk assessment intake methodology addresses children's greater sensitivity and health impacts from early exposure to carcinogenic compounds. The chemical intake or dose describing the frequency and duration of the exposure is estimated using receptor's breathing rates, exposure duration, and exposure frequency. The calculations include the use of age-specific weighting factors, breathing rates, fraction of time at home, and reduced exposure durations.

These factors are described below, followed by a summary of the HARP2 HRA inputs and cancer and noncancer risk results for selected for each receptor group (i.e., resident, off-site worker, and student).

There are no schools within ¼ mile of the proposed project site (the closest school is Lake Hills Elementary School located more than 3 miles northwest from the site). Therefore, the risk assessment considered only residential and off-site worker receptors as described below.

Age Sensitivity Factors –Scientific data have shown that young animals are more sensitive than adult animals to exposure to many carcinogens. Therefore, OEHHA developed ASFs to take into account the increased sensitivity to carcinogens during early-in-life exposure. OEHHA recommends an ASF of 10 for exposures that occur from the third trimester of pregnancy to 2 years, and an ASF of 3 for exposures that occur from 2 years through 15 years of age.

Daily breathing rates DBR (age-specific daily air intake) – For residential receptors, the HRA utilizes the 95th percentile breathing rates for the most sensitive age groups (less than 2 years of age) and 80th percentile for all other age groups. This approach jointly developed by ARB and CAPCOA[1] and adopted by SCAQMD[2] is referred to as the "Risk Management Policy" and was developed to consider the new science in risk assessment while providing a reasonable estimate of potential cancer risk for risk management decisions. and used in this HRA. The HRA uses 95th percentile 8-hour breathing rates for moderate intensity activities for worker and student exposure.[3]

Fraction of Time Spent at home ***(FAH)*****–** The time at home applies only applies to residential receptors. Residents are assumed to be at home 350 days per year, which assumes individuals are away for

[1] California Air Resources Board (ARB) and California Air Pollution Control Officers Association (CAPCOA). 2015. Risk Management Guidance for Stationary Sources of Air Toxics. July 23. Website: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/rma/rmgssat.pdf. Accessed April 8, 2024.

[2] SCAQMD, 2017, Risk Assessment Procedures for Rules 1401, 1401.1 and 212 Version 8.1, https://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf, September.

[3] Office of Environmental Health Hazard Assessment (OEHHA). 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed March 29, 2024.

approximately 2 weeks of vacation. The fraction of time at home refers to the estimated amount of time residents stay at home during these 350 days. The HRA uses the OEHHA and SCAQMD recommended values of 73% time at home for 16-year-olds and above based on based on population and activity statistics. The HRA also assumes 100 percent time at home for receptors under age 16 to address exposures at local schools close to emitting sources. Even though infants and children may not be at their residence all the time, they are likely to remain in the neighborhood (at schools or neighbors) and would be exposed to similar levels of the pollutants.

E***xposure Frequency (EF) -*** EF is the number of days per year of exposure for the given scenario (i.e. residential, worker). OEHHA recommends the use of 350 days/year for residential exposure (applicable to 30-year risk assessments), and 250 days/year for worker exposure. This equates to EF = 0.96 for residential exposure and EF = 0.68 for worker exposure.

Exposure Duration - OEHHA 2015 guidelines specify a 30-year residential exposure duration for estimating cancer risk at the maximum exposed individual resident (MEIR). This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. A 25-year standard exposure duration is the default to estimate cancer risk for off-site workers. Consistent with OEHHA guidance, SCAQMD specifies the use of a 30-year ED (residency time) is for residential and sensitive receptor locations. A 25-year ED should be used for off-site workers (i.e., receptor locations in commercial or industrial areas).

However, risk assessors can use other exposure durations with proper justification and documentation. For example, short-term projects (e.g., construction projects) can now be evaluated for as short a duration as 6 months. Construction for this project is four years.

Residential Cancer Risk

Cancer risk for individual resident receptors exposed to “Diesel Particulate Exhaust” (DPM) were calculated utilizing the “Risk Management Policy” option for inhalation, specifying that residents spend 100% time at home for ages less than 16 years old. Consistent with OEHHA guidance, the start of residential exposure was assumed to occur in the third trimester (-0.25 years) to accommodate the increased susceptibility of exposures in early life. Since the construction is anticipated to occur for 1.53 years, the residential exposure starts with the unborn child at the third trimester (when construction begins) and continues until the child is 3.75 years of age. Because there are no significant sources of TAC emissions during operations, the exposure assessment is limited to the duration of the proposed project construction or four (4) years.

Residential Cancer Burden

The cancer burden is the estimated increase in the occurrence of cancer cases in a population as a result of exposures to TAC emissions from the equipment over a 70-year exposure duration. The cancer burden for a population unit (city, census tract, sub-area or grid) is the product of the number of persons in the population and the estimated individual risk from TACs. The cancer burden only needs to be calculated if the resulting MICR from a 30-year exposure duration is greater than one in one million.

The following procedure may be used to perform an acceptable screening analysis for cancer burden:

• Re-calculate total MICR using a 70-year exposure duration, as is required in the 2015 OEHHA Guidelines[4] . (Note: *For a construction HRA, the 70-year cancer risk is identical to the 30-year cancer risk since the construction duration is less than 30-years*).

• Estimate the distance at which the MICR from a 70-year exposure duration falls below one in one million.

• Define a zone of impact in the shape of a circle. The radius (r) of this circle is the distance between the equipment and the point at which the risk falls below one in one million. The area of this circle is calculated using the equation for the area of a circle, which is 3.14 x r^2 .

• Estimate the residential population within this zone of impact based on census data or a worst-case estimate. Generally, the residential population in the Basin is less than 4,000 persons/km^2 , but some areas are as high as 7,000 persons/km2 . For areas where census data is available, it should be used. Where there is no census data, 7,000 persons/km2 should be used for the areas with high population densities and 4,000 persons/km2 should be used for areas with low population densities (such as locations along the Pacific Ocean). Where the population densities are unknown, use 7,000 persons/km2

• Calculate the screening level cancer burden by multiplying the total residential population in the zone of impact by the maximum individual cancer risk.

Radius where risk is > 1 in a million and <10 in a million = 825 m

Burden Area = π 825^2 $-$ $Site\ Area\ (m2)$

Site Area = 55.14 acres= 223,132 m^2

Burdened Area = 2,138,246 m^2 - 223,132 m^2 = 1,915,114 m^2 = 1.92 km^2

Assuming density of 4,000 persons/km^2 = 7660 persons in burdened area

Screening Level Maximum Cancer Burden = 10 x 10^{-6} x 7660 = 0.077 increased cancer cases

Worker Cancer Risk

The surrounding area is primarily residential and the MEIR represents the maximum worst case exposure. Cancer and Chronic HI values at the vacant point of maximum impact are included in the HARP results and are below all thresholds.

Noncancer Chronic Health Risks

Chronic RELs are used to assess not only residential health impacts, but also worker and student health impacts.

Potential chronic noncancer health impacts use the long-term annual average concentration regardless of the emitting facility's schedule. As per OEHHA guidance, no adjustment factors were used to adjust this concentration for workers or students. The chronic HI at the point of maximum

impact represents the maximum chronic impact from the project for all receptor types and is less than the significance threshold.

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 3.75

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 1.75
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk saved to: F:\Jobs\07600052\ConHRA\HARP\ResCancerCancerRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 8/1/2024 8:06:28 AM -
Cancer Risk - Input File: F:\Jobs\07600052\ConHRA\HARP\ResCancerHRAInput.hra

UTME	UTMN	Pollutant	Conc (ug/m3)	Risk	Scenario	Inhalation Risk
MEIR	nan	DieselExhPM	0.01395	5.4685e-06	3.75YrCancerRMP_Inh_FAH16to70	5.4685e-06
PMI	nan	DieselExhPM	0.0208	8.1538e-06	3.75YrCancerRMP_Inh_FAH16to70	8.1538e-06

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating chronic risk
Chronic risk saved to: F:\Jobs\07600052\ConHRA\HARP\ResChronicNCChronicRisk.csv
HRA ran successfully

UTME	UTMN	Pollutant	Conc (ug/m3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO	RESP	SKIN	EYE	B/T	ENDO	BLOOD	ODOR	GEN
MEIR	nan	DieselExhPM	0.01395	0.0	0.0	0.0	0.0	0.0	0.0	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PMI	nan	DieselExhPM	0.0208	0.0	0.0	0.0	0.0	0.0	0.0	0.00416	0.0	0.0	0.0	0.0	0.0	0.0	0.0

*HARP - HRACalc v22118 8/1/2024 9:47:36 AM - Cancer Risk - Input File: \\192.168.10.105\Jobs\07600052\ConHRA4Burden\HARP\hra\ResCancerHRAInput.hra

REC	GRP	NETID	X	Y	CONC	POLID	POLABBRE'	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1	ALL		460046.3	3746611	0.005833	9901	DieselExhP	2.29E-06	3.75YrCanc	*	2.29E-06
2	ALL		459821.9	3746539	0.001707	9901	DieselExhP	6.69E-07	3.75YrCanc	*	6.69E-07
3	ALL		460738.2	3746796	0.004808	9901	DieselExhP	1.88E-06	3.75YrCanc	*	1.88E-06
4	ALL		459753.1	3746634	0.001458	9901	DieselExhP	5.71E-07	3.75YrCanc	*	5.71E-07
5	ALL		459769	3746770	0.001887	9901	DieselExhP	7.40E-07	3.75YrCanc	*	7.40E-07
6	ALL		459683.2	3746931	0.001131	9901	DieselExhP	4.43E-07	3.75YrCanc	*	4.43E-07
7	ALL		459740.4	3747060	0.001221	9901	DieselExhP	4.79E-07	3.75YrCanc	*	4.79E-07
8	ALL		459728.2	3747082	0.001055	9901	DieselExhP	4.14E-07	3.75YrCanc	*	4.14E-07
9	ALL		459714.2	3747107	0.000894	9901	DieselExhP	3.50E-07	3.75YrCanc	*	3.50E-07
10	ALL		459712.1	3747137	0.000785	9901	DieselExhP	3.08E-07	3.75YrCanc	*	3.08E-07
11	ALL		459718.2	3747163	0.000726	9901	DieselExhP	2.84E-07	3.75YrCanc	*	2.84E-07
12	ALL		459723.6	3747187	0.000667	9901	DieselExhP	2.61E-07	3.75YrCanc	*	2.61E-07
13	ALL		459724.9	3747210	0.000596	9901	DieselExhP	2.34E-07	3.75YrCanc	*	2.34E-07
14	ALL		459725	3747234	0.000531	9901	DieselExhP	2.08E-07	3.75YrCanc	*	2.08E-07
15	ALL		459732.1	3747256	0.000489	9901	DieselExhP	1.92E-07	3.75YrCanc	*	1.92E-07
16	ALL		459741.8	3747278	0.000453	9901	DieselExhP	1.77E-07	3.75YrCanc	*	1.77E-07
17	ALL		459754.7	3747298	0.000424	9901	DieselExhP	1.66E-07	3.75YrCanc	*	1.66E-07
18	ALL		459769.3	3747318	0.000398	9901	DieselExhP	1.56E-07	3.75YrCanc	*	1.56E-07
19	ALL		459787.9	3747332	0.000388	9901	DieselExhP	1.52E-07	3.75YrCanc	*	1.52E-07
20	ALL		459803.2	3747346	0.000376	9901	DieselExhP	1.47E-07	3.75YrCanc	*	1.47E-07
21	ALL		459820.1	3747361	0.000363	9901	DieselExhP	1.42E-07	3.75YrCanc	*	1.42E-07
22	ALL		459851.9	3747323	0.000493	9901	DieselExhP	1.93E-07	3.75YrCanc	*	1.93E-07
23	ALL		459833.5	3747309	0.00051	9901	DieselExhP	2.00E-07	3.75YrCanc	*	2.00E-07
24	ALL		459815.7	3747296	0.00052	9901	DieselExhP	2.04E-07	3.75YrCanc	*	2.04E-07
25	ALL		459799.8	3747279	0.000544	9901	DieselExhP	2.13E-07	3.75YrCanc	*	2.13E-07
26	ALL		459786.1	3747258	0.000585	9901	DieselExhP	2.29E-07	3.75YrCanc	*	2.29E-07
27	ALL		459775.6	3747233	0.000648	9901	DieselExhP	2.54E-07	3.75YrCanc	*	2.54E-07
28	ALL		459771.5	3747211	0.000728	9901	DieselExhP	2.85E-07	3.75YrCanc	*	2.85E-07
29	ALL		459771.3	3747183	0.000854	9901	DieselExhP	3.35E-07	3.75YrCanc	*	3.35E-07
30	ALL		459767.6	3747161	0.000947	9901	DieselExhP	3.71E-07	3.75YrCanc	*	3.71E-07
31	ALL		459758.5	3747136	0.001023	9901	DieselExhP	4.01E-07	3.75YrCanc	*	4.01E-07
32	ALL		459765.5	3747104	0.001231	9901	DieselExhP	4.82E-07	3.75YrCanc	*	4.82E-07
33	ALL		459791.2	3747088	0.001607	9901	DieselExhP	6.30E-07	3.75YrCanc	*	6.30E-07
34	ALL		459818	3747084	0.002074	9901	DieselExhP	8.13E-07	3.75YrCanc	*	8.13E-07
35	ALL		459842.9	3747082	0.002739	9901	DieselExhP	1.07E-06	3.75YrCanc	*	1.07E-06
36	ALL		459867.1	3747082	0.003843	9901	DieselExhP	1.51E-06	3.75YrCanc	*	1.51E-06
37	ALL		459823.1	3747130	0.001742	9901	DieselExhP	6.83E-07	3.75YrCanc	*	6.83E-07
38	ALL		459829	3747154	0.001584	9901	DieselExhP	6.21E-07	3.75YrCanc	*	6.21E-07
39	ALL		459832.1	3747176	0.001381	9901	DieselExhP	5.41E-07	3.75YrCanc	*	5.41E-07
40	ALL		459835.1	3747199	0.001181	9901	DieselExhP	4.63E-07	3.75YrCanc	*	4.63E-07
41	ALL		459839.2	3747224	0.000987	9901	DieselExhP	3.87E-07	3.75YrCanc	*	3.87E-07
42	ALL		459854	3747245	0.000908	9901	DieselExhP	3.56E-07	3.75YrCanc	*	3.56E-07
43	ALL		459872	3747262	0.00087	9901	DieselExhP	3.41E-07	3.75YrCanc	*	3.41E-07
44	ALL		459888.7	3747276	0.000823	9901	DieselExhP	3.23E-07	3.75YrCanc	*	3.23E-07
45	ALL		459872.8	3747128	0.003323	9901	DieselExhP	1.30E-06	3.75YrCanc	*	1.30E-06
46	ALL		459880	3747153	0.003034	9901	DieselExhP	1.19E-06	3.75YrCanc	*	1.19E-06
47	ALL		459882	3747177	0.002412	9901	DieselExhP	9.46E-07	3.75YrCanc	*	9.46E-07
48	ALL		459890.7	3747203	0.001986	9901	DieselExhP	7.79E-07	3.75YrCanc	*	7.79E-07
49	ALL		459904.1	3747221	0.001819	9901	DieselExhP	7.13E-07	3.75YrCanc	*	7.13E-07
50	ALL		459919.5	3747239	0.001575	9901	DieselExhP	6.17E-07	3.75YrCanc	*	6.17E-07
51	ALL		459971.8	3747253	0.001922	9901	DieselExhP	7.54E-07	3.75YrCanc	*	7.54E-07
52	ALL		459955.4	3747271	0.001211	9901	DieselExhP	4.75E-07	3.75YrCanc	*	4.75E-07
53	ALL		459941.7	3747288	0.000902	9901	DieselExhP	3.54E-07	3.75YrCanc	*	3.54E-07
54	ALL		459926.4	3747305	0.000715	9901	DieselExhP	2.80E-07	3.75YrCanc	*	2.80E-07
55	ALL		459912.2	3747319	0.0006	9901	DieselExhP	2.35E-07	3.75YrCanc	*	2.35E-07
56	ALL		459900.5	3747337	0.000506	9901	DieselExhP	1.99E-07	3.75YrCanc	*	1.99E-07
57	ALL		459885.8	3747353	0.000438	9901	DieselExhP	1.72E-07	3.75YrCanc	*	1.72E-07
58	ALL		459870.4	3747369	0.000386	9901	DieselExhP	1.51E-07	3.75YrCanc	*	1.51E-07
59	ALL		459852.1	3747385	0.000342	9901	DieselExhP	1.34E-07	3.75YrCanc	*	1.34E-07
60	ALL		459726.5	3746626	0.001299	9901	DieselExhP	5.09E-07	3.75YrCanc	*	5.09E-07
61	ALL		459707.7	3746632	0.001216	9901	DieselExhP	4.77E-07	3.75YrCanc	*	4.77E-07

62	ALL	459689.1	3746640	0.001141	9901	DieselExhP	4.47E-07	3.75YrCanc	*	4.47E-07
63	ALL	459664	3746718	0.00109	9901	DieselExhP	4.27E-07	3.75YrCanc	*	4.27E-07
64	ALL	459679.3	3746705	0.001153	9901	DieselExhP	4.52E-07	3.75YrCanc	*	4.52E-07
65	ALL	459696.2	3746693	0.001228	9901	DieselExhP	4.81E-07	3.75YrCanc	*	4.81E-07
66	ALL	459714.3	3746686	0.001318	9901	DieselExhP	5.17E-07	3.75YrCanc	*	5.17E-07
67	ALL	459734.1	3746685	0.001435	9901	DieselExhP	5.62E-07	3.75YrCanc	*	5.62E-07
68	ALL	459752.6	3746681	0.001549	9901	DieselExhP	6.07E-07	3.75YrCanc	*	6.07E-07
69	ALL	459758	3746712	0.001658	9901	DieselExhP	6.50E-07	3.75YrCanc	*	6.50E-07
70	ALL	459737.6	3746715	0.001509	9901	DieselExhP	5.92E-07	3.75YrCanc	*	5.92E-07
71	ALL	459716.6	3746721	0.001375	9901	DieselExhP	5.39E-07	3.75YrCanc	*	5.39E-07
72	ALL	459681.7	3746743	0.001191	9901	DieselExhP	4.67E-07	3.75YrCanc	*	4.67E-07
73	ALL	459651.5	3746766	0.001049	9901	DieselExhP	4.11E-07	3.75YrCanc	*	4.11E-07
74	ALL	459672.2	3746895	0.001106	9901	DieselExhP	4.34E-07	3.75YrCanc	*	4.34E-07
75	ALL	459673	3746876	0.001126	9901	DieselExhP	4.42E-07	3.75YrCanc	*	4.42E-07
76	ALL	459674.3	3746857	0.001147	9901	DieselExhP	4.50E-07	3.75YrCanc	*	4.50E-07
77	ALL	459673.8	3746839	0.001154	9901	DieselExhP	4.52E-07	3.75YrCanc	*	4.52E-07
78	ALL	459673.7	3746819	0.00116	9901	DieselExhP	4.55E-07	3.75YrCanc	*	4.55E-07
79	ALL	459644.1	3746912	0.000945	9901	DieselExhP	3.70E-07	3.75YrCanc	*	3.70E-07
80	ALL	459729.3	3746809	0.001547	9901	DieselExhP	6.06E-07	3.75YrCanc	*	6.06E-07
81	ALL	459813.7	3746689	0.002091	9901	DieselExhP	8.20E-07	3.75YrCanc	*	8.20E-07
82	ALL	459813.5	3746707	0.002168	9901	DieselExhP	8.50E-07	3.75YrCanc	*	8.50E-07
83	ALL	459815.2	3746726	0.002281	9901	DieselExhP	8.94E-07	3.75YrCanc	*	8.94E-07
84	ALL	459814.3	3746745	0.002361	9901	DieselExhP	9.26E-07	3.75YrCanc	*	9.26E-07
85	ALL	459813.3	3746763	0.002435	9901	DieselExhP	9.54E-07	3.75YrCanc	*	9.54E-07
86	ALL	459811.2	3746782	0.002484	9901	DieselExhP	9.74E-07	3.75YrCanc	*	9.74E-07
87	ALL	459809.1	3746800	0.002517	9901	DieselExhP	9.87E-07	3.75YrCanc	*	9.87E-07
88	ALL	459806.5	3746820	0.002528	9901	DieselExhP	9.91E-07	3.75YrCanc	*	9.91E-07
89	ALL	459802.4	3746840	0.002494	9901	DieselExhP	9.78E-07	3.75YrCanc	*	9.78E-07
90	ALL	459795.8	3746858	0.002396	9901	DieselExhP	9.39E-07	3.75YrCanc	*	9.39E-07
91	ALL	459786.9	3746878	0.002244	9901	DieselExhP	8.79E-07	3.75YrCanc	*	8.79E-07
92	ALL	459840.1	3746857	0.003409	9901	DieselExhP	1.34E-06	3.75YrCanc	*	1.34E-06
93	ALL	459859.2	3746859	0.004055	9901	DieselExhP	1.59E-06	3.75YrCanc	*	1.59E-06
94	ALL	459878.3	3746862	0.00492	9901	DieselExhP	1.93E-06	3.75YrCanc	*	1.93E-06
95	ALL	459897.5	3746865	0.006133	9901	DieselExhP	2.40E-06	3.75YrCanc	*	2.40E-06
96	ALL	459917.5	3746850	0.007816	9901	DieselExhP	3.06E-06	3.75YrCanc	*	3.06E-06
97	ALL	459922.2	3746833	0.008067	9901	DieselExhP	3.16E-06	3.75YrCanc	*	3.16E-06
98	ALL	459924.2	3746814	0.007821	9901	DieselExhP	3.07E-06	3.75YrCanc	*	3.07E-06
99	ALL	459925.9	3746796	0.007262	9901	DieselExhP	2.85E-06	3.75YrCanc	*	2.85E-06
100	ALL	459927.4	3746778	0.006423	9901	DieselExhP	2.52E-06	3.75YrCanc	*	2.52E-06
101	ALL	459975.2	3746774	0.008972	9901	DieselExhP	3.52E-06	3.75YrCanc	*	3.52E-06
102	ALL	459994.1	3746772	0.009855	9901	DieselExhP	3.86E-06	3.75YrCanc	*	3.86E-06
103	ALL	460012.7	3746772	0.011025	9901	DieselExhP	4.32E-06	3.75YrCanc	*	4.32E-06
104	ALL	460031.1	3746771	0.012096	9901	DieselExhP	4.74E-06	3.75YrCanc	*	4.74E-06
105	ALL	460056.1	3746770	0.013876	9901	DieselExhP	5.44E-06	3.75YrCanc	*	5.44E-06
106	ALL	460125.1	3746727	0.013743	9901	DieselExhP	5.39E-06	3.75YrCanc	*	5.39E-06
107	ALL	460066.7	3746725	0.008224	9901	DieselExhP	3.22E-06	3.75YrCanc	*	3.22E-06
108	ALL	460038.9	3746729	0.007161	9901	DieselExhP	2.81E-06	3.75YrCanc	*	2.81E-06
109	ALL	460020.7	3746730	0.006519	9901	DieselExhP	2.56E-06	3.75YrCanc	*	2.56E-06
110	ALL	460001.6	3746730	0.005957	9901	DieselExhP	2.34E-06	3.75YrCanc	*	2.34E-06
111	ALL	459981.4	3746571	0.003368	9901	DieselExhP	1.32E-06	3.75YrCanc	*	1.32E-06
112	ALL	459960.2	3746566	0.002991	9901	DieselExhP	1.17E-06	3.75YrCanc	*	1.17E-06
113	ALL	459941.1	3746564	0.002727	9901	DieselExhP	1.07E-06	3.75YrCanc	*	1.07E-06
114	ALL	459921.5	3746564	0.00251	9901	DieselExhP	9.84E-07	3.75YrCanc	*	9.84E-07
115	ALL	459903.4	3746564	0.002334	9901	DieselExhP	9.15E-07	3.75YrCanc	*	9.15E-07
116	ALL	459884.9	3746563	0.002173	9901	DieselExhP	8.52E-07	3.75YrCanc	*	8.52E-07
117	ALL	459866	3746563	0.002027	9901	DieselExhP	7.95E-07	3.75YrCanc	*	7.95E-07
118	ALL	459846.7	3746566	0.001894	9901	DieselExhP	7.42E-07	3.75YrCanc	*	7.42E-07
119	ALL	459822.4	3746570	0.001742	9901	DieselExhP	6.83E-07	3.75YrCanc	*	6.83E-07
120	ALL	459806.9	3746593	0.001698	9901	DieselExhP	6.66E-07	3.75YrCanc	*	6.66E-07
121	ALL	459807.4	3746612	0.001756	9901	DieselExhP	6.88E-07	3.75YrCanc	*	6.88E-07
122	ALL	459808.8	3746630	0.001822	9901	DieselExhP	7.14E-07	3.75YrCanc	*	7.14E-07
123	ALL	459809.9	3746649	0.001895	9901	DieselExhP	7.43E-07	3.75YrCanc	*	7.43E-07
124	ALL	459855.7	3746612	0.002124	9901	DieselExhP	8.33E-07	3.75YrCanc	*	8.33E-07

125	ALL	459856.5	3746629	0.002211	9901	DieselExhP	8.67E-07	3.75YrCanc	*	8.67E-07
126	ALL	459856.6	3746649	0.002314	9901	DieselExhP	9.07E-07	3.75YrCanc	*	9.07E-07
127	ALL	459857.1	3746667	0.002427	9901	DieselExhP	9.52E-07	3.75YrCanc	*	9.52E-07
128	ALL	459858.6	3746685	0.002568	9901	DieselExhP	1.01E-06	3.75YrCanc	*	1.01E-06
129	ALL	459858	3746703	0.002703	9901	DieselExhP	1.06E-06	3.75YrCanc	*	1.06E-06
130	ALL	459857.9	3746723	0.002876	9901	DieselExhP	1.13E-06	3.75YrCanc	*	1.13E-06
131	ALL	459858.4	3746741	0.003061	9901	DieselExhP	1.20E-06	3.75YrCanc	*	1.20E-06
132	ALL	459856.7	3746759	0.00322	9901	DieselExhP	1.26E-06	3.75YrCanc	*	1.26E-06
133	ALL	459854.4	3746778	0.003345	9901	DieselExhP	1.31E-06	3.75YrCanc	*	1.31E-06
134	ALL	459852.4	3746796	0.003453	9901	DieselExhP	1.35E-06	3.75YrCanc	*	1.35E-06
135	ALL	459850.4	3746817	0.003541	9901	DieselExhP	1.39E-06	3.75YrCanc	*	1.39E-06
136	ALL	459878.3	3746817	0.004574	9901	DieselExhP	1.79E-06	3.75YrCanc	*	1.79E-06
137	ALL	459881.6	3746794	0.004428	9901	DieselExhP	1.74E-06	3.75YrCanc	*	1.74E-06
138	ALL	459883.6	3746776	0.00421	9901	DieselExhP	1.65E-06	3.75YrCanc	*	1.65E-06
139	ALL	459885.7	3746759	0.003961	9901	DieselExhP	1.55E-06	3.75YrCanc	*	1.55E-06
140	ALL	459887.4	3746738	0.003652	9901	DieselExhP	1.43E-06	3.75YrCanc	*	1.43E-06
141	ALL	459886.7	3746721	0.00337	9901	DieselExhP	1.32E-06	3.75YrCanc	*	1.32E-06
142	ALL	459887.8	3746701	0.003134	9901	DieselExhP	1.23E-06	3.75YrCanc	*	1.23E-06
143	ALL	459887.5	3746683	0.002929	9901	DieselExhP	1.15E-06	3.75YrCanc	*	1.15E-06
144	ALL	459886.6	3746665	0.002753	9901	DieselExhP	1.08E-06	3.75YrCanc	*	1.08E-06
145	ALL	459886	3746647	0.002609	9901	DieselExhP	1.02E-06	3.75YrCanc	*	1.02E-06
146	ALL	459885.2	3746628	0.002477	9901	DieselExhP	9.71E-07	3.75YrCanc	*	9.71E-07
147	ALL	459884.5	3746608	0.00236	9901	DieselExhP	9.25E-07	3.75YrCanc	*	9.25E-07
148	ALL	459929	3746607	0.002804	9901	DieselExhP	1.10E-06	3.75YrCanc	*	1.10E-06
149	ALL	459928.8	3746626	0.002928	9901	DieselExhP	1.15E-06	3.75YrCanc	*	1.15E-06
150	ALL	459929.6	3746646	0.003091	9901	DieselExhP	1.21E-06	3.75YrCanc	*	1.21E-06
151	ALL	459930.7	3746664	0.003289	9901	DieselExhP	1.29E-06	3.75YrCanc	*	1.29E-06
152	ALL	459931.3	3746682	0.003523	9901	DieselExhP	1.38E-06	3.75YrCanc	*	1.38E-06
153	ALL	459931.4	3746700	0.003806	9901	DieselExhP	1.49E-06	3.75YrCanc	*	1.49E-06
154	ALL	459932.4	3746719	0.004234	9901	DieselExhP	1.66E-06	3.75YrCanc	*	1.66E-06
155	ALL	459932.9	3746738	0.004799	9901	DieselExhP	1.88E-06	3.75YrCanc	*	1.88E-06
156	ALL	459960.3	3746735	0.005313	9901	DieselExhP	2.08E-06	3.75YrCanc	*	2.08E-06
157	ALL	459959.8	3746714	0.004581	9901	DieselExhP	1.80E-06	3.75YrCanc	*	1.80E-06
158	ALL	459958.8	3746695	0.004139	9901	DieselExhP	1.62E-06	3.75YrCanc	*	1.62E-06
159	ALL	459959.3	3746676	0.00383	9901	DieselExhP	1.50E-06	3.75YrCanc	*	1.50E-06
160	ALL	459957.9	3746658	0.003579	9901	DieselExhP	1.40E-06	3.75YrCanc	*	1.40E-06
161	ALL	459957.6	3746638	0.003392	9901	DieselExhP	1.33E-06	3.75YrCanc	*	1.33E-06
162	ALL	459956	3746615	0.003195	9901	DieselExhP	1.25E-06	3.75YrCanc	*	1.25E-06
163	ALL	459882.4	3746538	0.002108	9901	DieselExhP	8.26E-07	3.75YrCanc	*	8.26E-07
164	ALL	459991.8	3746658	0.004145	9901	DieselExhP	1.62E-06	3.75YrCanc	*	1.62E-06
165	ALL	459613.6	3747050	0.000641	9901	DieselExhP	2.51E-07	3.75YrCanc	*	2.51E-07
166	ALL	459619.6	3747012	0.000717	9901	DieselExhP	2.81E-07	3.75YrCanc	*	2.81E-07
167	ALL	459631	3746962	0.000829	9901	DieselExhP	3.25E-07	3.75YrCanc	*	3.25E-07
168	ALL	459652.4	3746962	0.000921	9901	DieselExhP	3.61E-07	3.75YrCanc	*	3.61E-07
169	ALL	459672.1	3746961	0.001022	9901	DieselExhP	4.01E-07	3.75YrCanc	*	4.01E-07
170	ALL	459693.5	3746956	0.001159	9901	DieselExhP	4.54E-07	3.75YrCanc	*	4.54E-07
171	ALL	459692.8	3747006	0.001054	9901	DieselExhP	4.13E-07	3.75YrCanc	*	4.13E-07
172	ALL	459662.9	3747007	0.000895	9901	DieselExhP	3.51E-07	3.75YrCanc	*	3.51E-07
173	ALL	459662.5	3747029	0.000851	9901	DieselExhP	3.34E-07	3.75YrCanc	*	3.34E-07
174	ALL	459661.2	3747052	0.0008	9901	DieselExhP	3.14E-07	3.75YrCanc	*	3.14E-07
175	ALL	459654.4	3747073	0.000731	9901	DieselExhP	2.86E-07	3.75YrCanc	*	2.86E-07
176	ALL	459645	3747094	0.000658	9901	DieselExhP	2.58E-07	3.75YrCanc	*	2.58E-07
177	ALL	459762.6	3746914	0.001862	9901	DieselExhP	7.30E-07	3.75YrCanc	*	7.30E-07
178	ALL	459744	3746929	0.001626	9901	DieselExhP	6.37E-07	3.75YrCanc	*	6.37E-07
179	ALL	459747.8	3746953	0.00162	9901	DieselExhP	6.35E-07	3.75YrCanc	*	6.35E-07
180	ALL	459752.6	3746973	0.001628	9901	DieselExhP	6.38E-07	3.75YrCanc	*	6.38E-07
181	ALL	459755.3	3746993	0.001603	9901	DieselExhP	6.29E-07	3.75YrCanc	*	6.29E-07
182	ALL	459753.3	3747011	0.001521	9901	DieselExhP	5.96E-07	3.75YrCanc	*	5.96E-07
183	ALL	459770.5	3747031	0.001651	9901	DieselExhP	6.47E-07	3.75YrCanc	*	6.47E-07
184	ALL	459790.2	3747036	0.001919	9901	DieselExhP	7.52E-07	3.75YrCanc	*	7.52E-07
185	ALL	459809.6	3747036	0.002287	9901	DieselExhP	8.97E-07	3.75YrCanc	*	8.97E-07
186	ALL	459832.9	3747035	0.002884	9901	DieselExhP	1.13E-06	3.75YrCanc	*	1.13E-06
187	ALL	459852.6	3747034	0.003578	9901	DieselExhP	1.40E-06	3.75YrCanc	*	1.40E-06

188	ALL	459875.7	3747036	0.004811	9901	DieselExhP	1.89E-06	3.75YrCanc	*	1.89E-06
189	ALL	459882.8	3746988	0.005451	9901	DieselExhP	2.14E-06	3.75YrCanc	*	2.14E-06
190	ALL	459861.8	3746986	0.004301	9901	DieselExhP	1.69E-06	3.75YrCanc	*	1.69E-06
191	ALL	459840.5	3746986	0.003446	9901	DieselExhP	1.35E-06	3.75YrCanc	*	1.35E-06
192	ALL	459820.9	3746987	0.002816	9901	DieselExhP	1.10E-06	3.75YrCanc	*	1.10E-06
193	ALL	459799.2	3746986	0.002291	9901	DieselExhP	8.98E-07	3.75YrCanc	*	8.98E-07
194	ALL	459806.5	3746942	0.002545	9901	DieselExhP	9.98E-07	3.75YrCanc	*	9.98E-07
195	ALL	459825.3	3746945	0.003011	9901	DieselExhP	1.18E-06	3.75YrCanc	*	1.18E-06
196	ALL	459845.4	3746947	0.003684	9901	DieselExhP	1.44E-06	3.75YrCanc	*	1.44E-06
197	ALL	459864.9	3746948	0.004496	9901	DieselExhP	1.76E-06	3.75YrCanc	*	1.76E-06
198	ALL	459886.6	3746950	0.005692	9901	DieselExhP	2.23E-06	3.75YrCanc	*	2.23E-06
199	ALL	459830.2	3746893	0.003193	9901	DieselExhP	1.25E-06	3.75YrCanc	*	1.25E-06
200	ALL	459853.2	3746898	0.003924	9901	DieselExhP	1.54E-06	3.75YrCanc	*	1.54E-06
201	ALL	459871.8	3746899	0.004699	9901	DieselExhP	1.84E-06	3.75YrCanc	*	1.84E-06
202	ALL	459892.6	3746900	0.005964	9901	DieselExhP	2.34E-06	3.75YrCanc	*	2.34E-06
203	ALL	459915.3	3746905	0.008164	9901	DieselExhP	3.20E-06	3.75YrCanc	*	3.20E-06
204	ALL	459650.4	3746942	0.000939	9901	DieselExhP	3.68E-07	3.75YrCanc	*	3.68E-07
205	ALL	459697.5	3747055	0.00096	9901	DieselExhP	3.76E-07	3.75YrCanc	*	3.76E-07
206	ALL	459734.1	3746980	0.001423	9901	DieselExhP	5.58E-07	3.75YrCanc	*	5.58E-07
207	ALL	459788.7	3746922	0.002237	9901	DieselExhP	8.77E-07	3.75YrCanc	*	8.77E-07
208	ALL	459661	3746888	0.001051	9901	DieselExhP	4.12E-07	3.75YrCanc	*	4.12E-07
209	ALL	460000	3746225	0.001118	9901	DieselExhP	4.38E-07	3.75YrCanc	*	4.38E-07
210	ALL	460050	3746225	0.00117	9901	DieselExhP	4.59E-07	3.75YrCanc	*	4.59E-07
211	ALL	460100	3746225	0.001173	9901	DieselExhP	4.60E-07	3.75YrCanc	*	4.60E-07
212	ALL	460150	3746225	0.001134	9901	DieselExhP	4.45E-07	3.75YrCanc	*	4.45E-07
213	ALL	460200	3746225	0.001071	9901	DieselExhP	4.20E-07	3.75YrCanc	*	4.20E-07
214	ALL	460250	3746225	0.000982	9901	DieselExhP	3.85E-07	3.75YrCanc	*	3.85E-07
215	ALL	460300	3746225	0.000873	9901	DieselExhP	3.42E-07	3.75YrCanc	*	3.42E-07
216	ALL	460350	3746225	0.000747	9901	DieselExhP	2.93E-07	3.75YrCanc	*	2.93E-07
217	ALL	460400	3746225	0.000633	9901	DieselExhP	2.48E-07	3.75YrCanc	*	2.48E-07
218	ALL	460450	3746225	0.000534	9901	DieselExhP	2.09E-07	3.75YrCanc	*	2.09E-07
219	ALL	460500	3746225	0.000478	9901	DieselExhP	1.87E-07	3.75YrCanc	*	1.87E-07
220	ALL	460550	3746225	0.000455	9901	DieselExhP	1.78E-07	3.75YrCanc	*	1.78E-07
221	ALL	459950	3746275	0.001224	9901	DieselExhP	4.80E-07	3.75YrCanc	*	4.80E-07
222	ALL	460000	3746275	0.001336	9901	DieselExhP	5.24E-07	3.75YrCanc	*	5.24E-07
223	ALL	460050	3746275	0.001423	9901	DieselExhP	5.58E-07	3.75YrCanc	*	5.58E-07
224	ALL	460100	3746275	0.001447	9901	DieselExhP	5.67E-07	3.75YrCanc	*	5.67E-07
225	ALL	460150	3746275	0.001414	9901	DieselExhP	5.54E-07	3.75YrCanc	*	5.54E-07
226	ALL	460200	3746275	0.001369	9901	DieselExhP	5.37E-07	3.75YrCanc	*	5.37E-07
227	ALL	460250	3746275	0.001269	9901	DieselExhP	4.98E-07	3.75YrCanc	*	4.98E-07
228	ALL	460300	3746275	0.001143	9901	DieselExhP	4.48E-07	3.75YrCanc	*	4.48E-07
229	ALL	460350	3746275	0.000993	9901	DieselExhP	3.89E-07	3.75YrCanc	*	3.89E-07
230	ALL	460400	3746275	0.000853	9901	DieselExhP	3.34E-07	3.75YrCanc	*	3.34E-07
231	ALL	460450	3746275	0.000728	9901	DieselExhP	2.86E-07	3.75YrCanc	*	2.86E-07
232	ALL	460500	3746275	0.000658	9901	DieselExhP	2.58E-07	3.75YrCanc	*	2.58E-07
233	ALL	460550	3746275	0.000631	9901	DieselExhP	2.47E-07	3.75YrCanc	*	2.47E-07
234	ALL	460600	3746275	0.000642	9901	DieselExhP	2.52E-07	3.75YrCanc	*	2.52E-07
235	ALL	460650	3746275	0.000671	9901	DieselExhP	2.63E-07	3.75YrCanc	*	2.63E-07
236	ALL	459900	3746325	0.001265	9901	DieselExhP	4.96E-07	3.75YrCanc	*	4.96E-07
237	ALL	459950	3746325	0.001441	9901	DieselExhP	5.65E-07	3.75YrCanc	*	5.65E-07
238	ALL	460000	3746325	0.00162	9901	DieselExhP	6.35E-07	3.75YrCanc	*	6.35E-07
239	ALL	460050	3746325	0.001768	9901	DieselExhP	6.93E-07	3.75YrCanc	*	6.93E-07
240	ALL	460100	3746325	0.001844	9901	DieselExhP	7.23E-07	3.75YrCanc	*	7.23E-07
241	ALL	460150	3746325	0.001845	9901	DieselExhP	7.23E-07	3.75YrCanc	*	7.23E-07
242	ALL	460200	3746325	0.001814	9901	DieselExhP	7.11E-07	3.75YrCanc	*	7.11E-07
243	ALL	460250	3746325	0.001702	9901	DieselExhP	6.67E-07	3.75YrCanc	*	6.67E-07
244	ALL	460300	3746325	0.001568	9901	DieselExhP	6.15E-07	3.75YrCanc	*	6.15E-07
245	ALL	460350	3746325	0.001402	9901	DieselExhP	5.50E-07	3.75YrCanc	*	5.50E-07
246	ALL	460400	3746325	0.001234	9901	DieselExhP	4.84E-07	3.75YrCanc	*	4.84E-07
247	ALL	460450	3746325	0.001077	9901	DieselExhP	4.22E-07	3.75YrCanc	*	4.22E-07
248	ALL	460500	3746325	0.000977	9901	DieselExhP	3.83E-07	3.75YrCanc	*	3.83E-07
249	ALL	460550	3746325	0.000943	9901	DieselExhP	3.70E-07	3.75YrCanc	*	3.70E-07
250	ALL	460600	3746325	0.000958	9901	DieselExhP	3.75E-07	3.75YrCanc	*	3.75E-07

251	ALL	460650	3746325	0.000997	9901	DieselExhP	3.91E-07	3.75YrCanc	*	3.91E-07
252	ALL	460700	3746325	0.001028	9901	DieselExhP	4.03E-07	3.75YrCanc	*	4.03E-07
253	ALL	459850	3746375	0.001288	9901	DieselExhP	5.05E-07	3.75YrCanc	*	5.05E-07
254	ALL	459900	3746375	0.001473	9901	DieselExhP	5.77E-07	3.75YrCanc	*	5.77E-07
255	ALL	459950	3746375	0.0017	9901	DieselExhP	6.67E-07	3.75YrCanc	*	6.67E-07
256	ALL	460000	3746375	0.001974	9901	DieselExhP	7.74E-07	3.75YrCanc	*	7.74E-07
257	ALL	460050	3746375	0.002274	9901	DieselExhP	8.91E-07	3.75YrCanc	*	8.91E-07
258	ALL	460100	3746375	0.002494	9901	DieselExhP	9.78E-07	3.75YrCanc	*	9.78E-07
259	ALL	460150	3746375	0.002585	9901	DieselExhP	1.01E-06	3.75YrCanc	*	1.01E-06
260	ALL	460200	3746375	0.002535	9901	DieselExhP	9.94E-07	3.75YrCanc	*	9.94E-07
261	ALL	460250	3746375	0.002453	9901	DieselExhP	9.62E-07	3.75YrCanc	*	9.62E-07
262	ALL	460300	3746375	0.002313	9901	DieselExhP	9.07E-07	3.75YrCanc	*	9.07E-07
263	ALL	460350	3746375	0.002174	9901	DieselExhP	8.52E-07	3.75YrCanc	*	8.52E-07
264	ALL	460400	3746375	0.001994	9901	DieselExhP	7.82E-07	3.75YrCanc	*	7.82E-07
265	ALL	460450	3746375	0.001753	9901	DieselExhP	6.87E-07	3.75YrCanc	*	6.87E-07
266	ALL	460500	3746375	0.001585	9901	DieselExhP	6.21E-07	3.75YrCanc	*	6.21E-07
267	ALL	460550	3746375	0.00156	9901	DieselExhP	6.11E-07	3.75YrCanc	*	6.11E-07
268	ALL	460600	3746375	0.001578	9901	DieselExhP	6.19E-07	3.75YrCanc	*	6.19E-07
269	ALL	460650	3746375	0.00158	9901	DieselExhP	6.20E-07	3.75YrCanc	*	6.20E-07
270	ALL	460700	3746375	0.001558	9901	DieselExhP	6.11E-07	3.75YrCanc	*	6.11E-07
271	ALL	460750	3746375	0.001527	9901	DieselExhP	5.99E-07	3.75YrCanc	*	5.99E-07
272	ALL	459800	3746425	0.001202	9901	DieselExhP	4.71E-07	3.75YrCanc	*	4.71E-07
273	ALL	459850	3746425	0.001448	9901	DieselExhP	5.68E-07	3.75YrCanc	*	5.68E-07
274	ALL	459900	3746425	0.00169	9901	DieselExhP	6.62E-07	3.75YrCanc	*	6.62E-07
275	ALL	459950	3746425	0.002004	9901	DieselExhP	7.86E-07	3.75YrCanc	*	7.86E-07
276	ALL	460000	3746425	0.002441	9901	DieselExhP	9.57E-07	3.75YrCanc	*	9.57E-07
277	ALL	460050	3746425	0.003028	9901	DieselExhP	1.19E-06	3.75YrCanc	*	1.19E-06
278	ALL	460100	3746425	0.003581	9901	DieselExhP	1.40E-06	3.75YrCanc	*	1.40E-06
279	ALL	460150	3746425	0.003848	9901	DieselExhP	1.51E-06	3.75YrCanc	*	1.51E-06
280	ALL	460200	3746425	0.003948	9901	DieselExhP	1.55E-06	3.75YrCanc	*	1.55E-06
281	ALL	460250	3746425	0.004024	9901	DieselExhP	1.58E-06	3.75YrCanc	*	1.58E-06
282	ALL	460300	3746425	0.004049	9901	DieselExhP	1.59E-06	3.75YrCanc	*	1.59E-06
283	ALL	460350	3746425	0.003948	9901	DieselExhP	1.55E-06	3.75YrCanc	*	1.55E-06
284	ALL	460400	3746425	0.00375	9901	DieselExhP	1.47E-06	3.75YrCanc	*	1.47E-06
285	ALL	460450	3746425	0.003353	9901	DieselExhP	1.31E-06	3.75YrCanc	*	1.31E-06
286	ALL	460500	3746425	0.002971	9901	DieselExhP	1.16E-06	3.75YrCanc	*	1.16E-06
287	ALL	460550	3746425	0.00286	9901	DieselExhP	1.12E-06	3.75YrCanc	*	1.12E-06
288	ALL	460600	3746425	0.002781	9901	DieselExhP	1.09E-06	3.75YrCanc	*	1.09E-06
289	ALL	460650	3746425	0.00263	9901	DieselExhP	1.03E-06	3.75YrCanc	*	1.03E-06
290	ALL	460700	3746425	0.002448	9901	DieselExhP	9.60E-07	3.75YrCanc	*	9.60E-07
291	ALL	460750	3746425	0.002265	9901	DieselExhP	8.88E-07	3.75YrCanc	*	8.88E-07
292	ALL	459800	3746475	0.001389	9901	DieselExhP	5.44E-07	3.75YrCanc	*	5.44E-07
293	ALL	459850	3746475	0.001641	9901	DieselExhP	6.43E-07	3.75YrCanc	*	6.43E-07
294	ALL	459900	3746475	0.001952	9901	DieselExhP	7.65E-07	3.75YrCanc	*	7.65E-07
295	ALL	459950	3746475	0.002375	9901	DieselExhP	9.31E-07	3.75YrCanc	*	9.31E-07
296	ALL	460000	3746475	0.003033	9901	DieselExhP	1.19E-06	3.75YrCanc	*	1.19E-06
297	ALL	460050	3746475	0.004207	9901	DieselExhP	1.65E-06	3.75YrCanc	*	1.65E-06
298	ALL	460100	3746475	0.00597	9901	DieselExhP	2.34E-06	3.75YrCanc	*	2.34E-06
299	ALL	460150	3746475	0.007258	9901	DieselExhP	2.85E-06	3.75YrCanc	*	2.85E-06
300	ALL	460200	3746475	0.008224	9901	DieselExhP	3.22E-06	3.75YrCanc	*	3.22E-06
301	ALL	460250	3746475	0.008798	9901	DieselExhP	3.45E-06	3.75YrCanc	*	3.45E-06
302	ALL	460300	3746475	0.008927	9901	DieselExhP	3.50E-06	3.75YrCanc	*	3.50E-06
303	ALL	460350	3746475	0.008989	9901	DieselExhP	3.52E-06	3.75YrCanc	*	3.52E-06
304	ALL	460400	3746475	0.00873	9901	DieselExhP	3.42E-06	3.75YrCanc	*	3.42E-06
305	ALL	460450	3746475	0.00781	9901	DieselExhP	3.06E-06	3.75YrCanc	*	3.06E-06
306	ALL	460500	3746475	0.006563	9901	DieselExhP	2.57E-06	3.75YrCanc	*	2.57E-06
307	ALL	460550	3746475	0.005832	9901	DieselExhP	2.29E-06	3.75YrCanc	*	2.29E-06
308	ALL	460600	3746475	0.005016	9901	DieselExhP	1.97E-06	3.75YrCanc	*	1.97E-06
309	ALL	460650	3746475	0.004339	9901	DieselExhP	1.70E-06	3.75YrCanc	*	1.70E-06
310	ALL	460700	3746475	0.003781	9901	DieselExhP	1.48E-06	3.75YrCanc	*	1.48E-06
311	ALL	460750	3746475	0.003274	9901	DieselExhP	1.28E-06	3.75YrCanc	*	1.28E-06
312	ALL	460550	3746525	0.011499	9901	DieselExhP	4.51E-06	3.75YrCanc	*	4.51E-06
313	ALL	460600	3746525	0.008015	9901	DieselExhP	3.14E-06	3.75YrCanc	*	3.14E-06

314	ALL	460650	3746525	0.006193	9901	DieselExhP	2.43E-06	3.75YrCanc	*	2.43E-06
315	ALL	460700	3746525	0.00517	9901	DieselExhP	2.03E-06	3.75YrCanc	*	2.03E-06
316	ALL	460750	3746525	0.004334	9901	DieselExhP	1.70E-06	3.75YrCanc	*	1.70E-06
317	ALL	460050	3746575	0.005947	9901	DieselExhP	2.33E-06	3.75YrCanc	*	2.33E-06
318	ALL	460550	3746575	0.014348	9901	DieselExhP	5.62E-06	3.75YrCanc	*	5.62E-06
319	ALL	460600	3746575	0.009929	9901	DieselExhP	3.89E-06	3.75YrCanc	*	3.89E-06
320	ALL	460650	3746575	0.007379	9901	DieselExhP	2.89E-06	3.75YrCanc	*	2.89E-06
321	ALL	460700	3746575	0.006015	9901	DieselExhP	2.36E-06	3.75YrCanc	*	2.36E-06
322	ALL	460750	3746575	0.005009	9901	DieselExhP	1.96E-06	3.75YrCanc	*	1.96E-06
323	ALL	460550	3746625	0.015433	9901	DieselExhP	6.05E-06	3.75YrCanc	*	6.05E-06
324	ALL	460600	3746625	0.010491	9901	DieselExhP	4.11E-06	3.75YrCanc	*	4.11E-06
325	ALL	460650	3746625	0.007884	9901	DieselExhP	3.09E-06	3.75YrCanc	*	3.09E-06
326	ALL	460700	3746625	0.006578	9901	DieselExhP	2.58E-06	3.75YrCanc	*	2.58E-06
327	ALL	460750	3746625	0.005366	9901	DieselExhP	2.10E-06	3.75YrCanc	*	2.10E-06
328	ALL	460550	3746675	0.014867	9901	DieselExhP	5.83E-06	3.75YrCanc	*	5.83E-06
329	ALL	460600	3746675	0.010312	9901	DieselExhP	4.04E-06	3.75YrCanc	*	4.04E-06
330	ALL	460650	3746675	0.008139	9901	DieselExhP	3.19E-06	3.75YrCanc	*	3.19E-06
331	ALL	460700	3746675	0.006707	9901	DieselExhP	2.63E-06	3.75YrCanc	*	2.63E-06
332	ALL	460750	3746675	0.005307	9901	DieselExhP	2.08E-06	3.75YrCanc	*	2.08E-06
333	ALL	460450	3746725	0.020691	9901	DieselExhP	8.11E-06	3.75YrCanc	*	8.11E-06
334	ALL	460500	3746725	0.015563	9901	DieselExhP	6.10E-06	3.75YrCanc	*	6.10E-06
335	ALL	460550	3746725	0.012415	9901	DieselExhP	4.87E-06	3.75YrCanc	*	4.87E-06
336	ALL	460600	3746725	0.009294	9901	DieselExhP	3.64E-06	3.75YrCanc	*	3.64E-06
337	ALL	460650	3746725	0.00761	9901	DieselExhP	2.98E-06	3.75YrCanc	*	2.98E-06
338	ALL	460700	3746725	0.006205	9901	DieselExhP	2.43E-06	3.75YrCanc	*	2.43E-06
339	ALL	460750	3746725	0.005102	9901	DieselExhP	2.00E-06	3.75YrCanc	*	2.00E-06
340	ALL	460450	3746775	0.019608	9901	DieselExhP	7.69E-06	3.75YrCanc	*	7.69E-06
341	ALL	460500	3746775	0.013559	9901	DieselExhP	5.32E-06	3.75YrCanc	*	5.32E-06
342	ALL	460550	3746775	0.010226	9901	DieselExhP	4.01E-06	3.75YrCanc	*	4.01E-06
343	ALL	460600	3746775	0.008112	9901	DieselExhP	3.18E-06	3.75YrCanc	*	3.18E-06
344	ALL	460650	3746775	0.0067	9901	DieselExhP	2.63E-06	3.75YrCanc	*	2.63E-06
345	ALL	460700	3746775	0.005653	9901	DieselExhP	2.22E-06	3.75YrCanc	*	2.22E-06
346	ALL	460750	3746775	0.004793	9901	DieselExhP	1.88E-06	3.75YrCanc	*	1.88E-06
347	ALL	460450	3746825	0.01644	9901	DieselExhP	6.44E-06	3.75YrCanc	*	6.44E-06
348	ALL	460500	3746825	0.011645	9901	DieselExhP	4.57E-06	3.75YrCanc	*	4.57E-06
349	ALL	460550	3746825	0.009008	9901	DieselExhP	3.53E-06	3.75YrCanc	*	3.53E-06
350	ALL	460600	3746825	0.007313	9901	DieselExhP	2.87E-06	3.75YrCanc	*	2.87E-06
351	ALL	460650	3746825	0.006124	9901	DieselExhP	2.40E-06	3.75YrCanc	*	2.40E-06
352	ALL	460700	3746825	0.005222	9901	DieselExhP	2.05E-06	3.75YrCanc	*	2.05E-06
353	ALL	460750	3746825	0.004376	9901	DieselExhP	1.72E-06	3.75YrCanc	*	1.72E-06
354	ALL	460450	3746875	0.011613	9901	DieselExhP	4.55E-06	3.75YrCanc	*	4.55E-06
355	ALL	460500	3746875	0.008926	9901	DieselExhP	3.50E-06	3.75YrCanc	*	3.50E-06
356	ALL	460550	3746875	0.007273	9901	DieselExhP	2.85E-06	3.75YrCanc	*	2.85E-06
357	ALL	460600	3746875	0.006065	9901	DieselExhP	2.38E-06	3.75YrCanc	*	2.38E-06
358	ALL	460650	3746875	0.005116	9901	DieselExhP	2.01E-06	3.75YrCanc	*	2.01E-06
359	ALL	460700	3746875	0.00443	9901	DieselExhP	1.74E-06	3.75YrCanc	*	1.74E-06
360	ALL	460750	3746875	0.003885	9901	DieselExhP	1.52E-06	3.75YrCanc	*	1.52E-06
361	ALL	460350	3746925	0.014295	9901	DieselExhP	5.60E-06	3.75YrCanc	*	5.60E-06
362	ALL	460400	3746925	0.011103	9901	DieselExhP	4.35E-06	3.75YrCanc	*	4.35E-06
363	ALL	460450	3746925	0.008546	9901	DieselExhP	3.35E-06	3.75YrCanc	*	3.35E-06
364	ALL	460500	3746925	0.006855	9901	DieselExhP	2.69E-06	3.75YrCanc	*	2.69E-06
365	ALL	460550	3746925	0.005803	9901	DieselExhP	2.27E-06	3.75YrCanc	*	2.27E-06
366	ALL	460600	3746925	0.005015	9901	DieselExhP	1.97E-06	3.75YrCanc	*	1.97E-06
367	ALL	460650	3746925	0.004329	9901	DieselExhP	1.70E-06	3.75YrCanc	*	1.70E-06
368	ALL	460700	3746925	0.003792	9901	DieselExhP	1.49E-06	3.75YrCanc	*	1.49E-06
369	ALL	460650	3746975	0.003641	9901	DieselExhP	1.43E-06	3.75YrCanc	*	1.43E-06
370	ALL	460650	3747025	0.00301	9901	DieselExhP	1.18E-06	3.75YrCanc	*	1.18E-06
371	ALL	459650	3747125	0.000609	9901	DieselExhP	2.39E-07	3.75YrCanc	*	2.39E-07
372	ALL	460200	3747125	0.008838	9901	DieselExhP	3.46E-06	3.75YrCanc	*	3.46E-06
373	ALL	460250	3747125	0.007153	9901	DieselExhP	2.80E-06	3.75YrCanc	*	2.80E-06
374	ALL	460300	3747125	0.005844	9901	DieselExhP	2.29E-06	3.75YrCanc	*	2.29E-06
375	ALL	460350	3747125	0.004818	9901	DieselExhP	1.89E-06	3.75YrCanc	*	1.89E-06
376	ALL	460400	3747125	0.00407	9901	DieselExhP	1.60E-06	3.75YrCanc	*	1.60E-06

377	ALL	460450	3747125	0.003498	9901	DieselExhP	1.37E-06	3.75YrCanc	*	1.37E-06
378	ALL	460500	3747125	0.00298	9901	DieselExhP	1.17E-06	3.75YrCanc	*	1.17E-06
379	ALL	460550	3747125	0.002554	9901	DieselExhP	1.00E-06	3.75YrCanc	*	1.00E-06
380	ALL	459650	3747175	0.000511	9901	DieselExhP	2.00E-07	3.75YrCanc	*	2.00E-07
381	ALL	459700	3747175	0.000633	9901	DieselExhP	2.48E-07	3.75YrCanc	*	2.48E-07
382	ALL	460150	3747175	0.008213	9901	DieselExhP	3.22E-06	3.75YrCanc	*	3.22E-06
383	ALL	460200	3747175	0.006206	9901	DieselExhP	2.43E-06	3.75YrCanc	*	2.43E-06
384	ALL	460250	3747175	0.004981	9901	DieselExhP	1.95E-06	3.75YrCanc	*	1.95E-06
385	ALL	460300	3747175	0.004103	9901	DieselExhP	1.61E-06	3.75YrCanc	*	1.61E-06
386	ALL	460350	3747175	0.003466	9901	DieselExhP	1.36E-06	3.75YrCanc	*	1.36E-06
387	ALL	460400	3747175	0.002986	9901	DieselExhP	1.17E-06	3.75YrCanc	*	1.17E-06
388	ALL	460450	3747175	0.002567	9901	DieselExhP	1.01E-06	3.75YrCanc	*	1.01E-06
389	ALL	460500	3747175	0.002265	9901	DieselExhP	8.88E-07	3.75YrCanc	*	8.88E-07
390	ALL	459650	3747225	0.000424	9901	DieselExhP	1.66E-07	3.75YrCanc	*	1.66E-07
391	ALL	459700	3747225	0.000505	9901	DieselExhP	1.98E-07	3.75YrCanc	*	1.98E-07
392	ALL	460150	3747225	0.004423	9901	DieselExhP	1.73E-06	3.75YrCanc	*	1.73E-06
393	ALL	460200	3747225	0.003837	9901	DieselExhP	1.50E-06	3.75YrCanc	*	1.50E-06
394	ALL	460250	3747225	0.003215	9901	DieselExhP	1.26E-06	3.75YrCanc	*	1.26E-06
395	ALL	460300	3747225	0.002755	9901	DieselExhP	1.08E-06	3.75YrCanc	*	1.08E-06
396	ALL	460350	3747225	0.002406	9901	DieselExhP	9.43E-07	3.75YrCanc	*	9.43E-07
397	ALL	460400	3747225	0.002108	9901	DieselExhP	8.26E-07	3.75YrCanc	*	8.26E-07
398	ALL	460450	3747225	0.001822	9901	DieselExhP	7.14E-07	3.75YrCanc	*	7.14E-07
399	ALL	459650	3747275	0.000353	9901	DieselExhP	1.38E-07	3.75YrCanc	*	1.38E-07
400	ALL	459700	3747275	0.000407	9901	DieselExhP	1.59E-07	3.75YrCanc	*	1.59E-07
401	ALL	460000	3747275	0.001474	9901	DieselExhP	5.78E-07	3.75YrCanc	*	5.78E-07
402	ALL	460100	3747275	0.002014	9901	DieselExhP	7.89E-07	3.75YrCanc	*	7.89E-07
403	ALL	460150	3747275	0.002052	9901	DieselExhP	8.05E-07	3.75YrCanc	*	8.05E-07
404	ALL	460200	3747275	0.002043	9901	DieselExhP	8.01E-07	3.75YrCanc	*	8.01E-07
405	ALL	460250	3747275	0.001888	9901	DieselExhP	7.40E-07	3.75YrCanc	*	7.40E-07
406	ALL	460300	3747275	0.001745	9901	DieselExhP	6.84E-07	3.75YrCanc	*	6.84E-07
407	ALL	460350	3747275	0.001615	9901	DieselExhP	6.33E-07	3.75YrCanc	*	6.33E-07
408	ALL	460400	3747275	0.001474	9901	DieselExhP	5.78E-07	3.75YrCanc	*	5.78E-07
409	ALL	459700	3747325	0.000329	9901	DieselExhP	1.29E-07	3.75YrCanc	*	1.29E-07
410	ALL	459750	3747325	0.000368	9901	DieselExhP	1.44E-07	3.75YrCanc	*	1.44E-07
411	ALL	459950	3747325	0.00064	9901	DieselExhP	2.51E-07	3.75YrCanc	*	2.51E-07
412	ALL	460000	3747325	0.000732	9901	DieselExhP	2.87E-07	3.75YrCanc	*	2.87E-07
413	ALL	460050	3747325	0.000875	9901	DieselExhP	3.43E-07	3.75YrCanc	*	3.43E-07
414	ALL	460100	3747325	0.000994	9901	DieselExhP	3.90E-07	3.75YrCanc	*	3.90E-07
415	ALL	460150	3747325	0.001075	9901	DieselExhP	4.21E-07	3.75YrCanc	*	4.21E-07
416	ALL	460200	3747325	0.001116	9901	DieselExhP	4.38E-07	3.75YrCanc	*	4.38E-07
417	ALL	460250	3747325	0.00112	9901	DieselExhP	4.39E-07	3.75YrCanc	*	4.39E-07
418	ALL	460300	3747325	0.001109	9901	DieselExhP	4.35E-07	3.75YrCanc	*	4.35E-07
419	ALL	460350	3747325	0.001078	9901	DieselExhP	4.22E-07	3.75YrCanc	*	4.22E-07
420	ALL	459700	3747375	0.000268	9901	DieselExhP	1.05E-07	3.75YrCanc	*	1.05E-07
421	ALL	459750	3747375	0.000291	9901	DieselExhP	1.14E-07	3.75YrCanc	*	1.14E-07
422	ALL	459800	3747375	0.000323	9901	DieselExhP	1.27E-07	3.75YrCanc	*	1.27E-07
423	ALL	459900	3747375	0.000393	9901	DieselExhP	1.54E-07	3.75YrCanc	*	1.54E-07
424	ALL	459950	3747375	0.000438	9901	DieselExhP	1.72E-07	3.75YrCanc	*	1.72E-07
425	ALL	460000	3747375	0.000489	9901	DieselExhP	1.92E-07	3.75YrCanc	*	1.92E-07
426	ALL	460050	3747375	0.000559	9901	DieselExhP	2.19E-07	3.75YrCanc	*	2.19E-07
427	ALL	460100	3747375	0.000619	9901	DieselExhP	2.43E-07	3.75YrCanc	*	2.43E-07
428	ALL	460150	3747375	0.000671	9901	DieselExhP	2.63E-07	3.75YrCanc	*	2.63E-07
429	ALL	460200	3747375	0.000707	9901	DieselExhP	2.77E-07	3.75YrCanc	*	2.77E-07
430	ALL	460250	3747375	0.000731	9901	DieselExhP	2.86E-07	3.75YrCanc	*	2.86E-07
431	ALL	460300	3747375	0.00074	9901	DieselExhP	2.90E-07	3.75YrCanc	*	2.90E-07
432	ALL	460350	3747375	0.00074	9901	DieselExhP	2.90E-07	3.75YrCanc	*	2.90E-07
433	ALL	459750	3747425	0.000236	9901	DieselExhP	9.27E-08	3.75YrCanc	*	9.27E-08
434	ALL	459800	3747425	0.000255	9901	DieselExhP	1.00E-07	3.75YrCanc	*	1.00E-07
435	ALL	459850	3747425	0.000278	9901	DieselExhP	1.09E-07	3.75YrCanc	*	1.09E-07
436	ALL	459900	3747425	0.0003	9901	DieselExhP	1.18E-07	3.75YrCanc	*	1.18E-07
437	ALL	459950	3747425	0.000324	9901	DieselExhP	1.27E-07	3.75YrCanc	*	1.27E-07
438	ALL	460000	3747425	0.000364	9901	DieselExhP	1.43E-07	3.75YrCanc	*	1.43E-07
439	ALL	460050	3747425	0.000401	9901	DieselExhP	1.57E-07	3.75YrCanc	*	1.57E-07

440	ALL	460100	3747425	0.000441	9901	DieselExhP	1.73E-07	3.75YrCanc	*	1.73E-07
441	ALL	460150	3747425	0.000474	9901	DieselExhP	1.86E-07	3.75YrCanc	*	1.86E-07
442	ALL	460200	3747425	0.000499	9901	DieselExhP	1.96E-07	3.75YrCanc	*	1.96E-07
443	ALL	460250	3747425	0.000517	9901	DieselExhP	2.03E-07	3.75YrCanc	*	2.03E-07
444	ALL	460300	3747425	0.00053	9901	DieselExhP	2.08E-07	3.75YrCanc	*	2.08E-07
445	ALL	459850	3747475	0.000224	9901	DieselExhP	8.77E-08	3.75YrCanc	*	8.77E-08
446	ALL	459900	3747475	0.000239	9901	DieselExhP	9.39E-08	3.75YrCanc	*	9.39E-08
447	ALL	459950	3747475	0.00026	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
448	ALL	460000	3747475	0.000283	9901	DieselExhP	1.11E-07	3.75YrCanc	*	1.11E-07
449	ALL	460050	3747475	0.000309	9901	DieselExhP	1.21E-07	3.75YrCanc	*	1.21E-07
450	ALL	460100	3747475	0.000336	9901	DieselExhP	1.32E-07	3.75YrCanc	*	1.32E-07
451	ALL	460150	3747475	0.000359	9901	DieselExhP	1.41E-07	3.75YrCanc	*	1.41E-07
452	ALL	460200	3747475	0.000376	9901	DieselExhP	1.48E-07	3.75YrCanc	*	1.48E-07
453	ALL	460250	3747475	0.00039	9901	DieselExhP	1.53E-07	3.75YrCanc	*	1.53E-07
454	ALL	459900	3747525	0.000198	9901	DieselExhP	7.77E-08	3.75YrCanc	*	7.77E-08
455	ALL	459950	3747525	0.000213	9901	DieselExhP	8.36E-08	3.75YrCanc	*	8.36E-08
456	ALL	460000	3747525	0.00023	9901	DieselExhP	9.00E-08	3.75YrCanc	*	9.00E-08
457	ALL	460050	3747525	0.000248	9901	DieselExhP	9.72E-08	3.75YrCanc	*	9.72E-08
458	ALL	460100	3747525	0.000266	9901	DieselExhP	1.04E-07	3.75YrCanc	*	1.04E-07
459	ALL	460150	3747525	0.000282	9901	DieselExhP	1.11E-07	3.75YrCanc	*	1.11E-07
460	ALL	460200	3747525	0.000295	9901	DieselExhP	1.16E-07	3.75YrCanc	*	1.16E-07
461	ALL	460000	3747575	0.000192	9901	DieselExhP	7.53E-08	3.75YrCanc	*	7.53E-08
462	ALL	460050	3747575	0.000205	9901	DieselExhP	8.04E-08	3.75YrCanc	*	8.04E-08
463	ALL	460100	3747575	0.000218	9901	DieselExhP	8.55E-08	3.75YrCanc	*	8.55E-08
464	ALL	460737.5	3746796	0.004815	9901	DieselExhP	1.89E-06	3.75YrCanc	*	1.89E-06
465	ALL	460400	3746875	0.013964	9901	DieselExhP	5.47E-06	3.75YrCanc	*	5.47E-06
466	ALL	460450	3746875	0.011613	9901	DieselExhP	4.55E-06	3.75YrCanc	*	4.55E-06
467	ALL	460500	3746875	0.008926	9901	DieselExhP	3.50E-06	3.75YrCanc	*	3.50E-06
468	ALL	460550	3746875	0.007273	9901	DieselExhP	2.85E-06	3.75YrCanc	*	2.85E-06
469	ALL	460600	3746875	0.006065	9901	DieselExhP	2.38E-06	3.75YrCanc	*	2.38E-06
470	ALL	460650	3746875	0.005116	9901	DieselExhP	2.01E-06	3.75YrCanc	*	2.01E-06
471	ALL	460350	3746925	0.014295	9901	DieselExhP	5.60E-06	3.75YrCanc	*	5.60E-06
472	ALL	460400	3746925	0.011103	9901	DieselExhP	4.35E-06	3.75YrCanc	*	4.35E-06
473	ALL	460450	3746925	0.008546	9901	DieselExhP	3.35E-06	3.75YrCanc	*	3.35E-06
474	ALL	460500	3746925	0.006855	9901	DieselExhP	2.69E-06	3.75YrCanc	*	2.69E-06
475	ALL	460550	3746925	0.005803	9901	DieselExhP	2.27E-06	3.75YrCanc	*	2.27E-06
476	ALL	460600	3746925	0.005015	9901	DieselExhP	1.97E-06	3.75YrCanc	*	1.97E-06
477	ALL	460650	3746925	0.004329	9901	DieselExhP	1.70E-06	3.75YrCanc	*	1.70E-06
478	ALL	460300	3746975	0.015745	9901	DieselExhP	6.17E-06	3.75YrCanc	*	6.17E-06
479	ALL	460350	3746975	0.011662	9901	DieselExhP	4.57E-06	3.75YrCanc	*	4.57E-06
480	ALL	460400	3746975	0.008986	9901	DieselExhP	3.52E-06	3.75YrCanc	*	3.52E-06
481	ALL	460450	3746975	0.007017	9901	DieselExhP	2.75E-06	3.75YrCanc	*	2.75E-06
482	ALL	460500	3746975	0.00572	9901	DieselExhP	2.24E-06	3.75YrCanc	*	2.24E-06
483	ALL	460550	3746975	0.00471	9901	DieselExhP	1.85E-06	3.75YrCanc	*	1.85E-06
484	ALL	460600	3746975	0.004153	9901	DieselExhP	1.63E-06	3.75YrCanc	*	1.63E-06
485	ALL	460650	3746975	0.003641	9901	DieselExhP	1.43E-06	3.75YrCanc	*	1.43E-06
486	ALL	460250	3747025	0.015446	9901	DieselExhP	6.06E-06	3.75YrCanc	*	6.06E-06
487	ALL	460300	3747025	0.011581	9901	DieselExhP	4.54E-06	3.75YrCanc	*	4.54E-06
488	ALL	460350	3747025	0.008961	9901	DieselExhP	3.51E-06	3.75YrCanc	*	3.51E-06
489	ALL	460400	3747025	0.007096	9901	DieselExhP	2.78E-06	3.75YrCanc	*	2.78E-06
490	ALL	460450	3747025	0.005804	9901	DieselExhP	2.28E-06	3.75YrCanc	*	2.28E-06
491	ALL	460500	3747025	0.004724	9901	DieselExhP	1.85E-06	3.75YrCanc	*	1.85E-06
492	ALL	460550	3747025	0.003942	9901	DieselExhP	1.55E-06	3.75YrCanc	*	1.55E-06
493	ALL	460600	3747025	0.003387	9901	DieselExhP	1.33E-06	3.75YrCanc	*	1.33E-06
494	ALL	460650	3747025	0.00301	9901	DieselExhP	1.18E-06	3.75YrCanc	*	1.18E-06
495	ALL	460250	3747075	0.010255	9901	DieselExhP	4.02E-06	3.75YrCanc	*	4.02E-06
496	ALL	460300	3747075	0.008065	9901	DieselExhP	3.16E-06	3.75YrCanc	*	3.16E-06
497	ALL	460350	3747075	0.006557	9901	DieselExhP	2.57E-06	3.75YrCanc	*	2.57E-06
498	ALL	460400	3747075	0.005427	9901	DieselExhP	2.13E-06	3.75YrCanc	*	2.13E-06
499	ALL	460450	3747075	0.00456	9901	DieselExhP	1.79E-06	3.75YrCanc	*	1.79E-06
500	ALL	460500	3747075	0.003837	9901	DieselExhP	1.50E-06	3.75YrCanc	*	1.50E-06
501	ALL	460550	3747075	0.00324	9901	DieselExhP	1.27E-06	3.75YrCanc	*	1.27E-06
502	ALL	460600	3747075	0.002786	9901	DieselExhP	1.09E-06	3.75YrCanc	*	1.09E-06

503	ALL	460650	3747075	0.002432	9901	DieselExhP	9.53E-07	3.75YrCanc	*	9.53E-07
504	ALL	460250	3747125	0.007153	9901	DieselExhP	2.80E-06	3.75YrCanc	*	2.80E-06
505	ALL	460300	3747125	0.005844	9901	DieselExhP	2.29E-06	3.75YrCanc	*	2.29E-06
506	ALL	460350	3747125	0.004818	9901	DieselExhP	1.89E-06	3.75YrCanc	*	1.89E-06
507	ALL	460400	3747125	0.00407	9901	DieselExhP	1.60E-06	3.75YrCanc	*	1.60E-06
508	ALL	460450	3747125	0.003498	9901	DieselExhP	1.37E-06	3.75YrCanc	*	1.37E-06
509	ALL	460500	3747125	0.00298	9901	DieselExhP	1.17E-06	3.75YrCanc	*	1.17E-06
510	ALL	460550	3747125	0.002554	9901	DieselExhP	1.00E-06	3.75YrCanc	*	1.00E-06
511	ALL	460600	3747125	0.002238	9901	DieselExhP	8.77E-07	3.75YrCanc	*	8.77E-07
512	ALL	460050	3747275	0.001806	9901	DieselExhP	7.08E-07	3.75YrCanc	*	7.08E-07
513	ALL	459200	3745900	0.000235	9901	DieselExhP	9.20E-08	3.75YrCanc	*	9.20E-08
514	ALL	459300	3745900	0.00026	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
515	ALL	459400	3745900	0.000291	9901	DieselExhP	1.14E-07	3.75YrCanc	*	1.14E-07
516	ALL	459500	3745900	0.000326	9901	DieselExhP	1.28E-07	3.75YrCanc	*	1.28E-07
517	ALL	459600	3745900	0.000364	9901	DieselExhP	1.43E-07	3.75YrCanc	*	1.43E-07
518	ALL	459700	3745900	0.000404	9901	DieselExhP	1.58E-07	3.75YrCanc	*	1.58E-07
519	ALL	459800	3745900	0.000438	9901	DieselExhP	1.72E-07	3.75YrCanc	*	1.72E-07
520	ALL	459900	3745900	0.000459	9901	DieselExhP	1.80E-07	3.75YrCanc	*	1.80E-07
521	ALL	460000	3745900	0.000455	9901	DieselExhP	1.78E-07	3.75YrCanc	*	1.78E-07
522	ALL	460100	3745900	0.000412	9901	DieselExhP	1.61E-07	3.75YrCanc	*	1.61E-07
523	ALL	460200	3745900	0.000313	9901	DieselExhP	1.23E-07	3.75YrCanc	*	1.23E-07
524	ALL	460300	3745900	0.000261	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
525	ALL	460400	3745900	0.0002	9901	DieselExhP	7.84E-08	3.75YrCanc	*	7.84E-08
526	ALL	460500	3745900	0.000151	9901	DieselExhP	5.91E-08	3.75YrCanc	*	5.91E-08
527	ALL	460600	3745900	0.000125	9901	DieselExhP	4.88E-08	3.75YrCanc	*	4.88E-08
528	ALL	460700	3745900	0.000116	9901	DieselExhP	4.56E-08	3.75YrCanc	*	4.56E-08
529	ALL	460800	3745900	0.000123	9901	DieselExhP	4.80E-08	3.75YrCanc	*	4.80E-08
530	ALL	460900	3745900	0.000134	9901	DieselExhP	5.26E-08	3.75YrCanc	*	5.26E-08
531	ALL	461000	3745900	0.000144	9901	DieselExhP	5.64E-08	3.75YrCanc	*	5.64E-08
532	ALL	461100	3745900	0.000152	9901	DieselExhP	5.95E-08	3.75YrCanc	*	5.95E-08
533	ALL	461200	3745900	0.000157	9901	DieselExhP	6.15E-08	3.75YrCanc	*	6.15E-08
534	ALL	459200	3746000	0.000252	9901	DieselExhP	9.86E-08	3.75YrCanc	*	9.86E-08
535	ALL	459300	3746000	0.000281	9901	DieselExhP	1.10E-07	3.75YrCanc	*	1.10E-07
536	ALL	459400	3746000	0.000318	9901	DieselExhP	1.25E-07	3.75YrCanc	*	1.25E-07
537	ALL	459500	3746000	0.000361	9901	DieselExhP	1.42E-07	3.75YrCanc	*	1.42E-07
538	ALL	459600	3746000	0.000412	9901	DieselExhP	1.61E-07	3.75YrCanc	*	1.61E-07
539	ALL	459700	3746000	0.000466	9901	DieselExhP	1.83E-07	3.75YrCanc	*	1.83E-07
540	ALL	459800	3746000	0.00052	9901	DieselExhP	2.04E-07	3.75YrCanc	*	2.04E-07
541	ALL	459900	3746000	0.000562	9901	DieselExhP	2.20E-07	3.75YrCanc	*	2.20E-07
542	ALL	460000	3746000	0.000574	9901	DieselExhP	2.25E-07	3.75YrCanc	*	2.25E-07
543	ALL	460100	3746000	0.000519	9901	DieselExhP	2.03E-07	3.75YrCanc	*	2.03E-07
544	ALL	460200	3746000	0.000456	9901	DieselExhP	1.79E-07	3.75YrCanc	*	1.79E-07
545	ALL	460300	3746000	0.000362	9901	DieselExhP	1.42E-07	3.75YrCanc	*	1.42E-07
546	ALL	460400	3746000	0.000259	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
547	ALL	460500	3746000	0.000189	9901	DieselExhP	7.40E-08	3.75YrCanc	*	7.40E-08
548	ALL	460600	3746000	0.000164	9901	DieselExhP	6.41E-08	3.75YrCanc	*	6.41E-08
549	ALL	460700	3746000	0.000163	9901	DieselExhP	6.40E-08	3.75YrCanc	*	6.40E-08
550	ALL	460800	3746000	0.000175	9901	DieselExhP	6.87E-08	3.75YrCanc	*	6.87E-08
551	ALL	460900	3746000	0.00019	9901	DieselExhP	7.43E-08	3.75YrCanc	*	7.43E-08
552	ALL	461000	3746000	0.000202	9901	DieselExhP	7.92E-08	3.75YrCanc	*	7.92E-08
553	ALL	461100	3746000	0.00021	9901	DieselExhP	8.22E-08	3.75YrCanc	*	8.22E-08
554	ALL	461200	3746000	0.000216	9901	DieselExhP	8.47E-08	3.75YrCanc	*	8.47E-08
555	ALL	459200	3746100	0.000269	9901	DieselExhP	1.05E-07	3.75YrCanc	*	1.05E-07
556	ALL	459300	3746100	0.000304	9901	DieselExhP	1.19E-07	3.75YrCanc	*	1.19E-07
557	ALL	459400	3746100	0.000347	9901	DieselExhP	1.36E-07	3.75YrCanc	*	1.36E-07
558	ALL	459500	3746100	0.000401	9901	DieselExhP	1.57E-07	3.75YrCanc	*	1.57E-07
559	ALL	459600	3746100	0.000467	9901	DieselExhP	1.83E-07	3.75YrCanc	*	1.83E-07
560	ALL	459700	3746100	0.000542	9901	DieselExhP	2.12E-07	3.75YrCanc	*	2.12E-07
561	ALL	459800	3746100	0.000622	9901	DieselExhP	2.44E-07	3.75YrCanc	*	2.44E-07
562	ALL	459900	3746100	0.000697	9901	DieselExhP	2.73E-07	3.75YrCanc	*	2.73E-07
563	ALL	460000	3746100	0.000701	9901	DieselExhP	2.75E-07	3.75YrCanc	*	2.75E-07
564	ALL	460100	3746100	0.000751	9901	DieselExhP	2.94E-07	3.75YrCanc	*	2.94E-07
565	ALL	460200	3746100	0.000655	9901	DieselExhP	2.57E-07	3.75YrCanc	*	2.57E-07

566	ALL	460300	3746100	0.000502	9901	DieselExhP	1.97E-07	3.75YrCanc	*	1.97E-07
567	ALL	460400	3746100	0.000338	9901	DieselExhP	1.33E-07	3.75YrCanc	*	1.33E-07
568	ALL	460500	3746100	0.000264	9901	DieselExhP	1.04E-07	3.75YrCanc	*	1.04E-07
569	ALL	460600	3746100	0.000238	9901	DieselExhP	9.32E-08	3.75YrCanc	*	9.32E-08
570	ALL	460700	3746100	0.000246	9901	DieselExhP	9.64E-08	3.75YrCanc	*	9.64E-08
571	ALL	460800	3746100	0.000268	9901	DieselExhP	1.05E-07	3.75YrCanc	*	1.05E-07
572	ALL	460900	3746100	0.000288	9901	DieselExhP	1.13E-07	3.75YrCanc	*	1.13E-07
573	ALL	461000	3746100	0.000303	9901	DieselExhP	1.19E-07	3.75YrCanc	*	1.19E-07
574	ALL	461100	3746100	0.00031	9901	DieselExhP	1.21E-07	3.75YrCanc	*	1.21E-07
575	ALL	461200	3746100	0.000324	9901	DieselExhP	1.27E-07	3.75YrCanc	*	1.27E-07
576	ALL	459200	3746200	0.000279	9901	DieselExhP	1.09E-07	3.75YrCanc	*	1.09E-07
577	ALL	459300	3746200	0.000326	9901	DieselExhP	1.28E-07	3.75YrCanc	*	1.28E-07
578	ALL	459400	3746200	0.000378	9901	DieselExhP	1.48E-07	3.75YrCanc	*	1.48E-07
579	ALL	459500	3746200	0.000445	9901	DieselExhP	1.75E-07	3.75YrCanc	*	1.75E-07
580	ALL	459600	3746200	0.00053	9901	DieselExhP	2.08E-07	3.75YrCanc	*	2.08E-07
581	ALL	459700	3746200	0.000633	9901	DieselExhP	2.48E-07	3.75YrCanc	*	2.48E-07
582	ALL	459800	3746200	0.000748	9901	DieselExhP	2.93E-07	3.75YrCanc	*	2.93E-07
583	ALL	459900	3746200	0.000834	9901	DieselExhP	3.27E-07	3.75YrCanc	*	3.27E-07
584	ALL	460000	3746200	0.001032	9901	DieselExhP	4.05E-07	3.75YrCanc	*	4.05E-07
585	ALL	460100	3746200	0.001065	9901	DieselExhP	4.17E-07	3.75YrCanc	*	4.17E-07
586	ALL	460200	3746200	0.000963	9901	DieselExhP	3.77E-07	3.75YrCanc	*	3.77E-07
587	ALL	460300	3746200	0.000764	9901	DieselExhP	2.99E-07	3.75YrCanc	*	2.99E-07
588	ALL	460400	3746200	0.000554	9901	DieselExhP	2.17E-07	3.75YrCanc	*	2.17E-07
589	ALL	460500	3746200	0.000419	9901	DieselExhP	1.64E-07	3.75YrCanc	*	1.64E-07
590	ALL	460600	3746200	0.000389	9901	DieselExhP	1.53E-07	3.75YrCanc	*	1.53E-07
591	ALL	460700	3746200	0.000419	9901	DieselExhP	1.64E-07	3.75YrCanc	*	1.64E-07
592	ALL	460800	3746200	0.000451	9901	DieselExhP	1.77E-07	3.75YrCanc	*	1.77E-07
593	ALL	460900	3746200	0.000474	9901	DieselExhP	1.86E-07	3.75YrCanc	*	1.86E-07
594	ALL	461000	3746200	0.000492	9901	DieselExhP	1.93E-07	3.75YrCanc	*	1.93E-07
595	ALL	461100	3746200	0.0005	9901	DieselExhP	1.96E-07	3.75YrCanc	*	1.96E-07
596	ALL	461200	3746200	0.000496	9901	DieselExhP	1.95E-07	3.75YrCanc	*	1.95E-07
597	ALL	459200	3746300	0.000308	9901	DieselExhP	1.21E-07	3.75YrCanc	*	1.21E-07
598	ALL	459300	3746300	0.000351	9901	DieselExhP	1.38E-07	3.75YrCanc	*	1.38E-07
599	ALL	459400	3746300	0.000399	9901	DieselExhP	1.57E-07	3.75YrCanc	*	1.57E-07
600	ALL	459500	3746300	0.000472	9901	DieselExhP	1.85E-07	3.75YrCanc	*	1.85E-07
601	ALL	459600	3746300	0.000583	9901	DieselExhP	2.29E-07	3.75YrCanc	*	2.29E-07
602	ALL	459700	3746300	0.000706	9901	DieselExhP	2.77E-07	3.75YrCanc	*	2.77E-07
603	ALL	459800	3746300	0.000948	9901	DieselExhP	3.72E-07	3.75YrCanc	*	3.72E-07
604	ALL	459900	3746300	0.001184	9901	DieselExhP	4.64E-07	3.75YrCanc	*	4.64E-07
605	ALL	460000	3746300	0.001471	9901	DieselExhP	5.77E-07	3.75YrCanc	*	5.77E-07
606	ALL	460100	3746300	0.001623	9901	DieselExhP	6.36E-07	3.75YrCanc	*	6.36E-07
607	ALL	460200	3746300	0.001571	9901	DieselExhP	6.16E-07	3.75YrCanc	*	6.16E-07
608	ALL	460300	3746300	0.001328	9901	DieselExhP	5.21E-07	3.75YrCanc	*	5.21E-07
609	ALL	460400	3746300	0.001014	9901	DieselExhP	3.98E-07	3.75YrCanc	*	3.98E-07
610	ALL	460500	3746300	0.000794	9901	DieselExhP	3.11E-07	3.75YrCanc	*	3.11E-07
611	ALL	460600	3746300	0.000776	9901	DieselExhP	3.04E-07	3.75YrCanc	*	3.04E-07
612	ALL	460700	3746300	0.000844	9901	DieselExhP	3.31E-07	3.75YrCanc	*	3.31E-07
613	ALL	460800	3746300	0.000863	9901	DieselExhP	3.38E-07	3.75YrCanc	*	3.38E-07
614	ALL	460900	3746300	0.000825	9901	DieselExhP	3.24E-07	3.75YrCanc	*	3.24E-07
615	ALL	461000	3746300	0.000823	9901	DieselExhP	3.23E-07	3.75YrCanc	*	3.23E-07
616	ALL	461100	3746300	0.0008	9901	DieselExhP	3.14E-07	3.75YrCanc	*	3.14E-07
617	ALL	461200	3746300	0.00076	9901	DieselExhP	2.98E-07	3.75YrCanc	*	2.98E-07
618	ALL	459200	3746400	0.000315	9901	DieselExhP	1.24E-07	3.75YrCanc	*	1.24E-07
619	ALL	459300	3746400	0.000372	9901	DieselExhP	1.46E-07	3.75YrCanc	*	1.46E-07
620	ALL	459400	3746400	0.00045	9901	DieselExhP	1.76E-07	3.75YrCanc	*	1.76E-07
621	ALL	459500	3746400	0.000556	9901	DieselExhP	2.18E-07	3.75YrCanc	*	2.18E-07
622	ALL	459600	3746400	0.000646	9901	DieselExhP	2.53E-07	3.75YrCanc	*	2.53E-07
623	ALL	459700	3746400	0.000866	9901	DieselExhP	3.40E-07	3.75YrCanc	*	3.40E-07
624	ALL	459800	3746400	0.001148	9901	DieselExhP	4.50E-07	3.75YrCanc	*	4.50E-07
625	ALL	459900	3746400	0.001578	9901	DieselExhP	6.19E-07	3.75YrCanc	*	6.19E-07
626	ALL	460000	3746400	0.002194	9901	DieselExhP	8.60E-07	3.75YrCanc	*	8.60E-07
627	ALL	460100	3746400	0.00296	9901	DieselExhP	1.16E-06	3.75YrCanc	*	1.16E-06
628	ALL	460200	3746400	0.003103	9901	DieselExhP	1.22E-06	3.75YrCanc	*	1.22E-06

629	ALL	460300	3746400	0.003005	9901	DieselExhP	1.18E-06	3.75YrCanc	*	1.18E-06
630	ALL	460400	3746400	0.002677	9901	DieselExhP	1.05E-06	3.75YrCanc	*	1.05E-06
631	ALL	460500	3746400	0.002132	9901	DieselExhP	8.36E-07	3.75YrCanc	*	8.36E-07
632	ALL	460600	3746400	0.00208	9901	DieselExhP	8.15E-07	3.75YrCanc	*	8.15E-07
633	ALL	460700	3746400	0.001941	9901	DieselExhP	7.61E-07	3.75YrCanc	*	7.61E-07
634	ALL	460800	3746400	0.001743	9901	DieselExhP	6.83E-07	3.75YrCanc	*	6.83E-07
635	ALL	460900	3746400	0.001504	9901	DieselExhP	5.90E-07	3.75YrCanc	*	5.90E-07
636	ALL	461000	3746400	0.001343	9901	DieselExhP	5.27E-07	3.75YrCanc	*	5.27E-07
637	ALL	461100	3746400	0.001238	9901	DieselExhP	4.85E-07	3.75YrCanc	*	4.85E-07
638	ALL	461200	3746400	0.001109	9901	DieselExhP	4.35E-07	3.75YrCanc	*	4.35E-07
639	ALL	459200	3746500	0.000317	9901	DieselExhP	1.24E-07	3.75YrCanc	*	1.24E-07
640	ALL	459300	3746500	0.000379	9901	DieselExhP	1.49E-07	3.75YrCanc	*	1.49E-07
641	ALL	459400	3746500	0.000466	9901	DieselExhP	1.83E-07	3.75YrCanc	*	1.83E-07
642	ALL	459500	3746500	0.000588	9901	DieselExhP	2.31E-07	3.75YrCanc	*	2.31E-07
643	ALL	459600	3746500	0.000767	9901	DieselExhP	3.01E-07	3.75YrCanc	*	3.01E-07
644	ALL	459700	3746500	0.000991	9901	DieselExhP	3.89E-07	3.75YrCanc	*	3.89E-07
645	ALL	459800	3746500	0.001504	9901	DieselExhP	5.90E-07	3.75YrCanc	*	5.90E-07
646	ALL	459900	3746500	0.002143	9901	DieselExhP	8.40E-07	3.75YrCanc	*	8.40E-07
647	ALL	460000	3746500	0.00334	9901	DieselExhP	1.31E-06	3.75YrCanc	*	1.31E-06
648	ALL	460100	3746500	0.008431	9901	DieselExhP	3.31E-06	3.75YrCanc	*	3.31E-06
649	ALL	460200	3746500	0.015	9901	DieselExhP	5.88E-06	3.75YrCanc	*	5.88E-06
650	ALL	460300	3746500	0.016003	9901	DieselExhP	6.27E-06	3.75YrCanc	*	6.27E-06
651	ALL	460400	3746500	0.015228	9901	DieselExhP	5.97E-06	3.75YrCanc	*	5.97E-06
652	ALL	460500	3746500	0.011115	9901	DieselExhP	4.36E-06	3.75YrCanc	*	4.36E-06
653	ALL	460600	3746500	0.006571	9901	DieselExhP	2.58E-06	3.75YrCanc	*	2.58E-06
654	ALL	460700	3746500	0.004482	9901	DieselExhP	1.76E-06	3.75YrCanc	*	1.76E-06
655	ALL	460800	3746500	0.003284	9901	DieselExhP	1.29E-06	3.75YrCanc	*	1.29E-06
656	ALL	460900	3746500	0.002463	9901	DieselExhP	9.65E-07	3.75YrCanc	*	9.65E-07
657	ALL	461000	3746500	0.001981	9901	DieselExhP	7.77E-07	3.75YrCanc	*	7.77E-07
658	ALL	461100	3746500	0.001699	9901	DieselExhP	6.66E-07	3.75YrCanc	*	6.66E-07
659	ALL	461200	3746500	0.001483	9901	DieselExhP	5.81E-07	3.75YrCanc	*	5.81E-07
660	ALL	459200	3746600	0.000311	9901	DieselExhP	1.22E-07	3.75YrCanc	*	1.22E-07
661	ALL	459300	3746600	0.000377	9901	DieselExhP	1.48E-07	3.75YrCanc	*	1.48E-07
662	ALL	459400	3746600	0.000471	9901	DieselExhP	1.85E-07	3.75YrCanc	*	1.85E-07
663	ALL	459500	3746600	0.000607	9901	DieselExhP	2.38E-07	3.75YrCanc	*	2.38E-07
664	ALL	459600	3746600	0.000815	9901	DieselExhP	3.20E-07	3.75YrCanc	*	3.20E-07
665	ALL	459700	3746600	0.001144	9901	DieselExhP	4.48E-07	3.75YrCanc	*	4.48E-07
666	ALL	459800	3746600	0.001672	9901	DieselExhP	6.56E-07	3.75YrCanc	*	6.56E-07
667	ALL	459900	3746600	0.002462	9901	DieselExhP	9.65E-07	3.75YrCanc	*	9.65E-07
668	ALL	460000	3746600	0.003931	9901	DieselExhP	1.54E-06	3.75YrCanc	*	1.54E-06
669	ALL	460100	3746600	0.011755	9901	DieselExhP	4.61E-06	3.75YrCanc	*	4.61E-06
670	ALL	460200	3746600	0.031323	9901	DieselExhP	1.23E-05	3.75YrCanc	*	1.23E-05
671	ALL	460300	3746600	0.037463	9901	DieselExhP	1.47E-05	3.75YrCanc	*	1.47E-05
672	ALL	460400	3746600	0.032454	9901	DieselExhP	1.27E-05	3.75YrCanc	*	1.27E-05
673	ALL	460500	3746600	0.022893	9901	DieselExhP	8.97E-06	3.75YrCanc	*	8.97E-06
674	ALL	460600	3746600	0.010299	9901	DieselExhP	4.04E-06	3.75YrCanc	*	4.04E-06
675	ALL	460700	3746600	0.006319	9901	DieselExhP	2.48E-06	3.75YrCanc	*	2.48E-06
676	ALL	460800	3746600	0.004383	9901	DieselExhP	1.72E-06	3.75YrCanc	*	1.72E-06
677	ALL	460900	3746600	0.003175	9901	DieselExhP	1.24E-06	3.75YrCanc	*	1.24E-06
678	ALL	461000	3746600	0.00233	9901	DieselExhP	9.14E-07	3.75YrCanc	*	9.14E-07
679	ALL	461100	3746600	0.002038	9901	DieselExhP	7.99E-07	3.75YrCanc	*	7.99E-07
680	ALL	461200	3746600	0.001768	9901	DieselExhP	6.93E-07	3.75YrCanc	*	6.93E-07
681	ALL	459200	3746700	0.000296	9901	DieselExhP	1.16E-07	3.75YrCanc	*	1.16E-07
682	ALL	459300	3746700	0.000363	9901	DieselExhP	1.42E-07	3.75YrCanc	*	1.42E-07
683	ALL	459400	3746700	0.000461	9901	DieselExhP	1.81E-07	3.75YrCanc	*	1.81E-07
684	ALL	459500	3746700	0.000608	9901	DieselExhP	2.38E-07	3.75YrCanc	*	2.38E-07
685	ALL	459600	3746700	0.000845	9901	DieselExhP	3.31E-07	3.75YrCanc	*	3.31E-07
686	ALL	459700	3746700	0.001255	9901	DieselExhP	4.92E-07	3.75YrCanc	*	4.92E-07
687	ALL	459800	3746700	0.001997	9901	DieselExhP	7.83E-07	3.75YrCanc	*	7.83E-07
688	ALL	459900	3746700	0.003309	9901	DieselExhP	1.30E-06	3.75YrCanc	*	1.30E-06
689	ALL	460000	3746700	0.004952	9901	DieselExhP	1.94E-06	3.75YrCanc	*	1.94E-06
690	ALL	460100	3746700	0.010294	9901	DieselExhP	4.04E-06	3.75YrCanc	*	4.04E-06
691	ALL	460200	3746700	0.027397	9901	DieselExhP	1.07E-05	3.75YrCanc	*	1.07E-05

692	ALL	460300	3746700	0.037443	9901	DieselExhP	1.47E-05	3.75YrCanc	*	1.47E-05
693	ALL	460400	3746700	0.034315	9901	DieselExhP	1.35E-05	3.75YrCanc	*	1.35E-05
694	ALL	460500	3746700	0.019719	9901	DieselExhP	7.73E-06	3.75YrCanc	*	7.73E-06
695	ALL	460600	3746700	0.009916	9901	DieselExhP	3.89E-06	3.75YrCanc	*	3.89E-06
696	ALL	460700	3746700	0.006487	9901	DieselExhP	2.54E-06	3.75YrCanc	*	2.54E-06
697	ALL	460800	3746700	0.004275	9901	DieselExhP	1.68E-06	3.75YrCanc	*	1.68E-06
698	ALL	460900	3746700	0.003384	9901	DieselExhP	1.33E-06	3.75YrCanc	*	1.33E-06
699	ALL	461000	3746700	0.002644	9901	DieselExhP	1.04E-06	3.75YrCanc	*	1.04E-06
700	ALL	461100	3746700	0.002189	9901	DieselExhP	8.58E-07	3.75YrCanc	*	8.58E-07
701	ALL	461200	3746700	0.001819	9901	DieselExhP	7.13E-07	3.75YrCanc	*	7.13E-07
702	ALL	459200	3746800	0.000273	9901	DieselExhP	1.07E-07	3.75YrCanc	*	1.07E-07
703	ALL	459300	3746800	0.000338	9901	DieselExhP	1.33E-07	3.75YrCanc	*	1.33E-07
704	ALL	459400	3746800	0.000434	9901	DieselExhP	1.70E-07	3.75YrCanc	*	1.70E-07
705	ALL	459500	3746800	0.000585	9901	DieselExhP	2.29E-07	3.75YrCanc	*	2.29E-07
706	ALL	459600	3746800	0.000842	9901	DieselExhP	3.30E-07	3.75YrCanc	*	3.30E-07
707	ALL	459700	3746800	0.001322	9901	DieselExhP	5.18E-07	3.75YrCanc	*	5.18E-07
708	ALL	459800	3746800	0.002366	9901	DieselExhP	9.27E-07	3.75YrCanc	*	9.27E-07
709	ALL	459900	3746800	0.005458	9901	DieselExhP	2.14E-06	3.75YrCanc	*	2.14E-06
710	ALL	460000	3746800	0.016863	9901	DieselExhP	6.61E-06	3.75YrCanc	*	6.61E-06
711	ALL	460100	3746800	0.028154	9901	DieselExhP	1.10E-05	3.75YrCanc	*	1.10E-05
712	ALL	460200	3746800	0.0353	9901	DieselExhP	1.38E-05	3.75YrCanc	*	1.38E-05
713	ALL	460300	3746800	0.035953	9901	DieselExhP	1.41E-05	3.75YrCanc	*	1.41E-05
714	ALL	460400	3746800	0.030015	9901	DieselExhP	1.18E-05	3.75YrCanc	*	1.18E-05
715	ALL	460500	3746800	0.012797	9901	DieselExhP	5.02E-06	3.75YrCanc	*	5.02E-06
716	ALL	460600	3746800	0.007627	9901	DieselExhP	2.99E-06	3.75YrCanc	*	2.99E-06
717	ALL	460700	3746800	0.005334	9901	DieselExhP	2.09E-06	3.75YrCanc	*	2.09E-06
718	ALL	460800	3746800	0.003966	9901	DieselExhP	1.55E-06	3.75YrCanc	*	1.55E-06
719	ALL	460900	3746800	0.003104	9901	DieselExhP	1.22E-06	3.75YrCanc	*	1.22E-06
720	ALL	461000	3746800	0.002521	9901	DieselExhP	9.88E-07	3.75YrCanc	*	9.88E-07
721	ALL	461100	3746800	0.002088	9901	DieselExhP	8.18E-07	3.75YrCanc	*	8.18E-07
722	ALL	461200	3746800	0.00174	9901	DieselExhP	6.82E-07	3.75YrCanc	*	6.82E-07
723	ALL	459200	3746900	0.000244	9901	DieselExhP	9.57E-08	3.75YrCanc	*	9.57E-08
724	ALL	459300	3746900	0.000303	9901	DieselExhP	1.19E-07	3.75YrCanc	*	1.19E-07
725	ALL	459400	3746900	0.000391	9901	DieselExhP	1.53E-07	3.75YrCanc	*	1.53E-07
726	ALL	459500	3746900	0.000533	9901	DieselExhP	2.09E-07	3.75YrCanc	*	2.09E-07
727	ALL	459600	3746900	0.000782	9901	DieselExhP	3.07E-07	3.75YrCanc	*	3.07E-07
728	ALL	459700	3746900	0.00128	9901	DieselExhP	5.02E-07	3.75YrCanc	*	5.02E-07
729	ALL	459800	3746900	0.002466	9901	DieselExhP	9.67E-07	3.75YrCanc	*	9.67E-07
730	ALL	459900	3746900	0.00656	9901	DieselExhP	2.57E-06	3.75YrCanc	*	2.57E-06
731	ALL	460000	3746900	0.022326	9901	DieselExhP	8.75E-06	3.75YrCanc	*	8.75E-06
732	ALL	460100	3746900	0.031413	9901	DieselExhP	1.23E-05	3.75YrCanc	*	1.23E-05
733	ALL	460200	3746900	0.034219	9901	DieselExhP	1.34E-05	3.75YrCanc	*	1.34E-05
734	ALL	460300	3746900	0.023572	9901	DieselExhP	9.24E-06	3.75YrCanc	*	9.24E-06
735	ALL	460400	3746900	0.012385	9901	DieselExhP	4.86E-06	3.75YrCanc	*	4.86E-06
736	ALL	460500	3746900	0.007771	9901	DieselExhP	3.05E-06	3.75YrCanc	*	3.05E-06
737	ALL	460600	3746900	0.005525	9901	DieselExhP	2.17E-06	3.75YrCanc	*	2.17E-06
738	ALL	460700	3746900	0.004109	9901	DieselExhP	1.61E-06	3.75YrCanc	*	1.61E-06
739	ALL	460800	3746900	0.003207	9901	DieselExhP	1.26E-06	3.75YrCanc	*	1.26E-06
740	ALL	460900	3746900	0.002575	9901	DieselExhP	1.01E-06	3.75YrCanc	*	1.01E-06
741	ALL	461000	3746900	0.002096	9901	DieselExhP	8.22E-07	3.75YrCanc	*	8.22E-07
742	ALL	461100	3746900	0.00176	9901	DieselExhP	6.90E-07	3.75YrCanc	*	6.90E-07
743	ALL	461200	3746900	0.001449	9901	DieselExhP	5.68E-07	3.75YrCanc	*	5.68E-07
744	ALL	459200	3747000	0.000212	9901	DieselExhP	8.31E-08	3.75YrCanc	*	8.31E-08
745	ALL	459300	3747000	0.000262	9901	DieselExhP	1.03E-07	3.75YrCanc	*	1.03E-07
746	ALL	459400	3747000	0.000336	9901	DieselExhP	1.32E-07	3.75YrCanc	*	1.32E-07
747	ALL	459500	3747000	0.000457	9901	DieselExhP	1.79E-07	3.75YrCanc	*	1.79E-07
748	ALL	459600	3747000	0.000673	9901	DieselExhP	2.64E-07	3.75YrCanc	*	2.64E-07
749	ALL	459700	3747000	0.001111	9901	DieselExhP	4.36E-07	3.75YrCanc	*	4.36E-07
750	ALL	459800	3747000	0.002265	9901	DieselExhP	8.88E-07	3.75YrCanc	*	8.88E-07
751	ALL	459900	3747000	0.007061	9901	DieselExhP	2.77E-06	3.75YrCanc	*	2.77E-06
752	ALL	460000	3747000	0.022519	9901	DieselExhP	8.83E-06	3.75YrCanc	*	8.83E-06
753	ALL	460100	3747000	0.02812	9901	DieselExhP	1.10E-05	3.75YrCanc	*	1.10E-05
754	ALL	460200	3747000	0.027522	9901	DieselExhP	1.08E-05	3.75YrCanc	*	1.08E-05

755	ALL	460300	3747000	0.013669	9901	DieselExhP	5.36E-06	3.75YrCanc	*	5.36E-06
756	ALL	460400	3747000	0.008013	9901	DieselExhP	3.14E-06	3.75YrCanc	*	3.14E-06
757	ALL	460500	3747000	0.005238	9901	DieselExhP	2.05E-06	3.75YrCanc	*	2.05E-06
758	ALL	460600	3747000	0.003761	9901	DieselExhP	1.47E-06	3.75YrCanc	*	1.47E-06
759	ALL	460700	3747000	0.002908	9901	DieselExhP	1.14E-06	3.75YrCanc	*	1.14E-06
760	ALL	460800	3747000	0.002335	9901	DieselExhP	9.15E-07	3.75YrCanc	*	9.15E-07
761	ALL	460900	3747000	0.001912	9901	DieselExhP	7.50E-07	3.75YrCanc	*	7.50E-07
762	ALL	461000	3747000	0.00159	9901	DieselExhP	6.23E-07	3.75YrCanc	*	6.23E-07
763	ALL	461100	3747000	0.001389	9901	DieselExhP	5.44E-07	3.75YrCanc	*	5.44E-07
764	ALL	461200	3747000	0.001179	9901	DieselExhP	4.62E-07	3.75YrCanc	*	4.62E-07
765	ALL	459200	3747100	0.000181	9901	DieselExhP	7.11E-08	3.75YrCanc	*	7.11E-08
766	ALL	459300	3747100	0.000221	9901	DieselExhP	8.66E-08	3.75YrCanc	*	8.66E-08
767	ALL	459400	3747100	0.000278	9901	DieselExhP	1.09E-07	3.75YrCanc	*	1.09E-07
768	ALL	459500	3747100	0.00037	9901	DieselExhP	1.45E-07	3.75YrCanc	*	1.45E-07
769	ALL	459600	3747100	0.000518	9901	DieselExhP	2.03E-07	3.75YrCanc	*	2.03E-07
770	ALL	459700	3747100	0.000847	9901	DieselExhP	3.32E-07	3.75YrCanc	*	3.32E-07
771	ALL	459800	3747100	0.001638	9901	DieselExhP	6.42E-07	3.75YrCanc	*	6.42E-07
772	ALL	459900	3747100	0.0065	9901	DieselExhP	2.55E-06	3.75YrCanc	*	2.55E-06
773	ALL	460000	3747100	0.02102	9901	DieselExhP	8.24E-06	3.75YrCanc	*	8.24E-06
774	ALL	460100	3747100	0.021845	9901	DieselExhP	8.56E-06	3.75YrCanc	*	8.56E-06
775	ALL	460200	3747100	0.011014	9901	DieselExhP	4.32E-06	3.75YrCanc	*	4.32E-06
776	ALL	460300	3747100	0.006895	9901	DieselExhP	2.70E-06	3.75YrCanc	*	2.70E-06
777	ALL	460400	3747100	0.004709	9901	DieselExhP	1.85E-06	3.75YrCanc	*	1.85E-06
778	ALL	460500	3747100	0.003403	9901	DieselExhP	1.33E-06	3.75YrCanc	*	1.33E-06
779	ALL	460600	3747100	0.002506	9901	DieselExhP	9.82E-07	3.75YrCanc	*	9.82E-07
780	ALL	460700	3747100	0.001932	9901	DieselExhP	7.57E-07	3.75YrCanc	*	7.57E-07
781	ALL	460800	3747100	0.001611	9901	DieselExhP	6.31E-07	3.75YrCanc	*	6.31E-07
782	ALL	460900	3747100	0.001341	9901	DieselExhP	5.26E-07	3.75YrCanc	*	5.26E-07
783	ALL	461000	3747100	0.001194	9901	DieselExhP	4.68E-07	3.75YrCanc	*	4.68E-07
784	ALL	461100	3747100	0.001057	9901	DieselExhP	4.14E-07	3.75YrCanc	*	4.14E-07
785	ALL	461200	3747100	0.000942	9901	DieselExhP	3.69E-07	3.75YrCanc	*	3.69E-07
786	ALL	459200	3747200	0.000155	9901	DieselExhP	6.09E-08	3.75YrCanc	*	6.09E-08
787	ALL	459300	3747200	0.000185	9901	DieselExhP	7.25E-08	3.75YrCanc	*	7.25E-08
788	ALL	459400	3747200	0.000227	9901	DieselExhP	8.90E-08	3.75YrCanc	*	8.90E-08
789	ALL	459500	3747200	0.000262	9901	DieselExhP	1.03E-07	3.75YrCanc	*	1.03E-07
790	ALL	459600	3747200	0.000369	9901	DieselExhP	1.45E-07	3.75YrCanc	*	1.45E-07
791	ALL	459700	3747200	0.000566	9901	DieselExhP	2.22E-07	3.75YrCanc	*	2.22E-07
792	ALL	459800	3747200	0.000911	9901	DieselExhP	3.57E-07	3.75YrCanc	*	3.57E-07
793	ALL	459900	3747200	0.002335	9901	DieselExhP	9.16E-07	3.75YrCanc	*	9.16E-07
794	ALL	460000	3747200	0.012252	9901	DieselExhP	4.80E-06	3.75YrCanc	*	4.80E-06
795	ALL	460100	3747200	0.01017	9901	DieselExhP	3.99E-06	3.75YrCanc	*	3.99E-06
796	ALL	460200	3747200	0.004964	9901	DieselExhP	1.95E-06	3.75YrCanc	*	1.95E-06
797	ALL	460300	3747200	0.003392	9901	DieselExhP	1.33E-06	3.75YrCanc	*	1.33E-06
798	ALL	460400	3747200	0.002517	9901	DieselExhP	9.87E-07	3.75YrCanc	*	9.87E-07
799	ALL	460500	3747200	0.001941	9901	DieselExhP	7.61E-07	3.75YrCanc	*	7.61E-07
800	ALL	460600	3747200	0.001639	9901	DieselExhP	6.43E-07	3.75YrCanc	*	6.43E-07
801	ALL	460700	3747200	0.001322	9901	DieselExhP	5.18E-07	3.75YrCanc	*	5.18E-07
802	ALL	460800	3747200	0.001106	9901	DieselExhP	4.34E-07	3.75YrCanc	*	4.34E-07
803	ALL	460900	3747200	0.001019	9901	DieselExhP	4.00E-07	3.75YrCanc	*	4.00E-07
804	ALL	461000	3747200	0.000916	9901	DieselExhP	3.59E-07	3.75YrCanc	*	3.59E-07
805	ALL	461100	3747200	0.000811	9901	DieselExhP	3.18E-07	3.75YrCanc	*	3.18E-07
806	ALL	461200	3747200	0.000744	9901	DieselExhP	2.92E-07	3.75YrCanc	*	2.92E-07
807	ALL	459200	3747300	0.000134	9901	DieselExhP	5.27E-08	3.75YrCanc	*	5.27E-08
808	ALL	459300	3747300	0.000156	9901	DieselExhP	6.13E-08	3.75YrCanc	*	6.13E-08
809	ALL	459400	3747300	0.000186	9901	DieselExhP	7.30E-08	3.75YrCanc	*	7.30E-08
810	ALL	459500	3747300	0.000227	9901	DieselExhP	8.90E-08	3.75YrCanc	*	8.90E-08
811	ALL	459600	3747300	0.000285	9901	DieselExhP	1.12E-07	3.75YrCanc	*	1.12E-07
812	ALL	459700	3747300	0.000365	9901	DieselExhP	1.43E-07	3.75YrCanc	*	1.43E-07
813	ALL	459800	3747300	0.00048	9901	DieselExhP	1.88E-07	3.75YrCanc	*	1.88E-07
814	ALL	459900	3747300	0.000683	9901	DieselExhP	2.68E-07	3.75YrCanc	*	2.68E-07
815	ALL	460000	3747300	0.000983	9901	DieselExhP	3.85E-07	3.75YrCanc	*	3.85E-07
816	ALL	460100	3747300	0.001355	9901	DieselExhP	5.31E-07	3.75YrCanc	*	5.31E-07
817	ALL	460200	3747300	0.001486	9901	DieselExhP	5.83E-07	3.75YrCanc	*	5.83E-07

818	ALL	460300	3747300	0.001384	9901	DieselExhP	5.43E-07	3.75YrCanc	*	5.43E-07
819	ALL	460400	3747300	0.001242	9901	DieselExhP	4.87E-07	3.75YrCanc	*	4.87E-07
820	ALL	460500	3747300	0.00111	9901	DieselExhP	4.35E-07	3.75YrCanc	*	4.35E-07
821	ALL	460600	3747300	0.000969	9901	DieselExhP	3.80E-07	3.75YrCanc	*	3.80E-07
822	ALL	460700	3747300	0.000889	9901	DieselExhP	3.49E-07	3.75YrCanc	*	3.49E-07
823	ALL	460800	3747300	0.000767	9901	DieselExhP	3.01E-07	3.75YrCanc	*	3.01E-07
824	ALL	460900	3747300	0.000719	9901	DieselExhP	2.82E-07	3.75YrCanc	*	2.82E-07
825	ALL	461000	3747300	0.000652	9901	DieselExhP	2.56E-07	3.75YrCanc	*	2.56E-07
826	ALL	461100	3747300	0.000605	9901	DieselExhP	2.37E-07	3.75YrCanc	*	2.37E-07
827	ALL	461200	3747300	0.00057	9901	DieselExhP	2.24E-07	3.75YrCanc	*	2.24E-07
828	ALL	459200	3747400	0.000117	9901	DieselExhP	4.61E-08	3.75YrCanc	*	4.61E-08
829	ALL	459300	3747400	0.000134	9901	DieselExhP	5.26E-08	3.75YrCanc	*	5.26E-08
830	ALL	459400	3747400	0.000154	9901	DieselExhP	6.05E-08	3.75YrCanc	*	6.05E-08
831	ALL	459500	3747400	0.000179	9901	DieselExhP	7.02E-08	3.75YrCanc	*	7.02E-08
832	ALL	459600	3747400	0.000209	9901	DieselExhP	8.18E-08	3.75YrCanc	*	8.18E-08
833	ALL	459700	3747400	0.000243	9901	DieselExhP	9.54E-08	3.75YrCanc	*	9.54E-08
834	ALL	459800	3747400	0.000286	9901	DieselExhP	1.12E-07	3.75YrCanc	*	1.12E-07
835	ALL	459900	3747400	0.000341	9901	DieselExhP	1.34E-07	3.75YrCanc	*	1.34E-07
836	ALL	460000	3747400	0.00042	9901	DieselExhP	1.65E-07	3.75YrCanc	*	1.65E-07
837	ALL	460100	3747400	0.000517	9901	DieselExhP	2.03E-07	3.75YrCanc	*	2.03E-07
838	ALL	460200	3747400	0.000588	9901	DieselExhP	2.30E-07	3.75YrCanc	*	2.30E-07
839	ALL	460300	3747400	0.000621	9901	DieselExhP	2.44E-07	3.75YrCanc	*	2.44E-07
840	ALL	460400	3747400	0.000624	9901	DieselExhP	2.45E-07	3.75YrCanc	*	2.45E-07
841	ALL	460500	3747400	0.000611	9901	DieselExhP	2.40E-07	3.75YrCanc	*	2.40E-07
842	ALL	460600	3747400	0.000573	9901	DieselExhP	2.25E-07	3.75YrCanc	*	2.25E-07
843	ALL	460700	3747400	0.000566	9901	DieselExhP	2.22E-07	3.75YrCanc	*	2.22E-07
844	ALL	460800	3747400	0.000539	9901	DieselExhP	2.11E-07	3.75YrCanc	*	2.11E-07
845	ALL	460900	3747400	0.000506	9901	DieselExhP	1.98E-07	3.75YrCanc	*	1.98E-07
846	ALL	461000	3747400	0.000485	9901	DieselExhP	1.90E-07	3.75YrCanc	*	1.90E-07
847	ALL	461100	3747400	0.000444	9901	DieselExhP	1.74E-07	3.75YrCanc	*	1.74E-07
848	ALL	461200	3747400	0.000417	9901	DieselExhP	1.63E-07	3.75YrCanc	*	1.63E-07
849	ALL	459200	3747500	0.000104	9901	DieselExhP	4.06E-08	3.75YrCanc	*	4.06E-08
850	ALL	459300	3747500	0.000115	9901	DieselExhP	4.52E-08	3.75YrCanc	*	4.52E-08
851	ALL	459400	3747500	0.000129	9901	DieselExhP	5.04E-08	3.75YrCanc	*	5.04E-08
852	ALL	459500	3747500	0.000142	9901	DieselExhP	5.58E-08	3.75YrCanc	*	5.58E-08
853	ALL	459600	3747500	0.000156	9901	DieselExhP	6.12E-08	3.75YrCanc	*	6.12E-08
854	ALL	459700	3747500	0.00017	9901	DieselExhP	6.67E-08	3.75YrCanc	*	6.67E-08
855	ALL	459800	3747500	0.000189	9901	DieselExhP	7.41E-08	3.75YrCanc	*	7.41E-08
856	ALL	459900	3747500	0.000217	9901	DieselExhP	8.51E-08	3.75YrCanc	*	8.51E-08
857	ALL	460000	3747500	0.000254	9901	DieselExhP	9.95E-08	3.75YrCanc	*	9.95E-08
858	ALL	460100	3747500	0.000297	9901	DieselExhP	1.17E-07	3.75YrCanc	*	1.17E-07
859	ALL	460200	3747500	0.000332	9901	DieselExhP	1.30E-07	3.75YrCanc	*	1.30E-07
860	ALL	460300	3747500	0.000354	9901	DieselExhP	1.39E-07	3.75YrCanc	*	1.39E-07
861	ALL	460400	3747500	0.000366	9901	DieselExhP	1.43E-07	3.75YrCanc	*	1.43E-07
862	ALL	460500	3747500	0.00037	9901	DieselExhP	1.45E-07	3.75YrCanc	*	1.45E-07
863	ALL	460600	3747500	0.000374	9901	DieselExhP	1.47E-07	3.75YrCanc	*	1.47E-07
864	ALL	460700	3747500	0.000371	9901	DieselExhP	1.45E-07	3.75YrCanc	*	1.45E-07
865	ALL	460800	3747500	0.000365	9901	DieselExhP	1.43E-07	3.75YrCanc	*	1.43E-07
866	ALL	460900	3747500	0.000358	9901	DieselExhP	1.40E-07	3.75YrCanc	*	1.40E-07
867	ALL	461000	3747500	0.00035	9901	DieselExhP	1.37E-07	3.75YrCanc	*	1.37E-07
868	ALL	461100	3747500	0.000335	9901	DieselExhP	1.31E-07	3.75YrCanc	*	1.31E-07
869	ALL	461200	3747500	0.000313	9901	DieselExhP	1.23E-07	3.75YrCanc	*	1.23E-07
870	ALL	459200	3747600	9.12E-05	9901	DieselExhP	3.58E-08	3.75YrCanc	*	3.58E-08
871	ALL	459300	3747600	9.92E-05	9901	DieselExhP	3.89E-08	3.75YrCanc	*	3.89E-08
872	ALL	459400	3747600	0.000107	9901	DieselExhP	4.19E-08	3.75YrCanc	*	4.19E-08
873	ALL	459500	3747600	0.000113	9901	DieselExhP	4.43E-08	3.75YrCanc	*	4.43E-08
874	ALL	459600	3747600	0.000119	9901	DieselExhP	4.68E-08	3.75YrCanc	*	4.68E-08
875	ALL	459700	3747600	0.000127	9901	DieselExhP	4.97E-08	3.75YrCanc	*	4.97E-08
876	ALL	459800	3747600	0.000139	9901	DieselExhP	5.43E-08	3.75YrCanc	*	5.43E-08
877	ALL	459900	3747600	0.000155	9901	DieselExhP	6.09E-08	3.75YrCanc	*	6.09E-08
878	ALL	460000	3747600	0.000177	9901	DieselExhP	6.94E-08	3.75YrCanc	*	6.94E-08
879	ALL	460100	3747600	0.0002	9901	DieselExhP	7.84E-08	3.75YrCanc	*	7.84E-08
880	ALL	460200	3747600	0.000219	9901	DieselExhP	8.59E-08	3.75YrCanc	*	8.59E-08

881	ALL	460300	3747600	0.000234	9901	DieselExhP	9.18E-08	3.75YrCanc	*	9.18E-08
882	ALL	460400	3747600	0.000242	9901	DieselExhP	9.47E-08	3.75YrCanc	*	9.47E-08
883	ALL	460500	3747600	0.000249	9901	DieselExhP	9.76E-08	3.75YrCanc	*	9.76E-08
884	ALL	460600	3747600	0.000256	9901	DieselExhP	1.00E-07	3.75YrCanc	*	1.00E-07
885	ALL	460700	3747600	0.000259	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
886	ALL	460800	3747600	0.00026	9901	DieselExhP	1.02E-07	3.75YrCanc	*	1.02E-07
887	ALL	460900	3747600	0.000255	9901	DieselExhP	1.00E-07	3.75YrCanc	*	1.00E-07
888	ALL	461000	3747600	0.000254	9901	DieselExhP	9.97E-08	3.75YrCanc	*	9.97E-08
889	ALL	461100	3747600	0.00024	9901	DieselExhP	9.42E-08	3.75YrCanc	*	9.42E-08
890	ALL	461200	3747600	0.000235	9901	DieselExhP	9.21E-08	3.75YrCanc	*	9.21E-08
891	ALL	459200	3747700	8.02E-05	9901	DieselExhP	3.14E-08	3.75YrCanc	*	3.14E-08
892	ALL	459300	3747700	8.47E-05	9901	DieselExhP	3.32E-08	3.75YrCanc	*	3.32E-08
893	ALL	459400	3747700	8.88E-05	9901	DieselExhP	3.48E-08	3.75YrCanc	*	3.48E-08
894	ALL	459500	3747700	9.12E-05	9901	DieselExhP	3.58E-08	3.75YrCanc	*	3.58E-08
895	ALL	459600	3747700	9.43E-05	9901	DieselExhP	3.70E-08	3.75YrCanc	*	3.70E-08
896	ALL	459700	3747700	9.96E-05	9901	DieselExhP	3.90E-08	3.75YrCanc	*	3.90E-08
897	ALL	459800	3747700	0.000109	9901	DieselExhP	4.28E-08	3.75YrCanc	*	4.28E-08
898	ALL	459900	3747700	0.000121	9901	DieselExhP	4.74E-08	3.75YrCanc	*	4.74E-08
899	ALL	460000	3747700	0.000133	9901	DieselExhP	5.22E-08	3.75YrCanc	*	5.22E-08
900	ALL	460100	3747700	0.000148	9901	DieselExhP	5.80E-08	3.75YrCanc	*	5.80E-08
901	ALL	460200	3747700	0.000161	9901	DieselExhP	6.29E-08	3.75YrCanc	*	6.29E-08
902	ALL	460300	3747700	0.000171	9901	DieselExhP	6.71E-08	3.75YrCanc	*	6.71E-08
903	ALL	460400	3747700	0.000176	9901	DieselExhP	6.91E-08	3.75YrCanc	*	6.91E-08
904	ALL	460500	3747700	0.000185	9901	DieselExhP	7.23E-08	3.75YrCanc	*	7.23E-08
905	ALL	460600	3747700	0.00019	9901	DieselExhP	7.44E-08	3.75YrCanc	*	7.44E-08
906	ALL	460700	3747700	0.000193	9901	DieselExhP	7.58E-08	3.75YrCanc	*	7.58E-08
907	ALL	460800	3747700	0.000196	9901	DieselExhP	7.67E-08	3.75YrCanc	*	7.67E-08
908	ALL	460900	3747700	0.000196	9901	DieselExhP	7.68E-08	3.75YrCanc	*	7.68E-08
909	ALL	461000	3747700	0.000196	9901	DieselExhP	7.70E-08	3.75YrCanc	*	7.70E-08
910	ALL	461100	3747700	0.000187	9901	DieselExhP	7.33E-08	3.75YrCanc	*	7.33E-08
911	ALL	461200	3747700	0.000187	9901	DieselExhP	7.35E-08	3.75YrCanc	*	7.35E-08
912	ALL	459200	3747800	6.92E-05	9901	DieselExhP	2.71E-08	3.75YrCanc	*	2.71E-08
913	ALL	459300	3747800	7.18E-05	9901	DieselExhP	2.81E-08	3.75YrCanc	*	2.81E-08
914	ALL	459400	3747800	7.43E-05	9901	DieselExhP	2.91E-08	3.75YrCanc	*	2.91E-08
915	ALL	459500	3747800	7.52E-05	9901	DieselExhP	2.95E-08	3.75YrCanc	*	2.95E-08
916	ALL	459600	3747800	7.74E-05	9901	DieselExhP	3.03E-08	3.75YrCanc	*	3.03E-08
917	ALL	459700	3747800	8.27E-05	9901	DieselExhP	3.24E-08	3.75YrCanc	*	3.24E-08
918	ALL	459800	3747800	9.06E-05	9901	DieselExhP	3.55E-08	3.75YrCanc	*	3.55E-08
919	ALL	459900	3747800	9.86E-05	9901	DieselExhP	3.87E-08	3.75YrCanc	*	3.87E-08
920	ALL	460000	3747800	0.000107	9901	DieselExhP	4.20E-08	3.75YrCanc	*	4.20E-08
921	ALL	460100	3747800	0.000116	9901	DieselExhP	4.56E-08	3.75YrCanc	*	4.56E-08
922	ALL	460200	3747800	0.000126	9901	DieselExhP	4.95E-08	3.75YrCanc	*	4.95E-08
923	ALL	460300	3747800	0.000131	9901	DieselExhP	5.15E-08	3.75YrCanc	*	5.15E-08
924	ALL	460400	3747800	0.000138	9901	DieselExhP	5.40E-08	3.75YrCanc	*	5.40E-08
925	ALL	460500	3747800	0.000144	9901	DieselExhP	5.63E-08	3.75YrCanc	*	5.63E-08
926	ALL	460600	3747800	0.000147	9901	DieselExhP	5.77E-08	3.75YrCanc	*	5.77E-08
927	ALL	460700	3747800	0.000151	9901	DieselExhP	5.92E-08	3.75YrCanc	*	5.92E-08
928	ALL	460800	3747800	0.000154	9901	DieselExhP	6.02E-08	3.75YrCanc	*	6.02E-08
929	ALL	460900	3747800	0.000156	9901	DieselExhP	6.11E-08	3.75YrCanc	*	6.11E-08
930	ALL	461000	3747800	0.000156	9901	DieselExhP	6.10E-08	3.75YrCanc	*	6.10E-08
931	ALL	461100	3747800	0.000157	9901	DieselExhP	6.17E-08	3.75YrCanc	*	6.17E-08
932	ALL	461200	3747800	0.000153	9901	DieselExhP	6.00E-08	3.75YrCanc	*	6.00E-08
933	ALL	459200	3747900	5.97E-05	9901	DieselExhP	2.34E-08	3.75YrCanc	*	2.34E-08
934	ALL	459300	3747900	6.11E-05	9901	DieselExhP	2.39E-08	3.75YrCanc	*	2.39E-08
935	ALL	459400	3747900	6.21E-05	9901	DieselExhP	2.44E-08	3.75YrCanc	*	2.44E-08
936	ALL	459500	3747900	6.34E-05	9901	DieselExhP	2.48E-08	3.75YrCanc	*	2.48E-08
937	ALL	459600	3747900	6.58E-05	9901	DieselExhP	2.58E-08	3.75YrCanc	*	2.58E-08
938	ALL	459700	3747900	7.08E-05	9901	DieselExhP	2.78E-08	3.75YrCanc	*	2.78E-08
939	ALL	459800	3747900	7.70E-05	9901	DieselExhP	3.02E-08	3.75YrCanc	*	3.02E-08
940	ALL	459900	3747900	8.30E-05	9901	DieselExhP	3.25E-08	3.75YrCanc	*	3.25E-08
941	ALL	460000	3747900	8.92E-05	9901	DieselExhP	3.50E-08	3.75YrCanc	*	3.50E-08
942	ALL	460100	3747900	9.57E-05	9901	DieselExhP	3.75E-08	3.75YrCanc	*	3.75E-08
943	ALL	460200	3747900	0.000102	9901	DieselExhP	4.01E-08	3.75YrCanc	*	4.01E-08

944	ALL	460300	3747900	0.000107	9901	DieselExhP	4.20E-08	3.75YrCanc	* 4.20E-08
945	ALL	460400	3747900	0.000112	9901	DieselExhP	4.38E-08	3.75YrCanc	* 4.38E-08
946	ALL	460500	3747900	0.000116	9901	DieselExhP	4.55E-08	3.75YrCanc	* 4.55E-08
947	ALL	460600	3747900	0.000119	9901	DieselExhP	4.68E-08	3.75YrCanc	* 4.68E-08
948	ALL	460700	3747900	0.000122	9901	DieselExhP	4.78E-08	3.75YrCanc	* 4.78E-08
949	ALL	460800	3747900	0.000124	9901	DieselExhP	4.85E-08	3.75YrCanc	* 4.85E-08
950	ALL	460900	3747900	0.000127	9901	DieselExhP	4.98E-08	3.75YrCanc	* 4.98E-08
951	ALL	461000	3747900	0.000128	9901	DieselExhP	5.04E-08	3.75YrCanc	* 5.04E-08
952	ALL	461100	3747900	0.000131	9901	DieselExhP	5.13E-08	3.75YrCanc	* 5.13E-08
953	ALL	461200	3747900	0.000131	9901	DieselExhP	5.15E-08	3.75YrCanc	* 5.15E-08

Energy Calculations - Construction Equipment Fuel

Riverside County - Highland Grove II

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor	PhaseDays	FuelConsumption
Demolition	Concrete/Industrial Saws	Diesel	Average	1	8	33	0.73	70	728.5
Demolition	Excavators	Diesel	Average	3	8	36	0.38	70	1241.0
Demolition	Rubber Tired Dozers	Diesel	Average	2	8	367	0.4	70	8878.5
Site Preparation	Rubber Tired Dozers	Diesel	Average	4	8	367	0.4	30	7610.1
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	5	8.5	84	0.37	30	2139.9
Grading	Excavators	Diesel	Average	2	3.6	36	0.38	245	1303.1
Grading	Graders	Diesel	Average	1	3.6	148	0.41	245	2890.1
Grading	Rubber Tired Dozers	Diesel	Average	1	3.6	367	0.4	245	6991.8
Grading	Scrapers	Diesel	Average	2	3.6	423	0.48	245	19340.8
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2	3.6	84	0.37	245	2960.6
Building Construction	Cranes	Diesel	Average	2	5.6	367	0.29	690	44414.5
Building Construction	Forklifts	Diesel	Average	5	7.7	82	0.2	690	23526.0
Building Construction	Generator Sets	Diesel	Average	2	6.4	14	0.74	690	4941.0
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4	8.4	84	0.37	690	38910.2
Building Construction	Welders	Diesel	Average	2	6.4	46	0.45	690	9872.4
Paving	Pavers	Diesel	Average	2	8	81	0.42	75	2204.5
Paving	Paving Equipment	Diesel	Average	2	8	89	0.36	75	2076.2
Paving	Rollers	Diesel	Average	2	8	36	0.38	75	886.5
Architectural Coating	Air Compressors	Diesel	Average	1	6	37	0.48	75	431.6
									181347.0

ARB 2021, Low Emission Diesel (LED) Study: Biodiesel and Renewable Diesel Emissions in Legacy and New Technology Diesel Engines, November 2021
Average Value for CARB Reference Fuel - Nonroad Transient Cycle - BSFC = 0.054 gal/bhp-hr

Off-Road Construction Equipment
Fuel Consumption

Riverside County - Highland Grove II
Energy Calculations - Construction Vehicle Fuel
Source: AQ/GHG Appendix, CalEEMod Output, EMFAC2021 v1.0.2

Vehicle Type	Total VMT (mi)	mi/gal	gal	Vehicle Cat
Worker	744,373	27.42	27,144	LDA,LDT1,LDT2
Vendor	124,607	7.47	16,673	HHDT,MHDT
Hauling	224,180	6.35	35,315	HHDT
Onsite truck	0	6.35	0	HHDT
	1,093,161		**79,132**	**gallons**
	Combined VMT			

Note: Fuel Economy Factors are from EMFAC2021 for: Riverside-South Coast

Riverside County - Highland Grove II
Energy Calculations - Building Electricity Consumption

Operational Year	**2030**
County	**Riverside-South Coast**

Building Energy Fuel	**Electricity (kWh/yr)**	**Natural Gas (MMBTU/yr)**
Single Family Housing	1195423	4,552,232
Total Building Energy	1,195,423	4,552,232

Riverside County - Highland Grove II
Energy Calculations
Onroad Mobile Sources

Operational Year	**2030**	
County	**Riverside-South Coast**	
Gasoline	**170,045**	**gallons**
Diesel	**27,082**	**gallons**
Natural Gas	**1,659**	**gallons**
Electricity	**135,737**	**kw-hr**

Ops_EnergyConsumption

Riverside County - Highland Grove II

Energy Calculations - Operations Fuel Use from Mobile Sources

Riverside-South Coast	Annual VMT	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
2030	5,376,688	1.70%	49.32%	3.46%	21.85%	2.95%	0.85%	2.19%	15.42%	0.48%	1.55%	0.06%	0.13%	0.04%

Total Operational FUEL Consumption for ALL LAND USES (gallons for fuels, Kw-hr for electricity)

Fuel	All Vehicles	HHDT	LDA	LDT1	LDT2	LHD1	LHD2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Gasoline	170,045	3	72444	6692	41264	5356	839	2771	35641	3444	1003	279	241	69
Diesel	27,082	12447	97	0	108	3268	1827		424	879	7608	147	278	
Natural Gas	1,659	729									120	21	607	182
Electricity	135,737	7841	91617	768	11063	4420	1121		10235		7004	94	291	1284

Fuel Consumption by Vehicle Category

Fuel Consumption for CVMT	Units	HHDT	LDA	LDT1	LDT2	LHD1	LHD2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Gasoline	gal	3	71086	6676	41000	5356	839	2771	35464	3444	1003	279	241	69
Diesel	gal	12447	97	0	108	3268	1827		424	879	7608	147	278	
Natural Gas	gal	729									120	21	607	182
Plug-in Hybrid (Gasoline)	gal		1358	17	264				176					
Fuel Consumption for EVMT	**Units**	**HHDT**	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MCY**	**MDV**	**MH**	**MHDT**	**OBUS**	**SBUS**	**UBUS**
Electricity	kwhr	7841	72904	515	7362	4420	1121		7750		7004	94	291	1284
Plug-in Hybrid (Electricity)	kwhr		18712	252	3700				2485					

Fuel Consumption Factors	Units	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Gasoline	mi/gal	4.3	33.2	27.4	27.6	15.4	13.4	42.6	22.1	4.9	5.6	5.5	8.8	7.8
Diesel	mi/gal	6.6	45.8	27.5	36.8	21.0	17.7		26.1	10.3	9.2	8.2	7.4	
Natural Gas	mi/gal	6.4									8.9	10.5	4.3	4.6
Plug-in Hybrid	mi/gal		30.1	30.0	29.9				29.5					

Fuel Consumption Factors	Units	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Electricity	kwhr/mi	1.81	0.37	0.36	0.35	0.56	0.56		0.36		1.05	1.06	1.16	2.02
Plug-in Hybrid	kwhr/mi	1.81	0.37	0.36	0.35	0.56	0.56		0.36		1.05	1.06	1.16	2.02

Total VMT Fraction by Fuel and Vehicle Category

Fuel	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Gasoline	0.0%	88.9%	98.6%	96.3%	51.8%	24.8%	100.0%	94.6%	64.9%	6.7%	50.0%	30.3%	27.1%
Diesel	90.2%	0.2%	0.0%	0.3%	43.2%	70.9%		1.3%	35.1%	84.1%	39.8%	29.3%	
Natural Gas	5.1%									1.3%	7.4%	36.8%	41.2%
Electricity	4.7%	7.5%	0.8%	1.8%	4.9%	4.4%		2.6%		8.0%	2.9%	3.6%	31.7%
Plug-in Hybrid		3.5%	0.6%	1.6%				1.5%					
totals	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

CVMT by EMFAC Vehicle Type

Fuel	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Plug-in Hybrid		45%	41%	43%				43%					

EVMT by EMFAC Vehicle Type

Fuel	HHDT	LDA	LDT1	LDT2	LHDT1	LHDT2	MCY	MDV	MH	MHDT	OBUS	SBUS	UBUS
Electricity	100%	100%	100%	100%	100%	100%		100%		100%	100%	100%	100%
Plug-in Hybrid		55%	59%	57%				57%					

CNG

CNG stands for Compressed Natural Gas, and is a growing alternative fuel source for cars, trucks and buses. Consisting of mostly methane (CH_4), it is produced and recovered alongside oil production, from coal beds, and frequently from landfills. To make use of it in vehicles, the natural gas is compressed and stored in a tank. A clean burning fuel, CNG delivers approximately the same energy as gasoline, but often with 20 to 25% fewer greenhouse gas emissions, making it attractive to users who want to lower their carbon footprint. CNG does require a conversion to run in a conventional gasoline or diesel engine, but popular vehicle manufacturers are adding dedicated CNG vehicles to their products, and currently, around 10 millions vehicles worldwide run on compressed natural gas.

CNG is sold in gasoline gallon equivalents (it normally is a gas) and has a CO_2 emission factor of 15.2 lbs per gallon equivalent, or 53.06 $kgCO_2$ per MMBtu.