Appendix A:
Air Quality and GHG Emissions Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

FIRSTCARBONSOLUTIONS™

Air Quality and Greenhouse Gas Emissions Report
Love's Travel Stop Baker Project
Community of Baker, San Bernardino County, California

Prepared for:
Love's Travel Stops and Country Stores
10601 North Pennsylvania Avenue
Oklahoma City, OK 73120

Contact: Kym Van Dyke

Prepared by:
FirstCarbon Solutions
967 Kendall Drive, #A-537
San Bernardino, CA 92407
714.508.4100

Contact: Mary Bean, Project Director
Yael Marcus, Project Manager

Contributing Authors:
Kimber Johnson, Air Quality Scientist
Ji Luo, Air Quality Associate

Report Date: August 12, 2024

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

List of Tables

List of Exhibits

List of Figures

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
AERMOD	American Meteorological Society/EPA Regulatory Model
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AQI	Air Quality Index
ARB	California Air Resources Board
ASF	age sensitivity factors
ATCM	Airborne Toxic Control Measure
BAU	Business as Usual
BMP	Best Management Practice
C^2ES	Center for Climate and Energy Solutions
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CCCC	California Climate Change Center
CDC	Center for Disease Control and Prevention
CDPH	California Department of Public Health
CDR	Carbon Dioxide Removal
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH	Highway Commercial
CH_4	methane
CMS	Clean Mile Standards
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPF	Cancer Potency Factor

CPUC	California Public Utility Commission
CR	Rural Commercial
DCP	Dust Control Plan
DPM	diesel particulate matter
EIR	Environmental Impact Report
EMFAC	EMission FACtor
EPA	United States Environmental Protection Agency
EV	electric vehicle
EVR	Enhanced Vapor Recovery
GHG	greenhouse gas
GHG Plan	Greenhouse Gas Reduction Plan
GWP	Global Warming Potential
H_2S	hydrogen sulfide
HAP	Hazardous Air Pollutant
HARP	Hotspots Analysis and Reporting Program
HFC	hydrofluorocarbon
HHD	heavy heavy-duty
HI	Hazard Index
hp	horsepower
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
IPCC	United Nations Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
lb	pounds
LCFS	Low Carbon Fuel Standard
LDA	Light-Duty Auto
LDT	Light-Duty Truck
LEED®	Leadership in Energy Efficient Design
LEV	Low Emission Vehicle
LST	localized significance threshold
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MDV	Medium-Duty Vehicle
MIR	Maximally Impacted Sensitive Receptor
MM	Mitigation Measure
MMT	million metric ton
mpg	miles per gallon
MPO	Metropolitan Planning Organization

MT	metric ton
MWh	megawatt-hour
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NF_3	nitrogen trifluoride
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
OAL	Office of Administrative Law
OEHHA	Office of Environmental Health Hazard Assessment
ORVR	On-Board Refueling Vapor Recovery
Pb	lead
PCE	Passenger Car Equivalent
PFC	perfluorocarbon
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
REL	Reference Exposure Level
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
RV	recreational vehicle
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLCP	Short-Lived Climate Pollutant
SNAP	Significant New Alternatives Policy
SO_2	sulfur dioxide
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
TAC	toxic air contaminant
TNC	Transportation Network Companies
TRU	Transport Refrigeration Unit
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled

VOC	volatile organic compound
ZEV	Zero-Emission Vehicle

SECTION 1: INTRODUCTION

1.1 - Purpose and Methods of Analysis

This Air Quality and Greenhouse Gas Emissions 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 Baker Travel Stop and Mobile Home Park (proposed project) would cause significant impacts to air 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 Mojave Desert Air Quality Management District (MDAQMD) and San Bernardino County (County) 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 in the unincorporated community of Baker in San Bernadino County, California (Exhibit 1). The proposed project site is located on the *Baker, California* 7.5-minute United States Geological Survey (USGS) Topographic Map, Township 14 North, Range 9 East, Section 29 (Latitude 35° 16' 36" North; Longitude 116° 3' 19" West) (Exhibit 2). The project site is northwest of Interstate 15 (I-15) along Baker Boulevard and is comprised of two parcels (Assessor's Parcel Numbers [APNs] 0544-472-03 and 0544-471-11). APN 0544-471-11 is a 2.18-acre triangular parcel north of Baker Boulevard; APN 0544-472-03 is a 22.6-acre parcel south of Baker Boulevard.

1.2.2 - Environmental Setting

The proposed project site is undeveloped. The land surrounding the project site is mainly undeveloped to the south, east, west, and northeast. A convenience store, gasoline service station, and automotive repair shop are located to the northwest, and a mobile home park and a U.S. Postal Service Office are located to the north.[1]

1.2.3 - General Plan and Zoning

Baker is located in the unincorporated Desert Region of the County, which includes part of the Mojave Desert and is mostly undeveloped. More than three-quarters of the County is vacant land.[2] Both project parcels are designated by the San Bernardino Countywide Plan (Countywide Plan) as Commercial (C). The travel stop parcel is further identified as Highway Commercial (CH) and the mobile home site as Rural Commercial (CR).

[1] The closest sensitive receptor to the project site construction footprint is the residential mobile home park located at 72 Lakeview Road on the adjoining property north.

[2] San Bernardino County Community Indicators Report. 2014. Website: https://www.sbcounty.gov/Uploads/CAO/Vision/CIR_2014_Report.pdf. Accessed June 7, 2023.

The CR land use zoning district provides sites for retail trade and personal services, repair services, lodging services, recreation and entertainment services, transportation services, and similar and compatible uses. Agriculture and residential uses are allowed also but are secondary in importance. The proposed project's mobile home park site is located in a CR Zoning District, a land use allowable in this zoning district.

The CH land use zoning district provides sites for retail trade and personal services, lodging services, office and professional services, recreation and entertainment services, wholesaling and warehousing, contract/construction services, transportation services, open lot services, and similar and compatible uses. The proposed project's travel stop site is located in a CH Zoning District, a land use allowable in this zoning district.

1.2.4 - Project Summary

The proposed project includes two components: a travel stop on a 22.6-acre parcel and a mobile home park on a 2.18-acre parcel (Exhibit 3a and Exhibit 3b). The proposed project would only disturb and develop approximately 18.6 acres of the 22.6-acre travel stop parcel; the remainder of the parcel contains three billboards, would become an easement, and is not a part of the proposed project.

The proposed travel stop would include an auto fueling island with 16 gas fueling positions, truck fueling island with seven truck diesel fueling positions, truck scale, Recreational Vehicle (RV) dump station, a 5,000square-foot dog park, and five bioretention areas. In addition, a 12,200-square-foot building, which would include a 9,600-square-feet convenience store and a 2,600-square-foot branded fast-food restaurant, is proposed. This building would be approximately 25 feet in height. Additional features would include above ground diesel storage tanks, below ground storage tanks, and a trash enclosure and utility yard.

The proposed mobile home park would include eight mobile homes, each approximately 60 feet by 14 feet. The mobile home park would also include landscaping, two shaded canopies in a central landscaped area, and two bioretention areas.

In total, the proposed project includes 62,916 square feet of stormwater retention and 325,377 square feet of landscaping. The total area for parking, the fueling station, and the RV dump station would be 463,230 square feet.

1.2.5 - Operation

The site would operate 24 hours a day, 365 days per year. Cold storage is not proposed as part of the project. The travel stop would have approximately 55 employees (divided into three shifts) and would operate continuously (24 hours a day, 7 days a week, 365 days a year).

1.2.6 - Vehicular Access and Parking

I-15 would provide regional access to the project site via Baker Boulevard. Access to the mobile home park would be provided via two driveways from Silver Lane, with an automatic entry gate at each entrance. The two driveways would form an internal road that would extend along the frontage of the eight mobile homes.

The truck stop would include 100 overnight truck parking spaces, 48 auto parking spaces, 11 RV overnight parking spaces with electricity plug-in, and 3 RV spaces. At the mobile home park, two parking spots would be provided in a driveway for each mobile home, and four additional visitor parking spots would be provided as well.

1.2.7 - Off-site Improvements

The proposed project would include off-site improvements at several locations, totaling 2.47 acres:

- Paveout and widening of Baker Avenue, from west of Caltrans Avenue to approximately the eastern end of the proposed travel stop;
- Extension of Caltrans Avenue south of Baker Boulevard, including new curb/gutter and sidewalk and an additional traffic signal pole and mast arm;
- Paveout and widening of Silver Lane along the northern boundary of the mobile home park site;
- Improvement to the intersection of Baker Boulevard and Silver Lane;
- Installation of new curb/gutter and adjacent concrete sidewalk along the travel stop frontage on the southern side of Baker Boulevard along the length of the travel stop site; and
- Installation of new curb/gutter and adjacent concrete sidewalk along the mobile home park frontage on the northern side of Baker Boulevard, and along the southern side of Silver Lane.

1.2.8 - Construction

The proposed project will be constructed in one phase. Construction of the proposed project is expected to take approximately one year, with construction of the travel stop and mobile home park anticipated to end at approximately the same time.

1.3 - Summary of Analysis Results

The following is a summary of the analysis results. Please refer to Section 5, Air Quality Impact Analysis, and Section 6, Greenhouse Gas Impact Analysis, which provide a comprehensive analysis in support of the findings and conclusion 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 would not expose sensitive receptors to substantial pollutant concentrations.

Less than significant impact with mitigation incorporated.

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 could generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Less than significant impact.

Impact GHG-2 The proposed project could conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of GHG.

Less than significant impact.

1.4 - Mitigation Measures Applied to the Proposed Project

1.4.1 - Air Quality

MM AIR-3 **Implement Indoor PM_{10} and $PM_{2.5}$ Reduction Measures**

To demonstrate compliance with Mojave Desert Air Quality Management District (MDAQMD) threshold of health risk assessment, the project applicant shall provide the City with documentation, prior to the issuance of grading or building permits, demonstrating that new residences (including new mobile homes) included as part of the project would install indoor air filtration systems with a Minimum Efficiency Reporting Value (MERV) of 13 or better to ensure that future residents do not experience a cancer risk exceeding 10 in one million.

To ensure long-term maintenance and replacement of the MERV filters in the individual units, the following shall occur:

- Developer, sale, and/or rental representative shall provide notification to all affected tenants/residents of the potential health risk for affected units.
- For rental units, the owner/property manager shall maintain and replace MERV filters in accordance with the manufacturer's recommendations. The property owner shall inform renters of increased risk of exposure to toxic air contaminants (TACs) when windows are open.
- For residential owned units, the Homeowner's Association (HOA) or Mobile Home Park Management shall incorporate requirements for long-term maintenance in the Covenant Conditions and Restrictions and inform homeowners of their

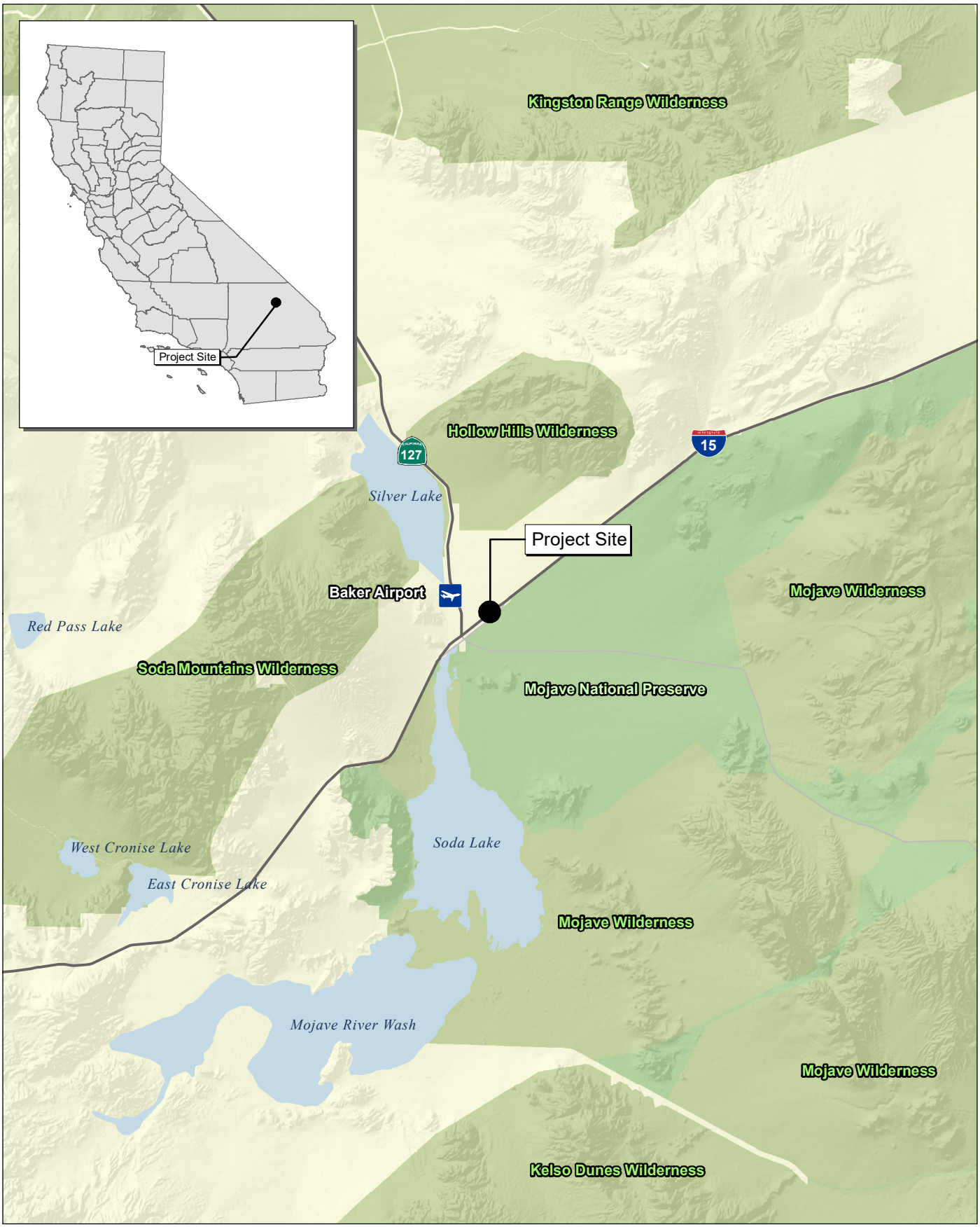
responsibility to maintain the MERV filter in accordance with the manufacturer's recommendations. The HOA or Mobile Home Park Management shall inform homeowners of increased risk of exposure to TACs when windows are open.

- For residential units, air intake vents shall be located on the side of the building opposite to the gas station included as part of the project, as feasible.
- For residential units located, the buildings shall be designed to limit the use of operable windows facing the gas station included as part of the project.

1.4.2 - Greenhouse Gas Emissions

None.

THIS PAGE INTENTIONALLY LEFT BLANK



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

FIRSTCARBON SOLUTIONS™

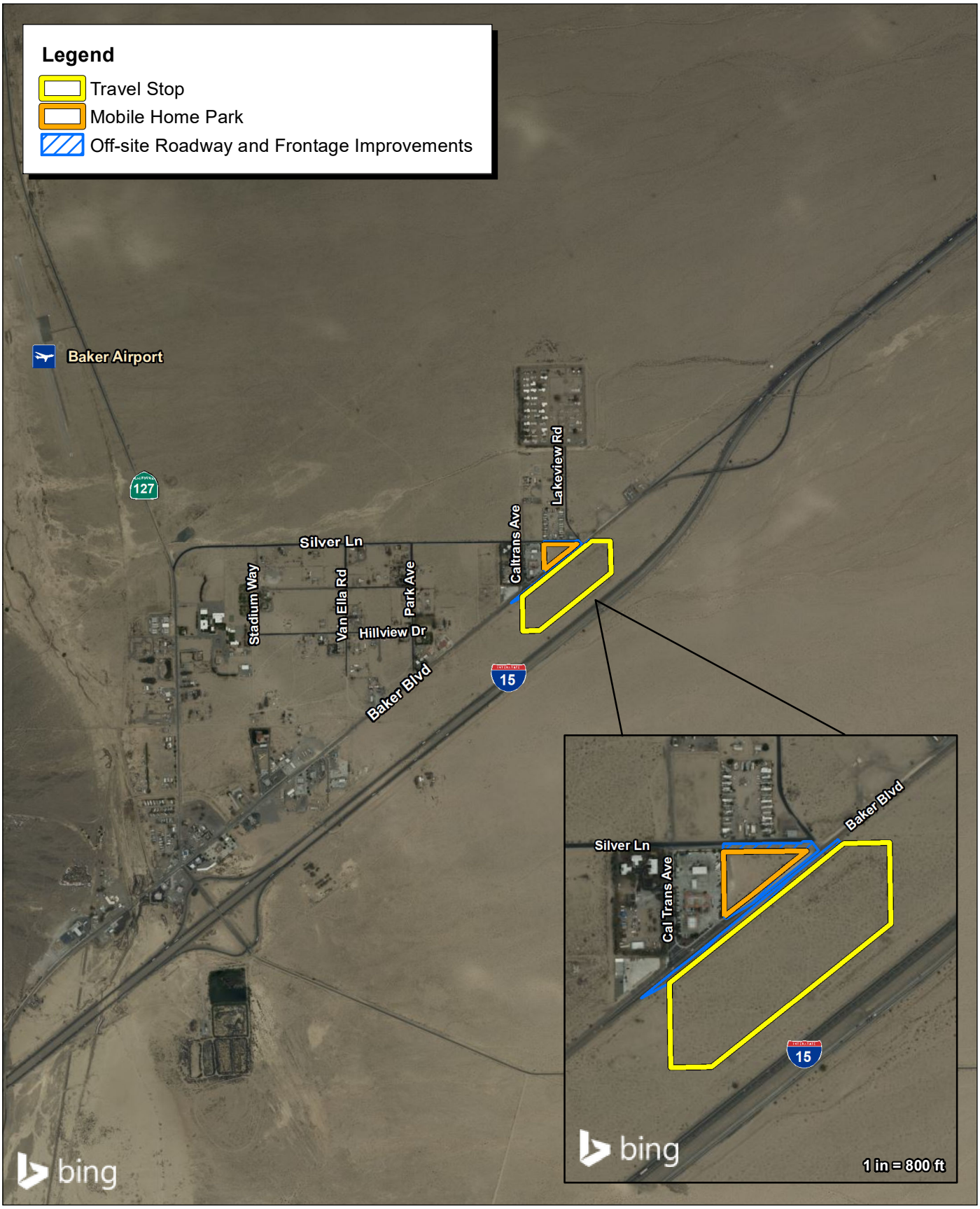
5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

47670005 • 05/2023 | 1_regional.mxd

SAN BERNARDINO COUNTY
BAKER TRAVEL STOP AND MOBILE HOME PARK
AIR QUALITY AND GHG EMISSIONS ANALYSIS REPORT

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Bing Aerial Imagery. Lane Engineers, Inc., 2023

FIRSTCARBON SOLUTIONS™

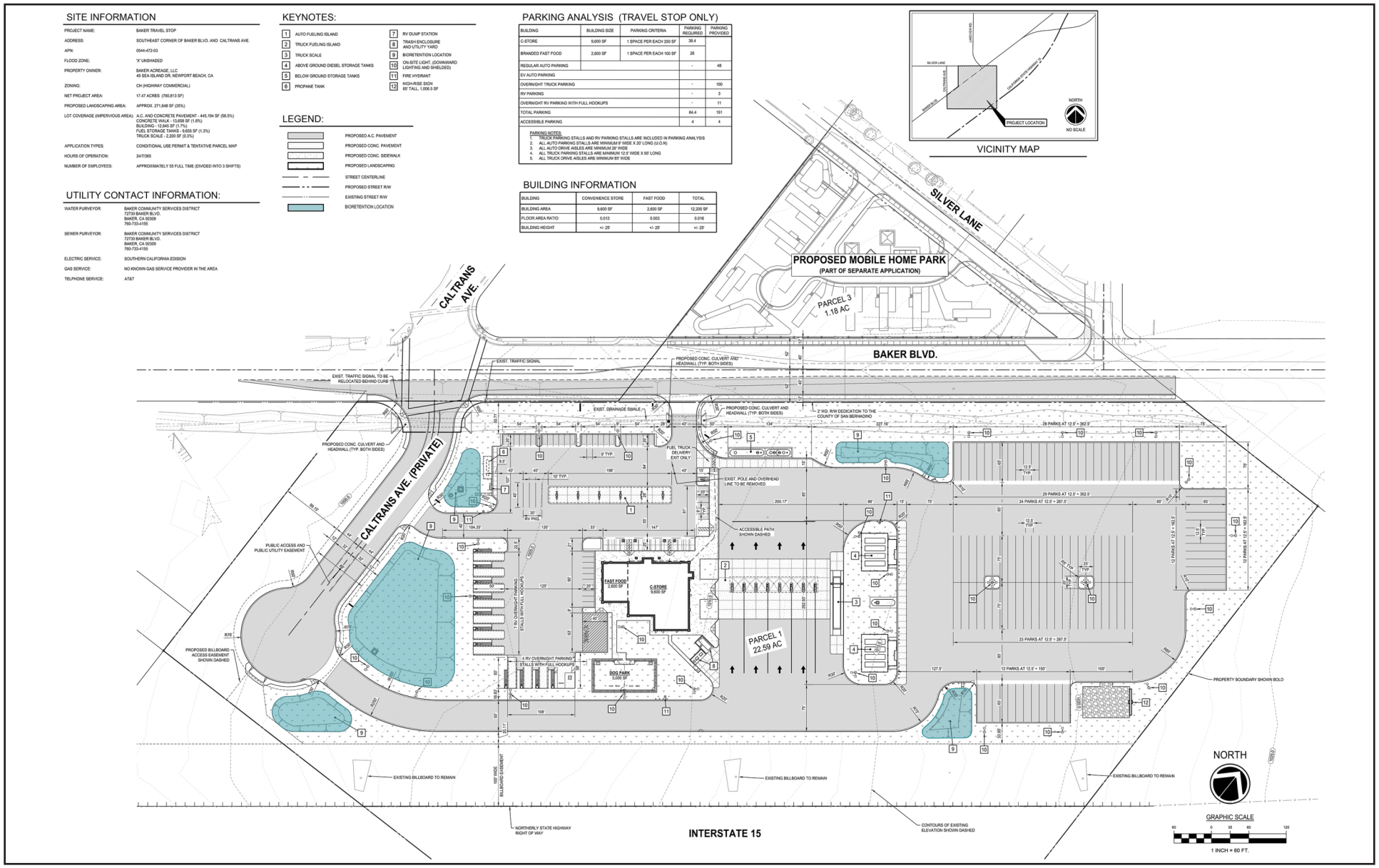
2,000 1,000 0 2,000 Feet

Exhibit 2
Local Vicinity Map

47670005 • 05/2023 | 2_local_vicinity.mxd

SAN BERNARDINO COUNTY
BAKER TRAVEL STOP AND MOBILE HOME PARK
AIR QUALITY AND GHG EMISSIONS ANALYSIS REPORT

THIS PAGE INTENTIONALLY LEFT BLANK

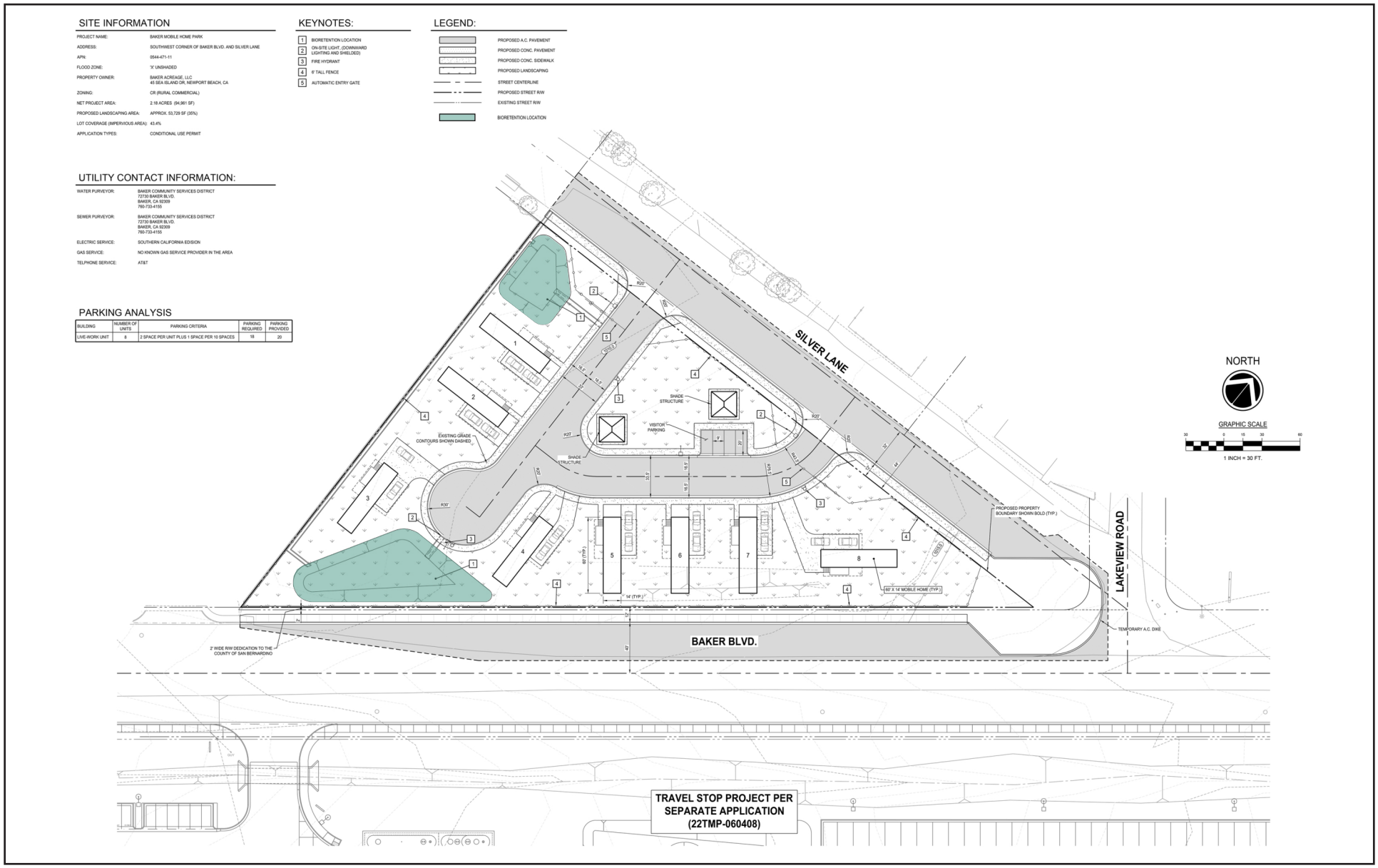


Source: Lane Engineers Inc., 2023.

FIRSTCARBON SOLUTIONS™

Exhibit 3a
Site Plan: Travel Stop

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Lane Engineers Inc., 10/14/2022.

FIRSTCARBON SOLUTIONS™

Exhibit 3b
Site Plan: Mobile Home Park

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 2: AIR QUALITY SETTING

2.1 - Environmental Setting

The proposed project is located in the community of Baker, unincorporated San Bernardino County, situated in the Mojave Desert Air Basin (MDAB). For air quality, the project area is under the jurisdiction of the MDAQMD. 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 MDAB.

2.1.1 - Mojave Desert Air Basin

The proposed project is located in the San Bernardino County portion of the MDAB. The MDAB covers most of California's high desert. The San Gabriel and San Bernardino mountains lie to the south, separating the MDAB from the South Coast Air Basin (SoCAB). The Tehachapi Mountains are to the northwest and separate the MDAB from the San Joaquin Valley Air Basin. Local air quality in the MDAB is affected mainly by transport of pollutants from surrounding air basins. The project is located in the southern portion of the MDAB. The terrain and geographical location determine the distinctive climate of the MDAB, as the area is a high desert bounded by mountains on each side.

The MDAB is California's largest air basin, covering 27,287 square miles. The following four air pollution control districts have all or portions of their jurisdictions within the MDAB: The Kern County Air Pollution Control District, the South Coast Air Quality Management District (SCAQMD), the Antelope Valley Air Quality Management District, and the MDAQMD. The MDAQMD is the local agency with jurisdiction over air quality in the San Bernardino County portion of the MDAB, including unincorporated Morongo Valley Community. The MDAQMD covers the majority of the MDAB.

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

Overall, the Mojave Desert has an arid climate with cool winters, hot summers, and little rainfall. Temperatures generally increase, while precipitation generally decreases, from south to north and west to east in this region. The average minimum temperature in Palm Springs (the closest weather station to the project site) is 60.3 degrees Fahrenheit (°F), and the average maximum temperature in Palm Springs is 89°F. Daily average maximum temperature in Palm Springs exceeds 100°F during June, July, and August, and annual average rainfall is 4.85 inches. Overall, the Mojave Desert tends to be windy, with winds blowing predominantly from the south and west. During the late spring months, high winds from the coastal areas of Southern California blow into the Mojave Desert. In contrast, during autumn months, hot air from the desert blows into Southern California.

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast of California, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska as these frontal systems are weak and diffuse by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least 3 months have maximum average temperatures over 100.4°F.

2.2 - 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 United States Environmental Protection Agency (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.

2.2.1 - 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. Six common air pollutants (also known as criteria pollutants and listed below) are addressed in the Clean Air Act. The EPA calls these pollutants criteria air pollutants because it regulates them by developing human health-based and environmentally 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 the 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)

[3] United States Environmental Protection Agency (EPA). 2016. NAAQS Table. December 20. Website: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed May 23, 2023.

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.

2.2.2 - 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 California Air Resources Board (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 standards listed above as well as visibility-reducing particulates, hydrogen sulfide (H_2S), sulfates, and vinyl chloride.

2.2.3 - 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.[4] 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.[5] 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.

[4] 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 May 23, 2023.
[5] 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 May 23, 2023.

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.

2.2.4 - 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.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard	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 (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hours	0.070 ppm	0.070 ppm[f]			
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[b]	1 Hour	0.18 ppm	0.100 ppm	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	Most Relevant Effects from Pollutant Exposure	Properties	Sources
SO_2[c]	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[d]				

Air Pollutant	Averaging Time	California Standard	Federal Standard	Most Relevant Effects from Pollutant Exposure	Properties	Sources
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.
Lead[e]	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[e]	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 H_2S. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).

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

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

[a] Federal standard refers to the primary National Ambient Air Quality Standards (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] 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).

[c] 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.

[d] 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.

[e] 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.

[f] 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.

[g] 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.

Source of effects, properties, and sources:

California Air Resources Board (ARB). 2009. Vinyl Chloride. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed May 10, 2023.
California Environmental Protection Agency (Cal/EPA). 2002. Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust.
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. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.
National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles.
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. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July.
United States Environmental Protection Agency (EPA). 2009. Ozone and your Health EPA-456/F-09-001.
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 May 10, 2023.
United States Environmental Protection Agency (EPA). 2017. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). November. Website: www.epa.gov/iaq/voc.html. Accessed May 10, 2023.

Source of standards:

South Coast Air Quality Management District (SCAQMD). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin. February. Website: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2. Accessed May 10, 2023.

THIS PAGE INTENTIONALLY LEFT BLANK

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} and $PM_{2.5}$. No components of the proposed project would result in vinyl chloride or H_2S emissions in any substantial quantity; therefore, these compounds are not further evaluated in this report.

Asbestos

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 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 for 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.[6]

Valley Fever

Valley Fever, or coccidioidomycosis, is an infection caused by inhalation of spores of the fungus, *Coccidioides immitis* (*C. immitis*). Spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust, including dust storms, grading, and recreational off-road activities, contribute to greater exposure.

Much of California is considered an endemic area for Valley Fever. Historically, incidences have been consistently high in the San Joaquin Valley in the counties of Fresno, Kern, Kings, Madera, Merced, Monterey, San Luis Obispo, and Tulare. The California Department of Public Health (CDPH) has been tracking and collecting individual case data since 1995, however, Valley Fever is underdiagnosed and under-reported, as symptoms are similar to many other respiratory illnesses, such as influenza, COVID-19, or bacterial pneumonia.[7]

The incidence of Valley Fever has increased five-fold since 2005 with the largest increases primarily in Northern San Joaquin Valley, Central Coast, and Southern Coast regions. Warming temperatures, drought, aridity, windstorms, and wildfires contribute to the proliferation of the Valley Fever fungus and the dissemination of its spores, leading to a rise in the number of cases. In 2021, there were over 8,000 reported cases of Valley Fever in California with an average incidence of 20.1 individuals

[6] 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. August. Website: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf. Accessed May 10, 2023.

[7] Office of Environmental Health Hazard Assessment (OEHHA). 2022. Indicators of Climate Change, Valley Fever, 2022. Website: https://oehha.ca.gov/media/epic/downloads/05valleyfever.pdf. Accessed May 21, 2023.

per 100,000.[8] In 2021, there were a reported 250 cases in San Bernardino County (11.4 per 100,000 population) as compared to 29 cases (1.4 per 100,000) in 2015.[9]

The distribution of *C. immitis* is not uniform, and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

- Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface).
- Old (prehistoric) Native American campsites near fire pits.
- Areas with sparse vegetation and alkaline soils.
- Areas with high salinity soils.
- Areas adjacent to arroyos (where residual moisture may be available).
- Packrat middens.
- Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils.
- Sandy well aerated soil with relatively high water-holding capacities.

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

- Cultivated fields.
- Heavily vegetated areas (e.g., grassy lawns).
- Higher elevations (above 7,000 feet).
- Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied.
- Areas that are continually wet.
- Paved (asphalt or concrete) or oiled areas.
- Soils containing abundant microorganisms.
- Heavily urbanized areas where there is little undisturbed virgin soil.[10]

The project site is currently undeveloped and contains very little vegetation. Exposure to *C. immitis* could occur during soil-disturbing activities in areas with deposits present.

[8] California Department of Health. 2022. Epidemiologic Summary of Valley Fever (Coccoidiomycosis) in California, 2020-2021. Website: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2020-2021.pdf. Accessed March 21, 2023.

[9] California Department of Public Health. 2022. Epidemiologic Summary of Valley Fever (Coccidioidomycosis) in California, 2020-2021. Website: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2020-2021.pdf. Accessed April 5, 2023.

[10] United States Geological Survey (USGS). 2000. Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), 2000, Open-File Report 2000-348. Website: https://pubs.usgs.gov/of/2000/0348/pdf/of00-348.pdf. Accessed May 23, 2023.

2.3 - Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 summarizes published monitoring data from 2019 through 2021, which was the most recent 3-year period with data available at the time of this writing. The table displays data from the closest monitoring stations to the project site where available. Eight-hour ozone averages and hourly ozone measurements were available from the Mojave National Preserve monitoring station (located approximately 19 miles southeast of the project site), nitrogen dioxide measurements and PM_{10} averages were available from the Barstow monitoring station (approximately 59 miles southwest of the project site), $PM_{2.5}$ averages were available from the Victorvile-14306 Park Avenue monitoring station (located approximately 88 miles southwest of the project site). The data shows that during the past few years, the project area has exceeded the standards for ozone (State and national), PM_{10} (national), and $PM_{2.5}$ (national). 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 San Bernadino County or the Mojave Desert Air Basin 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 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2019	2020	2021
Ozone	1 Hour	Max 1 Hour (ppm)	0.088	**0.100**	**0.099**
		Days > State Standard (0.09 ppm)	0	**2**	**2**
	8 Hour	Max 8 Hour (ppm)	**0.078**	**0.095**	**0.088**
		Days > State Standard (0.07 ppm)	**23**	**36**	**21**
		Days > National Standard (0.075 ppm)	**1**	**15**	**5**
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide (NO_2)	Annual	Annual Average (ppm)	0.013	0.014	0.014
	1 Hour	Max 1 Hour (ppm)	0.059	0.062	0.062
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide (SO_2)	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})	Annual	Annual Average (µg/m^3)	24.8	33.3	29.9
	24 Hour	24 Hour (µg/m^3)	**209.5**	**213.5**	**372.7**
		Days > State Standard (50 µg/m^3)	ND	ND	ND
		Days > National Standard (150 µg/m^3)	1.0	1.0	**1.2**
	Annual	Annual Average (µg/m^3)	7.0	10.4	10.3

Air Pollutant	Averaging Time	Item	2019	2020	2021
Fine particulate matter ($PM_{2.5}$)	24 Hour	24 Hour (µg/m^3)	20.0	48.7	87.1
		Days > National Standard (35 µg/m^3)	0	**4**	**1**

Notes:
> = exceed
µg/m^3 = micrograms per cubic meter
Bold = exceedance
max = maximum
ND = no data
ppm = parts per million
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
Sources: California Air Resources Board (ARB). 2023. Trends Summary. Website: https://www.arb.ca.gov/adam/trends/trends1.php. Accessed May 23, 2023.
California Air Resources Board (ARB). 2023. Top Four Summary. Website: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed May 23, 2023.

The 2019 -2020 Ozone State and national monitoring data is from the Mojave National Preserve monitoring station. The 2021 Ozone State and national, NO_2 2019-2021, and PM_{10} 2019-2021 monitoring data is from the Barstow monitoring station. The $PM_{2.5}$ 2019-2021 monitoring data is from the Victorville monitoring station.

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 ozone 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.

For each pollutant, an Air Quality Index (AQI) value of 100 corresponds to an ambient air concentration equal to the level of the short-term national ambient air quality standard for protection of public health. AQI values at or below 100 are generally thought of as satisfactory. When concentrations exceed the standard, the AQI will give an indicator of how much it affects the standard and what the health effects are. When AQI values are above 100, air quality is unhealthy: at first for certain sensitive groups of people, then for everyone as AQI values get higher. In addition to use of the numerical index, the AQI can be communicated using color-coded categories based on the percent of the monitored pollutant values compared to the standard.

Table 3 provides a general description of the AQI index, the level of concern, and whether the air quality is a concern to the general public or sensitive groups. Sensitive groups are defined on a pollutant-specific basis. For ozone, people with lung disease, children, older adults, people who are active outdoors (including outdoor workers), people with certain genetic variants, and people with diets limited in certain nutrients are the groups most at risk. For $PM_{2.5}$, groups at risk are the same as for ozone as well as people of lower socioeconomic status.

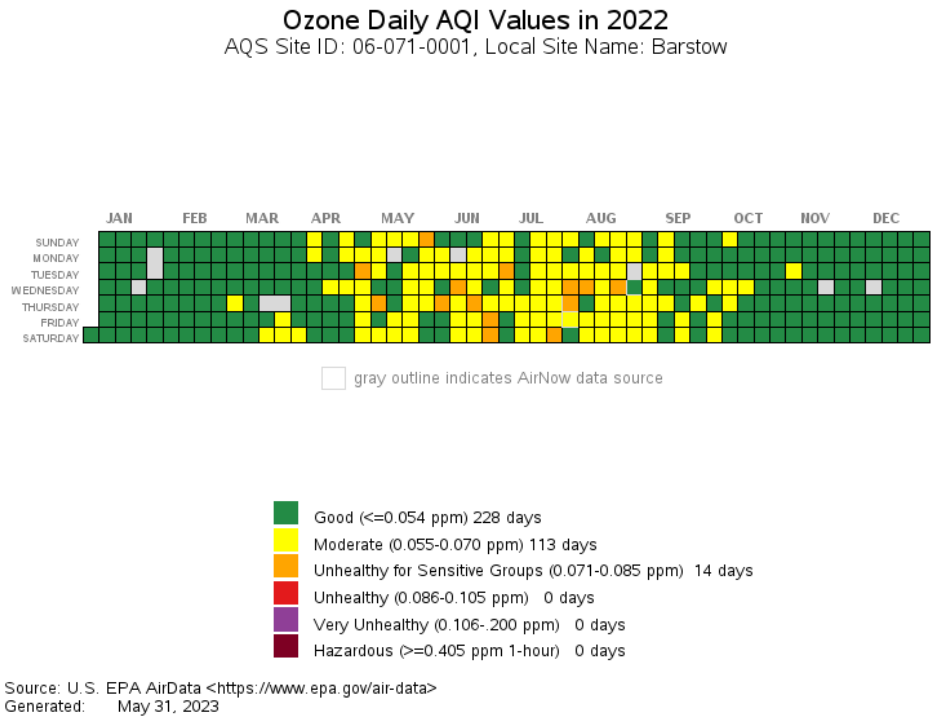
Table 3: Air Quality Index and Health Effects

AQI Range	Color	Levels of Concern	$PM_{2.5}$ (µg/m^3) (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:
µg/m^3 = micrograms per cubic meter
AQI = Air Quality Index
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ppm = parts per mission
Source: United States Environmental Protection Agency (EPA). 2023. AQI Basics. Website: https://www.airnow.gov/aqi/aqi-basics/. Accessed May 29, 2023.

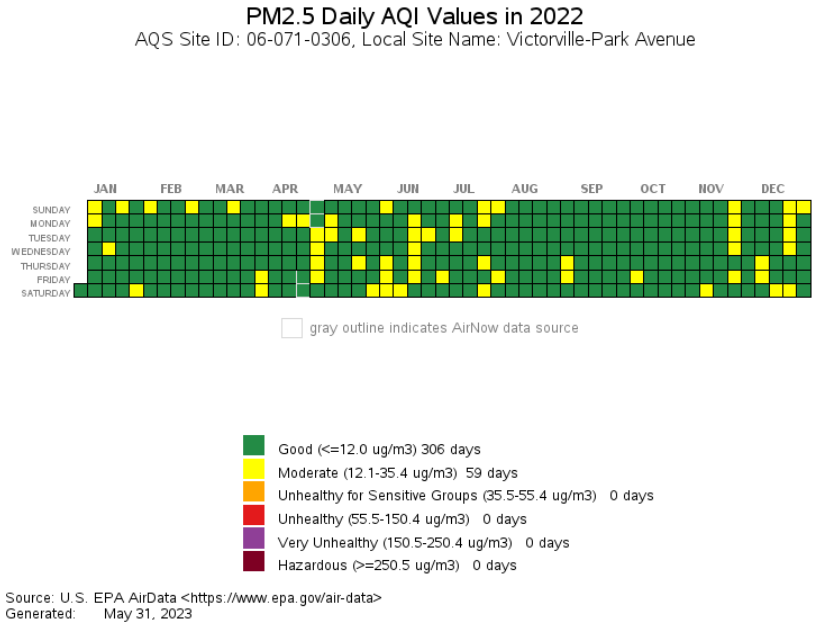
Figure 1 and Figure 2 show the daily ozone and $PM_{2.5}$ AQI from monitoring stations closest to the project site for calendar year 2022 based on the official AQI color coding scale. Based on available data, information from the Barstow monitoring station was used for ozone and information from the Victorville monitoring station was used for $PM_{2.5}$.

Based on the AQI scale for ozone, the area experienced 14 days that would be categorized as Unhealthy for Sensitive Groups. Air quality in majority of days fell within the "good" and "moderate" categories (Figure 1). Based on the AQI scale for the $PM_{2.5}$, air quality fell within the "good" and "moderate" categories in the entire year 2022 (Figure 2).



Source: United States Environmental Protection Agency (EPA). Air Data – AQI Plot. Website: https://www.epa.gov/outdoor-air-quality-data/air-data-aqi-plot. Accessed May 31, 2023.

Figure 1: 2022 AQI Data for Ozone at Barstow Monitoring Station, California



Source: United States Environmental Protection Agency (EPA). Air Data–AQI Plot. Website: https://www.epa.gov/outdoor-air-quality-data/air-data-aqi-plot. Accessed May 31, 2023.

Figure 2: 2022 AQI Data for $PM_{2.5}$ at Victorville Monitoring Station, California

2.3.1 - 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.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the 3-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the MDAB are shown in Table 4. The MDAB is designated as nonattainment for the State ozone, $PM_{2.5,}$ $PM_{10,}$ and H_2S standards.

Table 4: Mojave Desert AQMD Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment*
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment
PM_{10}	Nonattainment	Nonattainment***
$PM_{2.5}$	Nonattainment*	Unclassified/Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Nonattainment**	N/A
Visibility-reducing Particles	Unclassified	N/A
Lead	Attainment	Unclassified/Attainment

Notes:
CO = carbon dioxide
NO_2 = nitrogen dioxide
SO_2 = sulfur oxide
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
* Southwest corner of desert portion of San Bernardino County only.
** Searles Valley (northwest corner of San Bernardino County) only.
*** San Bernardino County portion only.
Source: Mojave Desert Air Quality Management District (MDAQMD) Air Quality Standards and Attainment Status. Website: https://www.mdaqmd.ca.gov/home/showpublisheddocument/1267/636337468837000000. Accessed May 23, 2023.

2.4 - Air Quality Plans and Regulations

Air pollutants are regulated at the national, State, and air basin or county level; each agency has a different level of regulatory responsibility. The EPA regulates at the national level, and the ARB regulates at the State level. The MDAQMD lies within the MDAB, which encompasses desert portions of Kern, Los Angeles, Riverside and San Bernardino counties.[11]

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans (SIPs), provides research and guidance for air pollution programs, and sets NAAQS, also known as the federal standards, described earlier.

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 air 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.

Areas designated as 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 and maintain air quality standards on schedule. For many areas of California, however, additional State and local regulations are required to achieve the standards. Regulations adopted by California are described below.

2.4.1 - California Regulations

Low Emission Vehicle Program

The ARB first adopted Low Emission Vehicle (LEV) program standards for light-duty automobiles in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010 strengthened the emission standard and expanded the regulation to the light-duty truck category to cover sport utility vehicles, minivans, and pickup trucks. The LEV II standards flat lined at model year 2010 levels through model year 2014.[12]

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 criteria pollutants and GHG emissions for new passenger vehicles. The most recent amendments in 2022, the Advanced Clean Cars II Regulations, applies to light-duty passenger car, truck, and SUV emissions starting with the 2026 model year through

[11] Mojave Desert Air Quality Management District (MDAQMD). Website: https://www.mdaqmd.ca.gov/about-us. Accessed May 23, 2023.

[12] California Air Resources Board (ARB). 2023. Low Emission Vehicle Program. Website: https://ww2.arb.ca.gov/our-work/programs/low-emission-vehicle-program/about. Accessed May 21, 2023.

2035.[13] It will take the State's already growing zero-emission vehicle 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 (ZEVs). By 2035 all new passenger cars, trucks, and SUVs sold in California will be zero emissions.

The Clean Mile Standards (CMS) for Transportation Network Companies (TNC) regulation applies to light-duty vehicles used in rideshare programs (e.g., Uber and Lyft). The GHG targets start in 2023 with an aggressive schedule to transition these fleets to 90 percent ZEVs by 2030.[14]

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 Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.[15]

ARB Regulation for In-Use Off-Road Diesel Vehicles

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. The ARB is enforcing that part of the rule with fines up to 10,000 dollars per day for each vehicle in violation. 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. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014, for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

California Air Resources Board Airborne Toxic Control Measure for Asbestos

In July 2001, the ARB approved an Airborne Toxic Control Measure (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

[13] California Air Resource Board (ARB). Advanced Clean Car Program. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed May 21, 2023.
[14] California Air Resources Board (ARB). 2023. Clean Miles Standard – About. Website: https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard/about. Accessed May 21, 2023.
[15] California Air Resource Board (ARB). On-Road Heavy-Duty Vehicle Programs. https://ww2.arb.ca.gov/road-heavy-duty-regulations-certification-programs. Accessed May 10, 2023.

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

Diesel Risk Reduction Plan

The ARB's Diesel Risk Reduction Plan has led to the adoption of new State regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.[17]

Regulations for Heavy-Duty Vehicles/Trucks

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, 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 Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.[18]

[16] Department of Conservation. 2000. A General Location Guide for Ultramafic Rocks 97 Del Norte Modoc in California–Areas More Likely to Contain 5 Siskiyou 101 Naturally Occurring Asbestos. Website: https://ww2.arb.ca.gov/sites/default/files/classic//toxics/asbestos/ofr_2000-019.pdf. Accessed May 23, 2023.

[17] California Air Resources Board (ARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles. Website: https://ww2.arb.ca.gov/our-work/programs/diesel-risk-reduction-plan. Accessed May 23, 2023.

[18] California Air Resources Board (ARB). 2013. The California Almanac of Air Quality and Emissions—2013 Edition. Website: https://ww2.arb.ca.gov/our-work/programs/resource-center/technical-assistance/air-quality-and-emissions-data/almanac. Accessed May 10, 2023.

The Truck and Bus Regulation

The Truck and Bus Regulation (California Code or Regulations [CCR] § 2025) and amendments[19] is one of the most far-reaching and important tools to reduce smog-forming and toxic emissions. The rule, designed to reduce both emissions of NO_X and DPM, required all heavy-duty diesel trucks and buses that operate in California to upgrade to 2010 or newer model year engines, by January 1, 2023. It is a key element in the ARB's Diesel Risk Reduction Plan and the SIP, both of which are designed to provide clean air for Californians by helping to meet State and federal health-protective standards.

Tractor-Trailer Greenhouse Gas Regulation

The California Tractor-Trailer Greenhouse Gas regulation's goal is to significantly reduce GHG emissions produced by certain heavy-duty tractor trailers. The regulation requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that reduce fuel consumption and associated GHG emissions. Tractor trailers 2014 model year and newer are not subject to this regulation since they must meet requirements of federal Heavy-Duty Greenhouse Gas regulations.

The Heavy-Duty Omnibus Regulation

The Heavy-Duty Omnibus Regulation[20] has the goal of continued reduction of NO_X and particulate matter (PM) emissions from heavy-duty gasoline and diesel on-road vehicles. It updates standards, testing and compliance mechanisms for NO_X and PM emissions from heavy-duty on-road vehicle for model year 2024 through 2031. The rule will be implemented in phases with the standards becoming more stringent in 2027. Of all the measures in the SIP (California's blueprint for meeting federal air quality standards), the Heavy-Duty Omnibus Rulemaking is expected to provide the most NO_X emission benefits–24 tons per day in 2031 for California-only standards.[21]

The Advanced Clean Truck Regulation

The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emission medium and heavy-duty vehicles. The regulation has a manufacturer sales requirement; by 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b–3 truck sales, 75 percent of class 4–8 straight truck sales, and 40 percent of truck tractor sales. The rule also has a company and fleet requirement that gathers information about shipments and shuttle services. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

[19] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about. Accessed May 10, 2023.

[20] California Air Resources Board (ARB). 2022 Heavy-Duty Omnibus Rule. Website: https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit/omnibus-regulation#:~:text=The%20Omnibus%20Regulation%20will%20significantly,GVWR)%20greater%20than%2010%2C000%20pounds. Accessed May 10, 2023.

[21] California Air Resources Board (ARB). 2023. Facts About the Low NO_X Heavy-Duty Omni Bus Regulation. Website: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/hdlownox/files/HD_NOx_Omnibus_Fact_Sheet.pdf. Accessed May 10, 2023.

The Advanced Clean Fleet

The Advanced Clean Fleet regulation applies to medium- and heavy-duty trucks.[22] The regulation has the goal of achieving a zero-emission truck and bus California fleet by 2045 everywhere feasible and significantly earlier for certain market segments, such as last mile delivery and drayage applications. The initial focus would be on high-priority fleets with vehicles that are suitable for early electrification, their subhaulers, and entities that hire them. The goal of this effort is to accelerate the number of medium and heavy-duty zero-emission vehicle purchases to achieve a full transition to ZEVs in California as soon as possible.

Clean Truck Check (Heavy-Duty Implementation/Maintenance)

The ARB approved the regulation on December 9, 2021, with implementation to be phased in starting January 2023.[23] Dubbed the Clean Truck Check, the program combines periodic vehicle testing requirements with other emissions monitoring techniques and expanded enforcement strategies to identify vehicles in need of emissions related repairs and ensure any needed repairs are performed. When fully implemented, the program will provide significant reductions in smog-forming and carcinogenic toxic air pollution necessary to achieve federal air quality mandates and healthy air in California's communities.

Transportation Refrigeration Units

Air Toxics Contaminant Measure for Transportation Refrigeration Units and Transportation Refrigeration Generator Sets was adopted by the ARB to reduce emissions of TAC emissions from in-use Transport Refrigeration Units (TRUs) and TRU generator sets used on trucks and tractor trailers.[24]

2.4.2 - Mojave Desert Air Quality Management District

MDAQMD CEQA Air Quality Guidelines

Standard Conditions

During construction and operation, a project must comply with applicable rules and regulations. The proposed project includes stationary sources of emissions that are subject to MDAQMD regulations and permits. The MDAQMD rules and regulations that apply to this proposed project include, but are not limited to, the following:

MDAQMD Regulation

Regulation XIII **New Source Review**

Regulation XIII includes a series of rules addressing the permitting process for new and modified stationary sources.

[22] California Air Resources Board (ARB). 2023. Advanced Clean Fleets Regulation Summary. Website: https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-summary. Accessed May 10, 2023.

[23] California Air Resources Board (ARB). 2023. Clean Truck Check (HD I/M). Website: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program. Accessed May 25, 2023.

[24] California Air Resource Board (ARB). 2022. Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units. Website: https://ww2.arb.ca.gov/resources/fact-sheets/2022-amendments-tru-atcm/printable/print. Accessed May 10, 2023.

MDAQMD Rules

Rule 1000 National Emissions Standards for Hazardous Air Pollutants

The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from hazardous air pollutants, such as asbestos.

Rule 401 Visible Emissions

Limits visibility of fugitive dust to less than No. 1 on the Ringlemann Chart (i.e., 20 percent opacity).

Rule 402 Nuisance

The purpose of this rule is to protect the health and safety of the public, and it applies to any source operation that emits or may emit air contaminants or other materials. Odors from agricultural sources are exempt from the Nuisance rule.

Rule 403 Fugitive Dust Control

Rule 403.2 is designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, trackout, unpaved roads, etc. More specifically, the proposed project shall comply with the following requirements:

a. Obtain and maintain a District-approved Dust Control Plan as set forth by Section (D) of Rule 403.
b. Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For the purposes of this Rule, use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance.
c. Take actions sufficient to prevent project-related Trackout onto paved surfaces.
d. Cover loaded haul Vehicles while operating on Publicly Maintained paved surfaces.
e. Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 30 days, except when such delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate Visible Fugitive Dust emissions.
f. Cleanup project-related Trackout or spills on Publicly Maintained paved surfaces within 24 hours.

g. Reduce non-essential Earthmoving Activity under High Wind conditions. For purposes of this Rule, a reduction in Earthmoving Activity when visible dusting occurs from moist and dry surfaces due to wind erosion shall be considered sufficient to maintain compliance.
h. Maintain the natural topography to the extent possible during grading and other earth movement.
i. Provide a construction schedule that specifies construction of parking lots and paved roads first, where feasible, and upwind structures prior to downwind structures.
j. Cover or otherwise contain Bulk Material carried on haul trucks operating on paved roads.
k. Remove Bulk Material tracked onto paved road surfaces.
l. Provide Stabilized access route(s) to the project site as soon as is feasible. For purposes of this Rule, as soon as is feasible shall mean prior to the completion of Construction/Demolition activity.
m. Maintain natural topography to the extent possible.
n. Construct parking lots and paved roads first, where feasible.
o. Construct upwind portions of project first, where feasible.

Rule 461 **Gasoline Transfer and Dispensing.** The purpose of this rule is to limit the emissions of volatile organic compounds (VOCs) and toxic compounds (such as benzene) from the transfer and marketing of gasoline and, in conjunction with Rules 462 and 463, limit the emissions from the storage, transfer, and dispensing of gasoline, including bulk facilities, retail service stations, and others; the transport of fuels between these facilities; and the transfer of fuel into motor vehicle tanks.

Clean Air Plans

The project site is located in the MDAQMD. The MDAQMD has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County. This region includes the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Hesperia, Morongo Valley, Needles, Twentynine Palms, Victorville, and Yucca Valley. This region also includes the National Training Center at Fort Irwin, the Marine Corps Air Ground Combat Center, the Marine Corps Logistics Base, the eastern portion of Edwards Air Force Base, and a portion of the China Lake Naval Air Weapons Station.

As the local air quality management agency, the MDAQMD 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. In the MDAB, the MDAQMD is required to prepare a plan for improvement for the air pollutants for which the MDAB is in nonattainment. MDAQMD is primarily responsible for controlling emissions from stationary sources. MDAQMD, in coordination with Southern California Association of Governments (SCAG), is also responsible for developing, updating, and implementing air quality attainment plans for the MDAB. The plans are described below.

Ozone Plan

The EPA designated a portion of the southwestern desert part of San Bernardino County as nonattainment and classified it as Severe for the 8-hour standard. This area was classified based on an ozone design value calculated from 2014 through 2016 concentrations in the region. The Severe classification requires attainment of the 8-hour ozone NAAQS by August 2033, fifteen years after the date of designation.

CARB and the MDAQMD have developed a series of SIPs that detail the actions needed to meet these standards, with each SIP and the corresponding control programs providing the foundation for subsequent planning efforts. The MDAQMD 70 parts per billion (ppb) Ozone Attainment Plan addresses the 70 ppb 8-hour ozone standard and incorporates all reasonably available control measures. Because of the timing of the ozone season, the Western Mojave Desert nonattainment area must show attainment in 2032. The 70 ppb Plan also addresses Clean Air Act requirements applicable to a Severe 8-hour ozone nonattainment area, consistent with EPA's 2018 Implementation Rule for the 70 ppb 8-hour ozone standard.

Particulate Matter Plans

The MDAB is designated nonattainment of State and federal health-based air quality standards for PM_{10}. On July 31, 1995, the MDAQMD adopted a federal PM_{10} Attainment Plan (PM_{10} Plan) for the Mojave Desert Planning Area. The air quality of the MDAB is impacted by both fugitive dust from local sources and occasionally by region-wide, wind-blown fugitive dust during moderate to high wind episodes. This region-wide or "regional" event includes contributions from both local and distant dust sources, which frequently result in violations of the National Ambient Air Quality Standards that are multi-district and interstate in scope. The PM_{10} Plan indicates that local sources will be controlled with a strategy that focuses on unpaved road travel, construction, and local disturbed areas in the populated areas and certain stationary sources operating in the rural Lucerne Valley. It is not feasible, however, to implement control measures to reduce fugitive dust from regional wind events.

The Western Mojave Desert portion of the MDAB is also designated nonattainment of State standards for $PM_{2.5}$. Compliance with State and federal regulations and actions by upwind air districts are expected to allow the entire MDAB to attain the $PM_{2.5}$ standards. No plan is required for the State $PM_{2.5}$ standards. The project is in the southern portion of the Western Mojave Desert nonattainment area.

The PM_{10} Plan includes reasonably available control measures to reduce emissions of fugitive dust during construction activities. The proposed project would be required to comply with PM_{10} control measures, as incorporated into MDAQMD Rule 403.2, Fugitive Dust Control. The reasonably available control measures include:

- Use water for short-term surface stabilization.
- Minimize trackout onto paved roads.
- Cover haul trucks.

- Stabilize (chemical or vegetation) site upon completion of grading when subsequent development is delayed.
- Rapid cleanup of project-related trackout or spills on paved roads.
- Minimize grading and soil movement when winds exceed 30 miles per hour.
- Require a Dust Control Plan (DCP) for construction/demolition projects disturbing 100 or more acres, to address the following additional measures:
  - Provide paved or stabilized access to construction site as soon as is feasible.
  - Maintain natural topography to the extent possible.
  - Construct parking lots and paved roads first, where feasible.
  - Construct upwind portions of projects first, where feasible.

MDAQMD CEQA Guidance

Under CEQA, the MDAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or impacting its jurisdiction. The MDAQMD reviews projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan. The MDAQMD has prepared its own CEQA Guidelines that are intended to assist persons preparing environmental analysis or review documents for any project within the jurisdiction of the MDAQMD by providing background information and thresholds of significance for air quality impacts.

The MDAQMD has three 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 MDAQMD where the MDAQMD has primary approval authority over the project.
2. Responsible Agency: When another agency has the primary approval authority for a project for which the MDAQMD also must approve a discretionary permit, the MDAQMD is considered a Responsible Agency.
3. Commenting Agency: The MDAQMD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

2.4.3 - Local

County of San Bernardino Countywide Plan

The Countywide Plan was adopted in 2020 and establishes the following policies that are relevant to both air quality resources and the proposed project:[25]

[25] County of San Bernardino. 2023. Countywide Plan. Website: https://countywideplan.com/policy-plan/. Accessed May 23, 2023.

Natural Resources Element

Policy NR-1.2 **Indoor air quality:** Promote the improvement of indoor air quality through the California Building and Energy Codes and through the provision of public health programs and services.

Policy NR-1.3 **Coordination on air pollution:** Collaborate with air quality management districts and other local agencies to monitor and reduce major pollutants affecting the county at the emission source.

Policy NR-1.5 **Sensitive land uses:** Consider recommendations from the California Air Resources Board on the siting of new sensitive land uses and exposure to specific source categories.

Policy NR-1.6 **Fugitive dust emissions:** Coordinate with air quality management districts on requirements for dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions.

Policy NR-1.8 **Construction and operations:** Invest in County facilities and fleet vehicles to improve energy efficiency and reduce emissions. We encourage County contractors and other builders and developers to use low emission construction vehicles and equipment to improve air quality and reduce emissions.

Hazards Element

Policy HZ-3.1 **Health Risk Assessment:** Require projects processed by the County to provide a health risk assessment when a project could potentially increase the incremental cancer risk by 10 in 1 million or more in unincorporated environmental justice focus areas, and we require such assessments to evaluate impacts of truck traffic from the project to freeways. We establish appropriate mitigation prior to the approval of new construction, rehabilitation, or expansion permits.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 3: CLIMATE CHANGE SETTING

3.1 - Climate Change

Climate change is a change in the average weather of Earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. Working Group I predicted that increase in global surface temperature is 1.09°C (degrees Celsius) in 2011–2020 above 1850–1900. The estimated increase in global surface temperature since the Fifth Assessment Report is principally due to further warming from 2003–2012. Considering all five illustrative scenarios assessed by Working Group I, there is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario.[26] The report also stated that "[e]xtreme climate events comprising conditions beyond which many species are adapted are occurring on all continents, with severe impacts ," and that "[w]ithout urgent and ambitious emissions reductions, more terrestrial, marine and freshwater species and ecosystems will face conditions that approach or exceed the limits of their historical experience."

An individual project cannot generate enough GHG emissions to effect a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following.[27,28]

- **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.

[26] 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 May 10, 2023.

[27] 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.

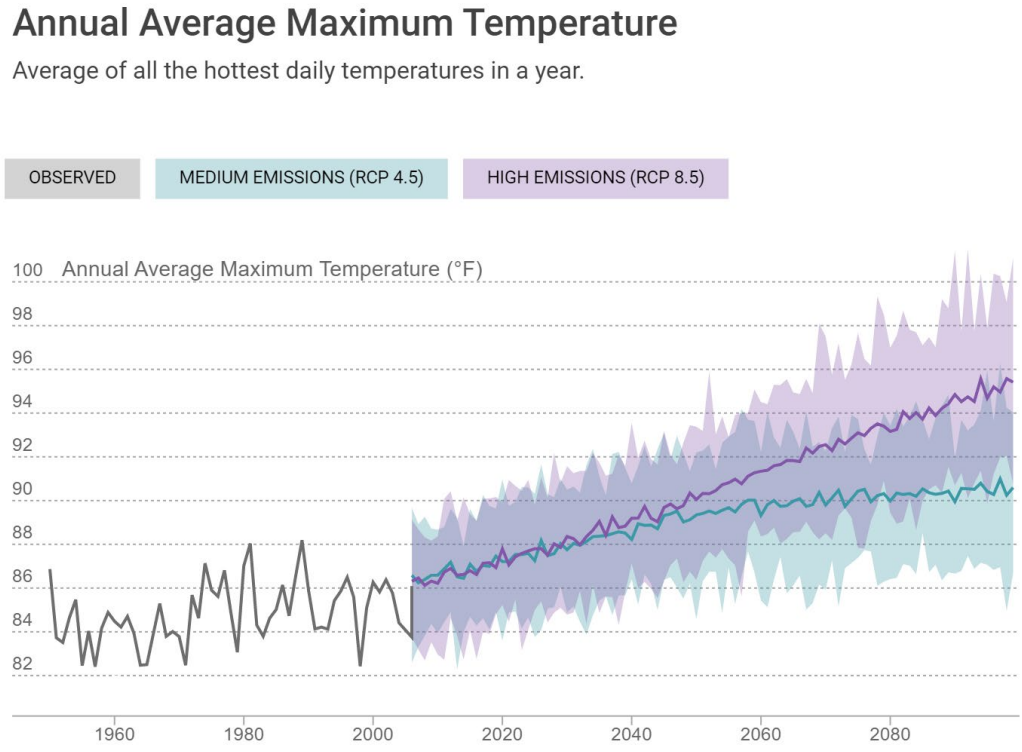
[28] Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071.

- **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 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.

Baker, Unincorporated San Bernardino County

Figure 3 displays a chart of measured historical and projected annual average temperatures in the Baker area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that temperatures by the end of the century are predicted to increase by 4.5°F under the medium emissions scenario and 8.5°F under the high emissions scenario.[29]

[29] Cal-Adapt. 2021. Local Climate Snapshots. Website: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed May 23, 2023.



Source: Cal-Adapt. 2023. Local Climate Snapshots. Website: https://cal-adapt.org/tools/local-climate-change-snapshot/. Accessed May 23, 2023.

Figure 3: Observed and Projected Temperatures for Climate Change in the Project Area

3.2 - Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Major GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons, hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. To describe how much global warming a given type and amount of GHG may cause, the CO_2 equivalent (CO_2e) is used. The calculation of the CO_2 equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A CO_2 equivalent is the mass emissions of an individual GHG multiplied

by its global warming potential. As described in Table 5, the GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, N_2O, HFC, PFC, and SF_6. A seventh GHG, nitrogen trifluoride (NF_3), was added to Health and Safety Code Section 38505(g)(7) as a GHG of concern.

Table 5: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
CH_4	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
CO_2	CO_2 is an odorless, colorless, natural GHG. CO_2's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
HFC	HFCs are a group of GHGs containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	HFCs are synthetic man-made chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
PFC	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of PFCs are primary aluminum production and semiconductor manufacturing.
SF_6	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is man-made and used for insulation in electric power transmission equipment in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code Section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily 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 [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. (Core Writing Team, Pachauri, R.K. and Reisinger, A. editors).		

The State of California has begun the process of addressing pollutants referred to as short-lived climate pollutants. The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. The ARB approved the Short-Lived Climate Pollutant Reduction Strategy in March 2017. The ARB has completed an emission inventory of these pollutants, identified research needs, identified existing and potential new control measures that offer co-benefits, and coordinated with other State agencies and districts to develop measures.[30] Typical sources of black carbon are already regulated by the ARB, and air district criteria pollutant and toxic regulations control $PM_{2.5}$ from diesel engines and other combustion sources.[31] Additional controls on the sources of black carbon, specifically for their GHG impacts beyond those required for toxic and fine particulates, are not likely to be needed.

Human Health Effects of GHG Emissions

GHG emissions from development projects do not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.[32]

The United States Global Change Research Program, in its Global Climate Change Impacts in the United States report,[33] has analyzed the degree to which impacts on human health are expected to impact the United States.

Potential effects of climate change on public health include:

- **Direct Temperature Effects:** Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.
- **Extreme Events:** Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.
- **Climate-Sensitive Diseases:** Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.
- **Air Quality:** Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground level ozone) events and particulate air pollution.

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (PM). At very high indoor concentrations

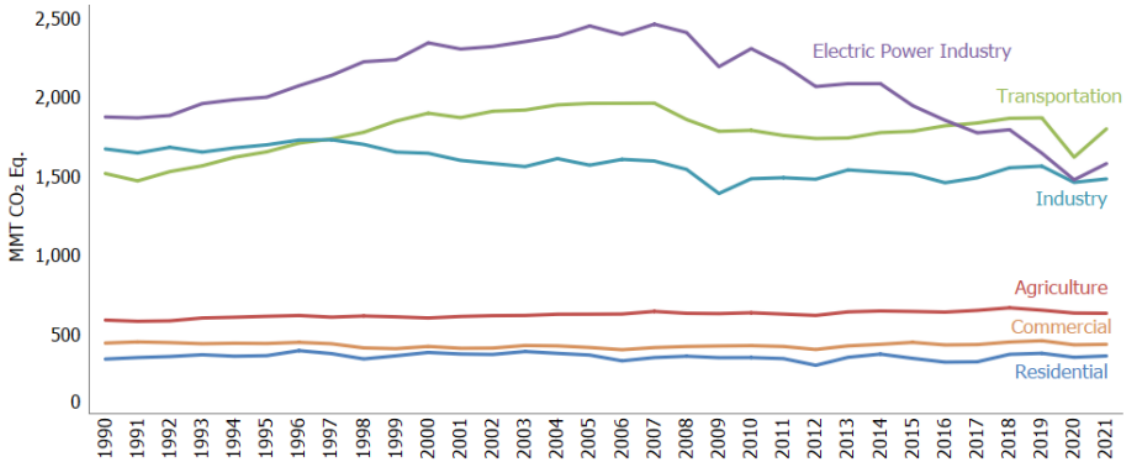
[30] California Air Resources Board (ARB). 2016. Proposed Short-Lived Climate Pollutant Reduction Strategy. Website: http://www.arb.ca.gov/cc/shortlived/shortlived.htm. Accessed July 13, 2021.
[31] California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed July 13, 2021.
[32] Centers for Disease Control and Prevention (CDC). CDC's Climate and Health Program–an Investment in our Future. Website: https://www.cdc.gov/climateandhealth/factsheet.htm. Accessed May 10, 2023.
[33] The United States Global Change Research Program. 2009. Global Climate Change Impacts in the United States.

(not at levels existing outside), CO, CH_4, SF_6, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen.

3.2.1 - Emissions Inventories

United States GHG Inventory

Total U.S. GHG emissions in 2021 were 6,348 million metric tons (MMT) of CO_2e. Since 1990, U.S. GHG emissions in the United States have declined at an average annual rate of 0.02 percent since 1990,[34] however, emission differences from sector-to-sector year to year have been significantly larger. Figure 4 shows a time trace of emissions by economic sector from 1990 to 2021, exhibiting an all-time high in 2007. Historically, changes in consumption of fossil fuel have been the driving factor for emission trends. Recent data show this impact quite dramatically, indicated by a sharp decline in emissions from 2019 to 2020 due to the impacts of the coronavirus (COVID-19) pandemic on travel and other economic activity. This was followed by an immediate increase of almost 7 percent from 2020 to 2021 due to economic activity rebounding from the COVID-19 pandemic.



Note: Emissions and removals from Land Use, Land-Use Change, and Forestry are excluded from figure above. Excludes U.S. Territories.

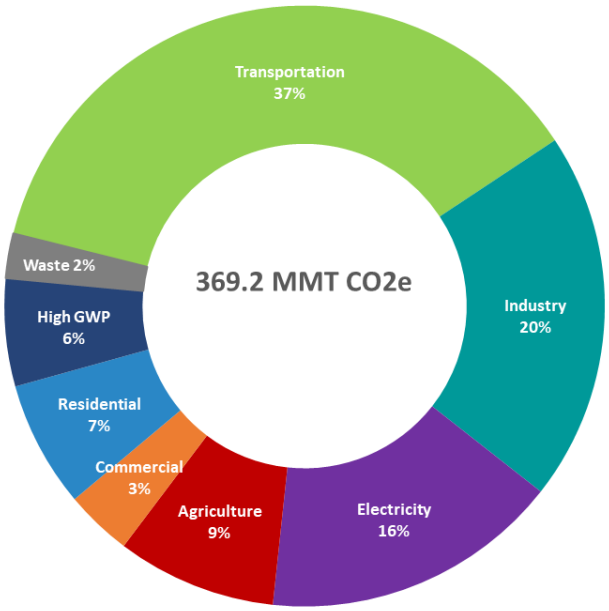
Source: United States Environmental Protection Agency (EPA). 2023. Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021. Website: Accessed: March 22, 2023.

Figure 4: U.S. Greenhouse Gas Emissions Allocated to Economic Sectors (1990-2021)

[34] United States Environmental Protection Agency (EPA). 2023 Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021. Website: https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021. Accessed May 22, 2023.

California GHG Inventory

As the second largest emitter of GHG emissions in the U.S., California contributes a large quantity (369.2 MMT CO_2e in 2020) 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. As shown in Figure 5, in California, the transportation sector is the largest emitter, at 37 percent of GHG emissions, followed by industry/manufacturing at 20 percent of GHG emissions.[35]



Source: California Air Resources Board (ARB). 2023. California Greenhouse Gas Emissions for 2000 to 2020: Trends of Emissions and Other Indicators.

Figure 5: California 2020 GHG Emissions by Sector

3.3 - Regulatory Environment

3.3.1 - Federal Regulations

The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG Endangerment

Massachusetts v. EPA (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including CO_2, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or

[35] California Air Resources Board (ARB). 2019. California Greenhouse Gas Emission Inventory–2019 Edition. Website: https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed May 18, 2023.

contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act. These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator findings.

Clean Vehicles

Congress first passed the Corporate Average Fuel Economy 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 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 Safety Administration 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 applies 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 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 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration 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.[36] The new 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 fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and the United States Department of Transportation 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 proposed 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

[36] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. August. Website: https://www.nhtsa.gov/document/fact-sheet-epa-and-nhtsa-propose-standards-reduce-greenhouse-gas-emissions-and-improve. Accessed May 10, 2023.

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 Corporate Average Fuel Economy 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. To manage the State's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975. It should be noted that the EPA recently rescinded California's waiver for its GHG and ZEV mandates; however, all ARB standards are still in effect at the time of this writing.[37] In September 2020, Governor Gavin Newsom issued Executive Order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

Consolidated Appropriations Act (Mandatory GHG Reporting)

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons (MT) or more per year of GHG emissions are required to submit annual reports to the EPA.

New Source Review

The EPA issued a final rule on May 13, 2010, which establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units

As required by a settlement agreement, the EPA proposed new performance standards for CO_2 emissions for new, affected, fossil-fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of CO_2 per megawatt-hour (MWh) based on the performance of widely used natural gas combined cycle technology.

[37] Beveridge & Diamond Professional Corporation. 2019. EPA Rescinds California's Authority to Regulate Vehicle Tailpipe Greenhouse Gas Emissions and to Implement a Zero-Emission Vehicle Program. September 23. Website: https://www.bdlaw.com/publications/epa-rescinds-californias-authority-to-regulate-vehicle-tailpipe-greenhouse-gas-emissions-and-to-implement-a-zero-emission-vehicle-program/. Accessed May 10, 2023.

Cap and Trade

Cap-and-trade refer to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. There is no federal GHG Cap-and-Trade Program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 1990 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Québec. Currently only California and Québec are participating in the Cap-and-Trade Program.[38]

3.3.2 - California

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, were originally adopted for other purposes, such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

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 United States District Court for the District of Columbia in 2011.[39] The standards were to be phased in during the 2009 through 2016 model years.[40] It should be noted that the EPA recently rescinded California's waiver for its GHG and ZEV mandates; however, all ARB standards are still in effect at the time of this writing.[41]

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 is anticipated to reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will 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 electric

[38] Center for Climate and Energy Solutions (C^2ES). 2015. Cap and Trade Basics. Website: https://www.c2es.org/content/cap-and-trade-basics/. Accessed May 10, 2023.
[39] California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed May 10, 2023.
[40] California Air Resources Board (ARB). Advanced Clean Cars Summary. Website: https://ww2.arb.ca.gov/sites/default/files/2019-12/acc%20summary-final_ac.pdf. Accessed May 10, 2023.
[41] Beveridge & Diamond Professional Corporation. 2019. EPA Rescinds California's Authority to Regulate Vehicle Tailpipe Greenhouse Gas Emissions and to Implement a Zero-Emission Vehicle Program. September 23.

vehicles and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.[42]

Assembly Bill 32

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. Greenhouse gases, as defined under AB 32, include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs.

The ARB is the State agency charged with monitoring and regulating sources of GHGs. The ARB approved the 1990 GHG emissions level of 427 MMT CO_2e on December 6, 2007.[43] Therefore, to meet the State's target, emissions generated in California in 2020 were required to be equal to or less than 427 MMT CO_2e. Emissions in 2020 in a Business as Usual (BAU) scenario were estimated to be 596 MMT CO_2e, which does not account for reductions from AB 32 regulations.[44] At that rate, a 28 percent reduction was required to achieve the 427 MMT CO_2e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. Under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.[45] On July 11, 2018, ARB announced that the State has met its target of reducing GHG emissions to 1990 levels.[46]

California Air Resources Board 2008 Scoping Plan

The ARB Climate Change Scoping Plan (Scoping Plan) contains measures that were designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32.[47] The Scoping Plan identified recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector had a different emission reduction target. Most of the measures targeted the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target included:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
- Achieving a Statewide renewables energy mix of 33 percent.
- Developing a California Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system.
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets.

[42] California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures.
[43] California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007.
[44] California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan.
[45] California Air Resources Board (ARB). 2014 Edition BAU Emissions Projection. Website: https://ww2.arb.ca.gov/ghg-bau. Accessed May 10, 2023.
[46] California Air Resources Board. 2018. Climate Pollutants Fall Below 1990 Levels for First Time. Website: https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time. Accessed May 10, 2023.
[47] California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan.

- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS).
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed Cap-and-Trade Program. Implementation of the capped strategies is calculated to achieve a sufficient number of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.[48]

The ARB approved the First Update to the Scoping Plan on May 22, 2014. The First Update builds upon the initial Scoping Plan with new strategies and recommendations.

Senate Bill 32 and the 2017 Scoping Plan

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 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million ZEVs on the roads.
   - Increase ZEV buses, delivery, and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-ZEVs and equipment powered by renewable energy.
   - Deploy over 100,000 zero-emission trucks and equipment by 2030.

[48] Ibid.

5. Short-Lived Climate Pollutant Reduction Strategy
   - Reduce emissions of methane and HFCs 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - The ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in GHG emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

2022 ARB Scoping Plan

The 2022 Scoping Plan 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 global warming potential gases.
- Providing communities with sustainable options for walking, biking, and public transit to reduce reliance on cars.
- 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.

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.

Senate Bill 375—the Sustainable Communities and Climate Protection Act of 2008

Senate Bill (SB) 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, emitting over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires Metropolitan Planning Organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Senate Bill 1368—Emission Performance Standards

In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements of longer than 5 years for energy from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities, of 1,100 pounds CO_2 per MWh.

Senate Bill 1078—Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed 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. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23.

Senate Bill 350—Clean Energy and Pollution Reduction Act of 2015

The legislature recently 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 electric vehicle (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 (CPUC), the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrified transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.[49]

Senate Bill 100—The 100 Percent Clean Energy Act of 2018

The legislation directs the CPUC, CEC, and the ARB to plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. This Act amends Sections 399.11, 399.15, and 399.30 of, and adds Section 454.53 to, the Public Utilities Code relating to energy.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the State and guide the actions of State agencies.

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an Executive Order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07—Low Carbon Fuel Standard

The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a Statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, ARB, University of California, and other agencies to develop and propose protocols for measuring the "lifecycle carbon intensity" of transportation fuels. The ARB adopted the LCFS on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, on August 8, 2013, the Fifth District Court of Appeal (California) ruled that the ARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for LCFS. In a partially published opinion, the Court of

[49] California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed May 10, 2023.

Appeal directed that Resolution 09-31 and two Executive Orders of the ARB approving LCFS regulations promulgated to reduce GHG emissions be set aside. However, the Court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, the ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing for the new LCFS regulation was held on September 24, 2015, and September 25, 2015, when the LCFS regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with the Office of Administrative Law (OAL) on October 2, 2015. The OAL approved the regulation on November 16, 2015.[50]

Executive Order S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy[51] was adopted, which is the ". . . first Statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15.

On April 29, 2015, Governor Edmund G. Brown Jr. issued an Executive Order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's Executive Order aligned California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Executive Order sets a new interim Statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MT CO_2e. The Executive Order also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions.

Executive Order N-79-20

Executive Order N-79-20 directs the State to require that, by 2035, all new cars and passenger trucks sold in California be ZEVs.[52]

[50] California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: https://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed May 10, 2023.
[51] California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy.
[52] Executive Department State of California. 2020. Executive Order N-79-20.

ARB Advanced Clean Cars II Rule

Adopted by the ARB in August 2022, the Advanced Clean Cars II regulation supports the implementation of Executive Order N-79-20 and requires that by 2035, all new passenger cars, trucks and SUVs sold in California will be zero emissions.[53]

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.

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.[54] This measure 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.

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.

[53] California Air Resource Board (ARB). Proposed Advanced Clean Cars II Regulations. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Accessed May 10, 2023.

[54] California Air Resources Board (ARB). Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Website: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed May 10, 2023.

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 CEC went into effect on January 1, 2023.[55]

Title 24 California Green Building Standards Code

California Code of Regulations Title 24 Part 11 code 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 current version of the 2022 California Green Building Code Standards Code (CALGreen) that became effective January 1, 2023.[56] Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. State building code 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 the 2020 mandate (SBX-7-7) 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.

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

[55] 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 May 10, 2023.
[56] State of California. 2020. California Green Building Standards Code (CALGreen).

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 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.

3.3.3 - Mojave Desert Air Quality Management District

The proposed project is within the San Bernardino County portion of the MDAB, which is under the jurisdiction of the MDAQMD. The MDAQMD has adopted GHG emissions thresholds in its CEQA Guidelines but has not adopted a comprehensive strategy for reducing GHG emissions. The MDAQMD threshold is 100,000 tons of CO_2e per year or 548,000 pounds per year; however, San Bernardino County has adopted a Greenhouse Gas Plan that includes a development review process that is used for this analysis.

3.3.4 - San Bernardino County

County of San Bernardino Greenhouse Gas Emissions Reduction Plan

In January of 2012, the County adopted a Greenhouse Gas Reduction Plan (GHG Plan),[57] and the plan was updated in 2021.[58] The GHG Plan is based on the premise that the County and the community it represents are uniquely capable of addressing emissions associated with sources under the County's jurisdiction and that the County's emission reduction efforts should coordinate with the State strategies of reducing emissions in order to reduce emissions in an efficient and cost-effective manner. This GHG Plan presents a comprehensive set of actions to reduce the GHG

[57] County of San Bernardino. 2011. County of San Bernardino Greenhouse Gas Emissions Reduction Plan. Website: http://www.sbcounty.gov/Uploads/lus/GreenhouseGas/FinalGHGFull.pdf. Accessed June 2, 2023.
[58] County of San Bernardino. 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan. Website: https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf. Accessed June 2, 2023.

emissions within the unincorporated County area 40 percent below the 2016 levels of emissions by 2030, consistent with the SB 32. The 2021 update summarizes the County's historic and future GHG emissions and the reduction targets the County has established; the local reduction strategies that will be implemented and benefit at the community level to meet the reduction targets; and the implementation of the measures, potential funding sources, and how the updated GHG Plan will be monitored and updated over time.

The County's GHG emission development review process provides procedures for evaluating GHG impacts and determining significance for CEQA purposes. The development review process streamlines the process by (1) applying a uniform set of performance standards to all development projects and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 MT CO_2e per year is used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. Projects that exceed the 3,000 MT CO_2e per year are required to either achieve a minimum 100 points per the Screening Tables or a 31 percent reduction over 2007 emissions levels.[59]

County of San Bernardino Countywide Plan

The Countywide Plan was adopted in 2020 and establishes the following applicable objectives and policies that are relevant to the project:

Natural Resources Element

Policy NR-1.7 Greenhouse gas reduction targets

Strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with State law.

Policy NR-1.9 Building design and upgrades

Use the CALGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability and reduce emissions.

Renewable Energy and Conservation Element

Policy RE-1.1 Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction Plan.

Policy RE-1.2 Optimize energy efficiency in the built environment.

[59] County of San Bernardino. 2021. Greenhouse Gas Emissions Development Review Process Screening Tables. Website: http://www.sbcounty.gov/uploads/LUS/GreenhouseGas/GHG_2021/GHG%20Revised%20Screening%20Tables%20-%20Adopted%209-20-2021.pdf. Accessed May 29, 2023.

Waste Diversion

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita disposal rates. As of 2021, the County of San Bernardino has a disposal rate target of 6.2 pounds per capita (per resident) and 43.3 pounds per capita (per employee). The County has met both targets and has an annual disposal rate of 5.9 pounds per capita (per resident) and 31.5 pounds per capita (per employee).[60]

[60] California Department of Resources Recycling and Recovery (CalRecycle). 2021. Disposal Rate Calculator. San Bernardino-Unincorporated. Website: https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator. Accessed May 24, 2023.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1 - Model Selection and Guidance

Regional air pollutant emissions are composed of those on-site and off-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 Vehicle Miles Traveled (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 California Emissions Estimator Model (CalEEMod) was developed in cooperation with air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses. Regional construction and operational emissions reported in this analysis were modeled using CalEEMod Version 2022.1.

4.2 - Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur oxides (SO_X)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the proposed project would emit ozone precursors ROG and NO_X. 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 $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

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

4.3 - Modeling Assumptions

4.3.1 - 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, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

Construction occurring on the 24.78-acre project site would consist of site preparation, grading, building construction, paving, and architectural coating of the inside and outside of the buildings. In addition, off-site improvements for approximately 2.47 acres would involve site preparation, coarse grading, and paving. The proposed travel stop, 8-unit mobile home park, and frontage construction (off-site improvement) would be built in one phase, which is expected to last approximately 12 months. For each construction activity, the construction equipment operating hours and numbers represent the average equipment activity over the duration of the activity.

A conceptual construction schedule is provided in Table 6 that presents the duration for each construction activity. Table 7 presents the number of assumed construction equipment along with hours of operation per day, horsepower, and load factor. Where project-specific information was not available or unknown, default assumptions were used to complete emissions modeling. 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 anticipated construction schedule, as shown in Table 6, reflects the construction start date and construction phase durations assumed for the purposes of this environmental analysis. Based on applicant-provided information, construction would be completed in one phase, beginning in January 2025 and concluding in December 2025. The proposed project is expected to be operational in early 2026. The construction schedule used in the analysis represents a "worst-case" analysis

scenario since 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 6: Construction Schedule

Construction Activity	Conceptual Construction Schedule		Working Days per Week	Working Days
	Start Date	End Date		
Project Site Construction				
Site Preparation	1/6/2025	1/17/2025	5	10
Grading	1/20/2025	2/28/2025	5	30
Building Construction	3/3/2025	9/26/2025	5	150
Paving	9/29/2025	12/5/2025	5	50
Architectural Coating	12/8/2025	12/19/2025	5	10
Off-site Improvements				
Site Preparation	1/6/2025	1/10/2025	5	5
Grading	1/13/2025	1/17/2025	5	5
Paving	1/20/2025	1/24/2025	5	5
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 7.

Table 7: Project Construction Equipment Assumptions

Construction Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Project Site Construction					
Site Preparation	Rubber Tired Bulldozers	3	8.0	367	0.40
	Tractors/Loaders/Backhoes	4	8.0	84	0.37
Grading	Excavators	2	8.0	158	0.38
	Graders	1	8.0	148	0.41
	Rubber Tired Bulldozers	1	8.0	367	0.40
	Tractors/Loaders/Backhoes	2	8.0	84	0.37
	Scrapers	2	8.0	423	0.48

Construction Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Building Construction	Cranes	1	7.0	367	0.29
	Forklifts	3	8.0	82	0.20
	Generator Sets	1	8.0	84	0.74
	Tractors/Loaders/Backhoes	3	7.0	84	0.37
	Welders	1	8.0	46	0.45
Paving	Pavers	2	8.0	130	0.42
	Paving Equipment	2	8.0	132	0.36
	Rollers	2	8.0	80	0.38
Architectural Coating	Air Compressors	1	6.0	37	0.48
Off-site Improvements					
Site Preparation	Tractors/Loaders/Backhoes	1	7.0	84	0.37
	Graders	1	8.0	148	0.41
	Scrapers	1	8.0	423	0.48
Grading	Graders	1	8.0	148	0.41
	Rubber Tired Bulldozers	1	8.0	367	0.40
	Tractors/Loaders/Backhoes	2	7.0	84	0.37
Paving	Tractors/Loaders/Backhoes	1	8.0	84	0.37
	Pavers	1	6.0	130	0.42
	Paving Equipment	1	8.0	132	0.36
	Rollers	1	7.0	80	0.38
	Cement and Mortar Mixers	1	8.0	10	0.56
Source: CalEEMod Output (Appendix A).					

A summary of the construction-related vehicle trips is shown in Table 8. Based on project applicant-provided information, on-site cut and fill would balance on-site and no import nor export of soil is expected. 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 8: Construction Off-site Trips

Construction Activity	Worker (Trips per day)	Vendor (Trips per day)	Haul (Total Trips)
Project Site Construction			
Site Preparation	18	0	0

Construction Activity	Worker (Trips per day)	Vendor (Trips per day)	Haul (Total Trips)
Grading	20	0	0
Building Construction	10	3	0
Paving	15	14	2
Architectural Coating	2	0	0
Off-site Improvements			
Off-site Improvements (Site Preparation)	8	0	0
Off-site Improvements (Grading)	10	0	0
Off-site Improvements (Paving)	13	4	1
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 scrapers leveling the land, and loading or unloading dirt into haul trucks. Every project within the MDAQMD's jurisdiction is required to comply with the requirements of MDAQMD Rule 403 (Fugitive Dust) to reduce emissions of fugitive dust. A detailed list of fugitive dust control requirement is discussed in Section 2.4.2–Mojave Desert Air Quality Management District Regulation. The CalEEMod setting of "water exposed and demolished surfaces two times per day" is selected to account for compliance with some of the aforementioned requirements.

4.3.2 - Operation

The major sources of operational emissions that would occur over the long-term operations of the project are summarized below.

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 project site. The regional emissions from the proposed project's mobile sources were estimated using CalEEMod. The proposed project would primarily generate heavy heavy-duty (HHD) truck trips as a result of the diesel fueling stations and truck stops. The proposed project would also generate trips from a range of vehicles including but not limited to passenger cars, RVs, and motorcycles because the travel stop, fast-food restaurant, and 8-unit mobile home park are part of the land use. An estimate of the number of vehicle trips that the proposed project would generate is shown in Table 9, HHD trucks are modeled separately from all other type of vehicles so the air quality impacts can be evaluated. GHD INC. studied several existing operational Love's Travel Stops and summarized the number of truck trips per fueling position.[61] However, it is found that the Institute of Transportation Engineers (ITE) trip rate for the truck stop is slightly higher

[61] GHD INC. 2018. Love's Trip Generation and Travel Characteristic Study.

than that of GHD's study. Therefore, all the trip rates for proposed land uses in the following analysis are based on ITE trip generation rates, and details can be found in Appendix B.

Table 9: Vehicle Trip Generation During Operations (Daily)

Vehicle Category	Trips Per Day		
	Weekday	Saturday	Sunday
HHD Trucks	1,588	1,588	1,588
Vehicles other than HHD Trucks	6,817	7,201	6,821
Total Project Trips	8,405	8,789	8,409

Notes:
HHD = Heavy Heavy-Duty
Source: Institute of Transportation Engineers (ITE) Trip Generation Rates. Website: https://itetripgen.org/Query. Accessed June 1, 2023.

For trip length in the operational model, the vehicle trips related to the fueling stations, travel stop, fast-food restaurants are set to be 5 miles, considering the majority of the vehicles would stop by the project site for a temporary moment and would travel back to I-15, which would result in a detour of less than 5 miles. For vehicle trips associated with the 8-unit mobile home park, default trip lengths of 62.5, 9.2, 7.7 miles for home-to-work, home-to-shopping, and home-to-other trips, respectively, are utilized.

Emission factors are assigned to the expected vehicle mix as a function of vehicle age, vehicle class, speed, and fuel type. The overall operational fleet mix used to assess emissions from the proposed project is shown below in Table 10.

Table 10: Vehicle Type Classification–Individual Project Runs

CalEEMod Run	Classification	Fleet Mix Applied in Modeling
HHD Trucks	HHD	100%
Vehicles other than HHD Trucks	LDA	49.6%
	LDT1	4.4%
	LDT2	21.7%
	MDV	15.9%
	Other (including light heavy-duty trucks, medium heavy duty trucks, motorcycles, motor homes, buses etc.)	8.4%

Notes:
HHD = Heavy Heavy-Duty
LDA = Light-Duty Auto
LDT = Light-Duty Truck
MDV = Medium-Duty Vehicle
Source: Appendix B.

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 building associated with the proposed project. 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 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.

Fueling Sources

Given the proposed gas station, the analysis took into account specific emissions associated with this type of use. The primary routine emission sources at gasoline service stations are classified into five categories of loading, breathing, fueling, spillage, and hose permeation and are described in Table 11.

Table 11: Categories of Emissions at Retail Gasoline Service Stations

Emission Source	Description	Controls
Loading	Loading losses occur when Fuel Tanker Trucks make delivery to gas stations. Gasoline vapor emissions occur as gas enters the underground storage tanks.	Phase I Enhanced Vapor Recovery (EVR)
Breathing	Breathing emissions occur during periods of low activity or inactivity. Temperature changes inside the underground storage tank can cause gasoline vapor pressures to increase above pressure limit for the tank and excess pressure is released via a gas station vent pipe in the form of gasoline vapor emissions.	Phase II EVR
Fueling	Fueling emissions occur at the gas pump during vehicle fueling–gasoline vapors are emitted from the space due to a poor seal between the nozzle and the vehicle.	On-Board Refueling Vapor Recovery (ORVR) systems Phase II EVR Nozzles
Spillage	Generated from dispensing nozzle spillage of liquid gasoline during the act of vehicle fueling, including pre-fueling, fueling, and post-fueling spillage. While emissions from all other mechanisms are in the form of vapors, spillage losses are in liquid form.	Phase II EVR "Dripless" Nozzles
Hose Permeation	Emissions occur from the fueling hoses at the gas pumps. Gasoline vapors can pass through (or permeate) the fuel delivery hoses.	Low Permeation Hoses

Factors influencing emissions include annual and hourly throughput and the type of tank (above or underground) and the vapor controls on the underground gasoline storage tanks and during vehicle fueling. Emissions also depend on the percentage of vehicles fueling at the station that are equipped with On-Board Refueling Vapor Recovery (ORVR) systems. Modern retail gas stations, such as the proposed project, almost exclusively use underground storage tank designs with ARB certified Phase I and Phase II Enhanced Vapor Recovery (EVR) Systems. The percentage of ORVR is not a feature of gas stations but of the vehicle fleet in California. ORVR systems were required in automobiles manufactured in model year 2000 and after and represent the majority, but not all, of vehicles at retail service stations. It has been projected for year 2018 that 83 percent of gasoline was dispensed to vehicles with ORVR installed, and the remaining 17 percent gasoline was dispensed to cars without ORVR and with fueling losses controlled by Phase II EVR Nozzles.[62]

Transport Refrigeration Units

In order to determine the GHG emissions of these TRUs while they operated on the project site, off-model calculations estimated the tons per year per TRU that would be generated. The calculations, shown in Appendix B, used EMFAC2021 emissions inventory data, and the DPM emissions of non-plug-in capable TRUs are calculated off-model and included in Appendix B.

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.

Refrigerants

During operation, there may be leakages of refrigerants (hydrofluorocarbons) from air conditioners and any refrigeration systems. Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. The proposed project does not include a cold storage facility but would utilize refrigerators as part of the travel center. Additionally, the vehicles that access the proposed project would use air conditioning systems that may leak refrigerants. The GHG emissions of the refrigerants are estimated in CalEEMod and details can be found in Appendix B.

[62] California Air Resources Board (ARB). 2013. Attachment 1–Revised Emission Factors for Phase II Vehicle Fueling at California Gas Dispensing Facilities. Website: https://ww2.arb.ca.gov/gasoline-dispensing-facility-emission-factors. Accessed May 6, 2023.

Vegetation

The project site is currently undeveloped and contains some small amounts of desert vegetation. Therefore, there is currently a small amount of carbon sequestration occurring on-site. The project applicant proposes to integrate landscaping into the project design, which would provide carbon sequestration. However, the number of vegetation to be planted is unknown and data is 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 due to the proposed project would be balanced; therefore, emissions due to carbon sequestration were not included.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 5: 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 MDAQMD CEQA and Federal Conformity Guidelines, which set forth recommended thresholds of significance and analysis methodologies and provides guidance on mitigating significant impacts.

5.1 - 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 MDAQMD 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.

5.1.1 - 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 a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

c) Expose sensitive receptors to substantial pollutant concentrations.

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 MDAQMD 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 project should be considered to have significant air quality impacts. The applicable MDAQMD thresholds and methodologies are contained under each impact statement below.

5.2 - Impact Analysis

5.2.1 - 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

According to the MDAQMD's CEQA and Federal Conformity Guidelines,[63] a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast.

Air Quality Plan Conformance

As detailed in Impact AIR-2, below, construction and operation of the proposed project would not exceed MDAQMD thresholds of significance for cumulative regional pollutant emissions. Since the proposed project's emissions do not exceed the MDAQMD thresholds for VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$, it follows that the proposed 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. Therefore, the proposed project would not conflict with or delays implementation of any MDAQMD attainment or maintenance plan.

The proposed project is required to comply with all applicable MDAQMD rules and regulations, such as Rule 401 (Visible Emissions) and Rule 403 (Fugitive Dust Control). Furthermore, as discussed in Section 1.2.3, General Plan and Zoning, the proposed project is consistent with the land use and zoning designations of the site. Based on these considerations, project impacts related to air quality plans would be less than significant.

Control Measures

MDAQMD plans control measures, which are enforceable requirements through the adoption of rules and regulations. No new local control measures were required to demonstrate attainment of the federal air quality standards. Regulations committed to by the ARB were found to be sufficient for the MDAB to reach attainment. A description of rules and regulations that apply to this project is provided under Regulatory Setting, Section 2.2, above. The project would comply with all of the MDAQMD's applicable rules and regulations, and the vehicles and equipment operating in the County would be subject to the applicable ARB regulations. Therefore, the proposed project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan. In addition, the Countywide Plan includes policies that will help reduce the impacts of growth projected for the County as listed in Section 2.4.3.

[63] Mojave Desert Air District. 2020. CEQA and Federal Conformity Guidelines. February. Website: https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/638126583450270000. Accessed May 30, 2023.

Summary

As detailed above, project impacts related to consistency with air quality plans would be less than significant.

Level of Significance

Less than significant impact.

5.2.2 - 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). The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.**

Impact Analysis

Air pollutant emissions can have both regional effects and localized effects. Regional effects are cumulative in nature and result from the combined effect of existing and new sources of emissions throughout the region. No individual project is likely to cause a regional air quality violation. Therefore, regional effects for criteria pollutants are measured in terms of their contribution to an existing or projected violation of a State or federal air quality standard. The MDAQMD has adopted quantitative thresholds that serve as a cumulative contribution threshold for this purpose. Individual projects can result in localized emissions that expose nearby sensitive receptors to pollution levels that violate standards or that contribute substantially to an existing condition where receptors already are exposed to air quality that exceeds standards. This impact analysis addresses both situations.

This impact is related to the cumulative effect of a project's regional criteria pollutant emissions. As described above, the region is currently nonattainment for ozone, PM_{10}, and $PM_{2.5}$. 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 is a result of past and present development within the air basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed project) within the air basin 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 taken 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 MDAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the MDAQMD significance thresholds would be considered consistent with regional air quality planning efforts and 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.

Based on applicant-provided information, project construction would be completed in a single phase. To estimate emissions, construction was modeled beginning in January 2025 and concluding in December 2025. The proposed project is expected to be operational in early 2026. The proposed travel stop, 8-unit mobile home park, and frontage construction would be completed in one phase. 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 4, Modeling Parameters and Assumptions.

Table 12 presents the proposed project's average daily construction emissions during the entire construction duration. Complete CalEEMod output files are included as part of Appendix A.

Table 12: Unmitigated Construction–Average Daily Emissions by Construction Year

Construction Phase	Regional Pollutant Emissions (lbs)					
	VOC	NO_X	CO	SO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
2025 Frontage Construction	21.07	153.02	180.04	0.31	25.87	13.81
2025 Site Preparation	33.89	317.40	312.70	0.49	92.60	52.49
2025 Grading	103	918	1,021	2.06	154.64	80.59
2025 Building Construction	251	2,186	2,448	4.71	112.23	87.67
2025 Coating	274.70	8.94	12.64	0.02	0.53	0.31
2025 Paving	79.65	479.40	790.50	1.36	40.00	25.12
Total Emission (lbs) during construction	763	4,063	4,765	9	426	260
Average Daily Emissions (lbs/day)[1]	**3.05**	**16.25**	**19.06**	**0.04**	**1.70**	**1.04**
MDAQMD Significance Threshold (lbs/day)[1]	**137**	**137**	**548**	**137**	**82**	**65**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
lb = pounds
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
SO_X = sulfur oxides
VOC = volatile organic compound
[1] Average daily emissions equal total emissions divided by working days, which is 250 days for the proposed project.
[2] Mojave Desert Air Quality Management District (MDAQMD) California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. 2020. Website: https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/637406182097070000
Source of Table: Appendix A.

As shown in above in Table 12, the proposed project's construction emissions would not exceed any MDAQMD significance threshold. Therefore, the proposed project would not have a potentially significant impact related to air quality during project construction. The cumulative impact from construction of the proposed project would be less than significant.

Cumulative Operational Emissions

Following project construction, long-term operational emissions would be generated, resulting from daily operations. Operational emissions for land use development projects are typically distinguished as mobile-, area-, and energy-source emissions. The proposed project is expected to be operational in early 2026. Mobile source emissions are those associated with automobiles that would travel to and from the project site. Assumptions used to estimate mobile source emissions that would be generated by the proposed project were consistent with those presented in the project-specific traffic study. The proposed project was estimated to generate 7,202 average daily passenger vehicle trips and 1,588 average daily truck trips during the operational period. Area-source emissions are

those associated with natural gas combustion for space and water heating, landscape maintenance activities, and periodic architectural coatings. Energy-source emissions are those associated with electricity consumption and are more pertinent for GHG emissions than air quality pollutants. Table 13 presents the proposed project's average daily operational emissions and compares them to the applicable thresholds of significance.

Table 13: Operational Regional Pollutants

Operational Activity	Regional Pollutant Emissions (pounds)[1]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	1,252	21	1,416	2	171	170
Energy	3.2	57.0	42.9	0.3	4.4	4.4
Mobile—HHD Trucks	655	18,919	8,824	101	1,571	525
Mobile—Vehicles other than HHD Trucks	9,658	5,404	49,707	96	3,558	674
Annual Operational Emissions	11,569	24,401	59,990	199	5,304	1,374
Average Daily Emissions (lbs/day) [1]	**31.7**	**66.9**	**164.4**	**0.5**	**14.5**	**3.8**
MDAQMD Significance Threshold[2]	**137**	**137**	**548**	**137**	**82**	**65**
Exceed 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
SO_X = sulfur oxides
VOC = volatile organic compound
[1] Emissions shown represent the average daily operational emissions based on total emissions divided by 365 days in a year.
[2] Source: MDAQMD CEQA Guidelines. February 2020. Website: https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/637406182097070000
Source of Table: Appendix A.

As shown in Table 13, the proposed project's regional daily operational emissions would not exceed any of the MDAQMD thresholds of significance. Therefore, the proposed project would have less than significant impact related to air quality during project operation. The cumulative impact from construction of the project would be less than significant.

Level of Significance

Less than significant impact.

5.2.3 - 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 illness. For purposes of CEQA, the MDAQMD considers a sensitive receptor to be residences, schools, daycare centers, playgrounds, and medical facilities.[64] Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours. 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 purpose of analyzing construction impacts to sensitive receptors, the closest off-site sensitive receptor is a mobile home park located approximately 65 feet north of the project site. Additionally, the proposed project includes a mobile home park that will have residents during project operation, and these residents will constitute the nearest sensitive receptors for the purposes of health risk analysis during operation. Accordingly, this analysis evaluates operational emission impacts to the on-site mobile home park residents.

Toxic Air Contaminants

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The MDAQMD requires that sensitive receptors' exposure to substantial pollutant concentrations, including those resulting in a cancer risk no greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) no greater than or equal to 1.

Construction 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 MDAQMD 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 MDAQMD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 10 in 1 million. The principal TAC emission analyzed in this assessment was DPM from operation of off-road equipment and diesel-powered heavy-duty 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}. 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

[64] Mojave Desert Air Quality Management District (MDAQMD). February 2020. Website: https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/637406182097070000.

$PM_{2.5}$ would be controlled through the use of required dust control practices during project construction.

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 cancer potency factor (CPF). A risk level of 10 in a million implies a likelihood (or risk) that up to 10 persons out of one 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 TACs.

The Office of Environmental Health Hazard Assessment (OEHHA) has developed guidance for estimating cancer risks that considers the increased sensitivity of infants and adults to TAC emissions, different breathing rates, and time spent at home. This guidance was applied in estimating cancer risks from the construction and operation of the proposed project.

The recommended method for the estimation of cancer risk is shown in the equations.

$$\text{Cancer Risk} = C_{DPM} \times \text{Inhalation Exposure Factor} \quad \text{(EQ-1)}$$

Where:

Cancer Risk = Total individual excess cancer risk defined as the cancer risk a hypothetical individual faces if exposed to carcinogenic emissions from a particular source for specified exposure durations; this risk is defined as an excess risk because it is above and beyond the background cancer risk to the population; cancer risk is expressed in terms of risk per million exposed individuals.

C_{DPM} = Period average DPM air concentration calculated from the air dispersion model in $\mu g/m^3$

Inhalation is the most important exposure pathway to impact human health from DPM and the inhalation exposure factor is defined as follows:

$$\text{Inhalation Exposure Factor} = CPF \times EF \times ED \times DBR \times AAF/AT \quad \text{(EQ-2)}$$

Where:

CPF = Inhalation cancer potency factor for the TAC: 1.1 $(mg/kg\text{-}day)^{-1}$ for DPM

EF = Exposure frequency (days/year)
ED = Exposure duration (years of construction)
AAF = set of age-specific adjustment factors that include age sensitivity factors (ASF), daily breathing rates (DBR), and time at home factors (TAH)
AT = Averaging time period over which exposure is averaged (days)

Estimation of Chronic Non-Cancer Hazards

An evaluation of potential non-cancer effects of chronic chemical exposures was also conducted. Adverse health effects are evaluated by comparing the annual receptor concentration of each chemical compound with the appropriate Reference Exposure Level (REL). Available RELs promulgated by OEHHA were considered in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as an HI. The HI is a ratio of the predicted concentration of a project's emissions to a concentration considered acceptable to public health professionals, termed the REL.

To quantify non-carcinogenic impacts, the HI approach was used.

$$HI=C_{ann}/REL \quad \text{(EQ-3)}$$

Where:

HI = chronic hazard index
C_{ann} = annual average concentration of TAC as derived from the air dispersion model ($\mu g/m^3$)
REL = reference exposure level above which a significant impact is assumed to occur ($\mu g/m^3$)

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 summed. Where the total equals or exceeds 1, a health hazard is presumed to exist. OEHHA has defined a REL for DPM of 5 $\mu g/m^3$. 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 Health Risk Assessment (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 American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 22112 which is an air dispersion model accepted by the EPA and MDAQMD for preparing HRAs. Exhaust emissions of DPM (as PM_{10} exhaust) were estimated using CalEEMod Version 2022.1.

The estimated health and hazard impacts at the Maximally Impacted Sensitive Receptor (MIR) from the project's construction emissions are provided in Table 14. The MIR was determined to be a building (approximate location 35.277055, -116.058118) located 280 feet northwest of the project site.

Table 14: Estimated Health Risks and Hazards During Project Construction at the Maximum Impacted Receptor

Source	Cancer Risk (risk per million)	Chronic Non-Cancer HI[1]
Unmitigated Risk and Hazards	2.1	0.002
Significance Threshold	**10**	**1**
Exceeds Individual Source Threshold?	**No**	**No**

Notes:
MIR = Maximally Impacted Sensitive Receptor
[1] Chronic non-cancer HI was estimated by dividing the maximum annual DPM concentration (as PM_{10} exhaust) by the REL of 5 $\mu g/m^3$.
[2] Risk is based on Infant Exposure starting in Third Trimester and over the construction period.
Source: Appendix B.
The MIR is a building (approximate location 35.277055, -116.058118) located 280 feet northwest of the project site.

As noted in Table 14, the proposed project's construction DPM emissions would not exceed the cancer risk significance threshold or non-cancer HI significance threshold at the MIR. Therefore, the proposed project would not result in a significant impact on nearby sensitive receptors from TACs during construction.

Toxic Air Contaminant–DPM and Benzene Operational Analysis

The proposed project would primarily generate HHD truck trips as a result of the diesel fueling stations and truck stops. The proposed project would also generate trips from a range of vehicles including but not limited to passenger cars, RVs, and motorcycles because the travel stop, fast-food restaurant, and 8-unit mobile home park are part of the land use.

Since the proposed project is closely located to two mobile home parks during operation, an operational HRA was performed and health risks from operation of the facility, including DPM emissions from trucks and benzene emissions from the proposed gasoline fueling station (16 gas fueling positions), were assessed. Operational emissions for the proposed project were assessed assuming the first year of operations would occur in 2026. Operational emissions calculated for the year 2026 were applied for the full 30-year operational period; as emission are expected to decrease in future years for the same activity, this methodology presents a conservative estimate of TACs and associated health risk impacts. Operational emissions were estimated assuming adherence to all applicable rules, regulations, and incorporation of identified project design features. Detailed parameters, a description of methodology, and complete calculations are contained in Appendix A and B.

The main source of DPM from the long-term operations of the proposed project is from combustion of diesel fuel in diesel-powered engines in heavy-duty trucks that access the site. Motor vehicle emissions refer to DPM exhaust emissions from the motor vehicle traffic that would travel to and from the project site each day. An estimate of the number of vehicle trips associated with proposed project was provided in the project-specific traffic analysis and ITE trip generation rates, included in Table 9, which shows the proposed project would generate 1,588 truck trips per day. The trucks

would mainly access the proposed project for diesel fuel and rest as a temporary stop, and the detour from I-15 to the proposed project and then back to I-15 is less than 5 miles as shown on Google Maps. The trucks would normally drive at a lower speed (around 5 miles per hour) and potentially idle for a longer period of time within the proposed project, which would generate higher localized emissions rates than when the trucks are cruising at a higher speed. The truck emissions within 1,000 feet of the project site, as well as low-speed truck driving, truck idling, and potential TRU operations within the project site, are considered in the operational HRA and details are included in Appendix B.

For gasoline dispensing facilities, benzene, naphthalene, and ethylbenzene are the TACs of concern with cancer toxicity values. Benzene accounts for nearly 85 percent of cancer risk from gasoline. According to the California Air Pollution Control Officers Association (CAPCOA), not until the benzene emissions are three orders of magnitude above the rate of an increase of 20 per million cancer risk do the emissions of xylene begin to cause acute adverse health effects.[65]

Since the proposed project would be closely located to two mobile home parks during operation, an operational HRA was performed and health risks from operation of the facility, including DPM emissions from trucks, were assessed. Operational emissions for the proposed project were assessed assuming the first year of operations would occur in 2026. The emission factors, AERMOD Output, emission estimation spreadsheets, and HARP2[66] files used to estimate motor vehicle DPM emissions during project operations are provided in Appendix B.

The parameters for long-term chronic cancer risk during project operations are summarized below. Air dispersion modeling was utilized to assess the proposed project's potential health risks using AERMOD. Exhaust emissions of DPM (as PM_{10} exhaust) were estimated using EMFAC2021. Air dispersion model AERMOD was utilized to estimate the TAC concentrations. The OEHHA-recommended values for the various cancer risk parameters used in the operational HRA are provided below in Table 15. The methodology and parameters are summarized in Section 4, Modeling Parameters and Assumptions. Detailed calculations are provided in Appendix A and B.

Table 15: Exposure Assumptions for Cancer Risk

Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors	Time at Home Factor (%)	Daily Breathing Rate[1] (l/kg-day)
	Hours/day	Days/year				
Sensitive/Residential—Infant (Third Trimester)						
Third Trimester	24	350	0.25	10	1	361
0–2 years	24	350	2	10	1	1,090
Sensitive Receptor—Child						
>2–16 years	24	350	14	3	1	745

[65] Toxics Committee of the California Air Pollution Control Officers Association (CAPCOA). 1997. Gasoline Service Station Industrywide Risk Assessment Guidelines.

[66] HARP2 is ARB's updated Hotspots Analysis and Reporting Program (HARP).

Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors	Time at Home Factor (%)	Daily Breathing Rate[1] (l/kg-day)
	Hours/day	Days/year				
Sensitive Receptor—Adult						
> 16 to 30 years	24	350	14	1	1	335
> 30 years	24	350	0	1	1	290

Notes:
(l/kg-day) = liters per kilogram body weight per day
[1] The daily breathing rates for sensitive/residential receptors assume the 95th percentile breathing rates for all individuals.
Source: California Air Resources Board. 2023. HARP Air Dispersion Modeling and Risk Tool. Website: https://ww2.arb.ca.gov/resources/documents/harp-air-dispersion-modeling-and-risk-tool.

An operational HRA was performed to calculate the cancer health risks and the non-hazard indices for sensitive receptors within approximately 1,000 feet of the project boundary. The results of this unmitigated risks and hazards are summarized in Table 16.

Table 16: Summary of Health Risk Impacts from Project Operations (30-Year Exposure)

Health Impact Metric	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index	Acute Hazard Index
Existing Off-site Sensitive Receptors			
Unmitigated Risks and Hazards at Highest Off-site Sensitive Receptor (from DPM)	8.85	0.0020	0.0000
Unmitigated Risks and Hazards at the Highest Off-site Sensitive Receptor over 30-year exposure (from Benzene)	0.09	0.0005	0.0548[2]
Total Unmitigated Risks and Hazards at the Highest Off-site Sensitive Receptor	**8.94**	**0.0025**	**0.0548[2]**
Applicable Significance Threshold	10	1	1
Exceeds Threshold before Mitigation?	No	No	No
Proposed On-site Sensitive Receptors			
Unmitigated Risks and Hazards at the MIR[1] over 30-year exposure (from DPM)	15.72	0.0036	0.0000
Unmitigated Risks and Hazards at the MIR[1] over 30-year exposure (from Benzene)	0.31	0.0019	0.0548[2]
Total Unmitigated Risks and Hazards at the On-site MIR[1]	**16.03**	**0.0055**	**0.0548[2]**
Total Mitigated Risks and Hazards at the On-site MIR[1] after MM AIR-1[3]	**2.67**	**0.0055**	**0.0548[2]**
Applicable Significance Threshold	10	1	1
Exceeds Threshold before Mitigation?	Yes	No	No
Exceeds Threshold after Mitigation?	No	No	No

Health Impact Metric	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index	Acute Hazard Index
Notes: DPM = diesel particulate matter HI = hazard index MIR = Maximally Impacted Sensitive Receptor [1] The MIR during the operational period was determined to be a future mobile home at location of 35.27803, -116.05547. [2] Receptors for the acute HI include worker receptors and other receptors that could be exposed to project operations for at least one (1) hour. [3] MM AIR-3 only reduces cancer risks from DPM at proposed on-site sensitive receptors. Total mitigated cancer risk: 2.36 from DPM plus 0.31 from benzene equals 2.67 risk per million. Source: Appendix B			

The maximum cancer risks at the MIR over a 30-year operational exposure duration would be 15.7 in one million at a future mobile home on the project site (approximate location 35.27803, -116.05547), which is over the threshold of 10 in one million required by MDAQMD. As a result, MM AIR-3 is required to ensure that future on-site residents are not exposed to unacceptable annual PM_{10} concentrations. MM AIR-3 would ensure that the future residences be equipped with heating, ventilation, and air conditioning (HVAC) units with a Minimum Efficiency Reporting Value (MERV) of at least 13, which is also required for new low-rise residential developments under Title 24, Part 6, Subchapter 7, Section 150.0.[67] The required filtration system for the proposed project would need to demonstrate at least an 85 percent reduction in particulates originating from outdoors ranging from 1.0 to 3.0 microns per cubic meter ($\mu g/m^3$). Assuming an 85 percent reduction in the annual PM_{10} concentration presented in Table 16, the application of a MERV 13 or better air filtration system would result a reduced cancer risk of an estimated 2.36 per million from DPM (total cancer risk of 2.67 risk per million with risks from benzene included).

It should be noted that MM AIR-3 only applies to future residences proposed as part of the project and would not reduce health risks at off-site locations. As shown in Table 16, after mitigation, the health risks and HI are below the MDAQMD's thresholds of significance. Therefore, with MM AIR-3, the proposed project's operation would not expose sensitive receptors to substantial pollutant concentrations.

Cumulative Toxic Air Contaminant Operational Analysis

The MDAQMD CEQA Guidelines do not mention cumulative health risks. Based on MDAQMD guidance applied in this analysis, projects that exceed project-specific significance thresholds would be cumulatively considerable. Conversely, projects that do not exceed project-specific thresholds are generally not considered cumulatively significant. As discussed in detail above, the proposed project would not expose sensitive receptors to substantial pollutant concentrations at the project level.

[67] 2022 California Energy Code. Title 24, Part 6 with Jan 2023 Errata. Website: https://codes.iccsafe.org/content/CAEC2022P2/subchapter-7-single-family-residential-buildings-mandatory-features-and-devices. Accessed June 8, 2023.

Since the proposed project would not exceed project-specific thresholds, it would not be considered to result in cumulatively significant impacts.

Exposure to Naturally Occurring Asbestos and Valley Fever

As discussed in more detail in Section 2.2.4, exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. Review of the Department of Conservation maps indicates that the project site and San Bernardino County do not have reported historic asbestos mines, historic asbestos prospects, and other natural occurrences of asbestos.[68] Therefore, impacts associated with the proposed project's potential to expose sensitive receptors to naturally occurring asbestos are less than significant.

The project site would have a low probability of *C. Immitis* (Valley Fever) growth on-site or exposure from disturbed soil. Compliance with dust control regulations would further reduce the potential to expose sensitive receptors to Valley Fever during construction. During operations, the project site would be built up and would not provide a conducive environment for Valley Fever. Therefore, impacts associated with the proposed project's potential to expose sensitive receptors to Valley Fever are less than significant. No further analysis is needed.

Summary

As detailed above, the proposed project would potentially expose sensitive receptors to substantial pollutant concentrations. However, with MM AIR-1 implemented, the impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

MM AIR-3 Implement Indoor PM_{10} and $PM_{2.5}$ Reduction Measures

To demonstrate compliance with Mojave Desert Air Quality Management District (MDAQMD) threshold of health risk assessment, the project applicant shall provide the City with documentation, prior to the issuance of grading or building permits, demonstrating that new residences (including new mobile homes) included as part of the project would install indoor air filtration systems with a Minimum Efficiency Reporting Value (MERV) of 13 or better to ensure that future residents do not experience a cancer risk exceeding 10 in one million.

To ensure long-term maintenance and replacement of the MERV filters in the individual units, the following shall occur:

- Developer, sale, and/or rental representative shall provide notification to all affected tenants/residents of the potential health risk for affected units.

[68] 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. August. Website: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf. Accessed May 10, 2023.

- For rental units, the owner/property manager shall maintain and replace MERV filters in accordance with the manufacturer's recommendations. The property owner shall inform renters of increased risk of exposure to toxic air contaminants (TACs) when windows are open.
- For residential owned units, the Homeowner's Association (HOA) or Mobile Home Park Management shall incorporate requirements for long-term maintenance in the Covenant Conditions and Restrictions and inform homeowners of their responsibility to maintain the MERV filter in accordance with the manufacturer's recommendations. The HOA or Mobile Home Park Management shall inform homeowners of increased risk of exposure to TACs when windows are open.
- For residential units, air intake vents shall be located on the side of the building opposite to the gas station included as part of the project, as feasible.
- For residential units located, the buildings shall be designed to limit the use of operable windows facing the gas station included as part of the project.

Level of Significance After Mitigation

Less than significant impact.

5.2.4 - 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

Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, schools, etc., warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor.

Odors can cause a variety of responses. The impact of an odor is dependent on interacting factors such as frequency (how often), intensity (strength), duration (in time), offensiveness (unpleasantness), location, and sensory perception. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

The MDAQMD does not provide a suggested screening distance for a variety of odor-generating land uses and operations. However, the San Joaquin Valley Air Pollution Control District (Valley Air District) does have a screening distance for odor sources. Those distances are used as a guide to assess whether nearby facilities could be sources of significant odors. Projects that would site a new sensitive receptor farther than the applicable screening distances from an existing odor source would not likely have a significant impact. The MDAQMD considers residences, schools, daycare centers, playgrounds, and medical facilities as sensitive receptor land uses. Currently, the closest sensitive receptor is the mobile

home park located on the adjoining property north of the site. Once the proposed project (and mobile home park) is operational, the residents at the mobile home park would also be considered as sensitive receptors.

These screening distances by type of odor generator are listed in Table 17.

Table 17: Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: Source: San Joaquin Valley Air Pollution Control District (Valley Air District). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed May 23, 2023.	

Construction-Related Odors

Potential sources that may emit odors during construction activities include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions, the intermittent nature of construction activities, and the highly diffusive properties of diesel PM exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Operational-Related Odors

The proposed project includes the construction and development of a truck stop and a mobile home park. A dump station for the RVs will be located on the site. However, the dump station directly leads to an underground sewer drain and would not lead to objectionable odors. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feedlots, coffee roasters, asphalt batch plants,

and rendering plants. The proposed project would not produce any offensive odor emitting end uses such as coffee roasting, composting, feed lots, refining, sewage treatment, or solid waste management and would not be considered an odor generator as identified in Table 17. Therefore, the proposed project would not be a generator of objectionable odors during operations. Minor sources of odors, such as exhaust from mobile sources, are not typically associated with numerous odor complaints but are known to have temporary and less concentrated odors. In summary, the proposed project's long-term operational activities would not have any substantial odor sources that would expose nearby receptors. Considering the low intensity of potential odor emissions, the proposed project's operational activities would not expose receptors to objectionable odor emissions.

Level of Significance

Less than significant impact.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

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 GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the proposed project 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.

6.1.1 - Thresholds of Significance for the Proposed Project

Section 15064.4(b) of the CEQA Guidelines' 2018 amendments 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 No. 1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration No. 2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration No. 3**: The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. 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.

County GHG Thresholds

The proposed project's generation of GHG emissions are compared to the San Bernardino County interim screening level numeric bright-line threshold of 3,000 MT of CO_2e annually. Small projects that do not exceed 3,000 MT CO_2e per year will be considered to be consistent with the GHG Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. Projects that exceed 3,000 MT CO_2e per year are required to achieve either a minimum 100 points per the Screening Tables or a 31 percent reduction over 2007 emissions levels.

6.2 - Impact Analysis

6.2.1 - Greenhouse Gas Inventory

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

Impact Analysis

Construction

The proposed project would generate GHG emissions during construction activities, resulting from emission sources such as construction equipment, haul trucks, and construction worker vehicles. Although these emissions would be temporary and short-term in nature, they could represent a substantial contribution of GHG emissions. Construction emissions were modeled using CalEEMod Version 2022.1. Table 18, below, shows the annual construction GHG emissions.

Table 18: Proposed Project Construction GHG Emissions

Construction Activity	Total GHG Emissions (MT CO_2e per year)
Frontage Construction	16
Site Preparation	25
Grading	105
Building Construction	215
Paving	75
Architectural Coating	1
Total Construction Emissions	**437**
Emissions Amortized Over 30 Years[1]	**15**

Notes:
GHG = greenhouse gas
MT $C0_2e$ = 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.

As shown above, the proposed project would generate approximately 437 MT CO_2e during construction.

Operation

Operational or long-term emissions occur over the life of the project. Project operations were modeled for the 2026 operational year, immediately following the completion of construction. Sources for operational emissions are summarized below and are described in more detail in Section 4, Modeling Parameters and Assumptions. The project applicant indicated that the proposed project would be all-electric for now due to no access to natural gas sources. However, it does not exclude future connection to natural gas, and natural gas estimation remains in the modeling results for informational disclosure. 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.
- **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.
- **Refrigerants:** These emissions refer to leakages of refrigerants (hydrofluorocarbons) from air conditioners and any refrigeration systems. Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs.

Table 19 presents the estimated annual GHG emissions from the proposed project's operational activities. As shown in Table 19, the proposed project would generate approximately 10,172 MT CO_2e per year after the inclusion of amortized 15 MT CO_2e per year from project construction.

Table 19: Operational Greenhouse Gas Emissions

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Area	12
Energy	237
Water	11
Waste	14
Refrigerant	330

GHG Emissions Source	GHG Emissions (MT CO_2e per year)
Mobile–HHD	5,059
Mobile–vehicles other than HHD	4,493
Amortized Construction Emissions	15
Total Annual Project Emissions	**10,172**
County Threshold	**3,000**
Exceed County Threshold?	**Yes**

Notes:
Energy includes natural gas and electricity emissions
MT CO_2e = metric tons carbon dioxide equivalent
Source: Appendix A.
Source: San Bernardino County. 2021. County of San Bernardino Greenhouse Gas Emissions Development Review Process Screening Tables. September. Website: http://www.sbcounty.gov/uploads/LUS/GreenhouseGas/GHG_2021/GHG%20Revised%20Screening%20Tables%20-%20Adopted%209-20-2021.pdf. Accessed May 31, 2023.

As shown in Table 18 and Table 19, the proposed project's construction and operational GHG emissions would be 10,172 MT CO_2e per year and would exceed the screening threshold of 3,000 MT CO_2e per year. The proposed project must then achieve a minimum of 100 points per the Screening Tables provided within the GHG Plan by incorporating certain construction or design measures in order to reduce GHG impacts to less than significant levels. The pertinent Screening Tables are included as part of Appendix C. The proposed project's construction, design, and equipment were compared to measures detailed in the Screening Table. Multiple features from the construction and operation of the proposed project were identified as measures contained in the Screening Table, including, but not limited to, the proposed project's implementation of very high efficiency lighting, all-electric buildings, water-efficient fixtures, and EV charging facilities. Overall, the proposed project would score 103 points in the County's GHG Screening Table and would therefore be above the minimum number of points required to maintain GHG impacts at less than significant levels. As such, the proposed project would have a less than significant impact related to GHG emissions.

Level of Significance

Less than significant impact.

6.2.2 - 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

This impact is addressed by assessing the proposed project's consistency with the ARB's adopted 2017 Scoping Plan Update, 2022 Scoping Plan Update, and the County's GHG Plan. This would be achieved with an assessment of the proposed project's compliance with applicable Scoping Plan measures and CAP measures as addressed below.

Senate Bill 32 2017 Scoping Plan Update

The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. Table 20 provides an analysis of the proposed project's consistency with the 2017 Scoping Plan Update measures. As shown in Table 20, many of the measures are not applicable to the proposed project, while the proposed project is consistent with strategies that are applicable.

Table 20: Consistency with SB 32 2017 Scoping Plan Update

2017 Scoping Plan Update Reduction Measure	Project Consistency
SB 350 50 percent Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030.	**Not applicable.** This measure would apply to utilities and not to individual development projects. The proposed project would purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	**Not applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. The proposed project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Not applicable.** This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the project site would benefit from the standards.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario). Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent.** The proposed project includes a travel stop and mobile home park and would generate truck trips in the form of truck deliveries as trucks passing through the area that would visit the travel center for fuel, food, and other amenities. It is expected that truck trips throughout the State would be made with an increasing number of ZEV trucks, including trips that would be coming to and from the project site.
Sustainable Freight Action Plan. The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero-emission operation and maximizing near-zero-emission freight vehicles and equipment powered by renewable energy by 2030.	**Not applicable.** This measure applies to owners and operators of trucks and freight operations. The proposed project includes a travel stop and mobile home park and does not include truck or freight operations. The majority of heavy-duty trucks that would be accessing the project site would be passing through the area and would use the site as a rest area and as a place for fuel, food, and other amenities. These trucks would not be owned or operated by the project.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent.** The proposed project would not include major sources of black carbon. This measure revolves around ARB's SLCP Reduction Strategy that was released in April 2016 as a result of SB 650. SB 650 required the State to develop a strategy to reduce emissions of SLCPs. DPM reductions have come from

2017 Scoping Plan Update Reduction Measure	Project Consistency
	strong efforts to reduce on-road vehicle emissions. Car and truck engines used to be the largest sources of anthropogenic black carbon emissions in California, but the State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years. These policies are based on existing technologies.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita VMT.	**Not applicable.** The proposed project does not include the development of a Regional Transportation Plan.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Not applicable.** The proposed project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the proposed project. However, the post-2020 Cap-and-Trade Program indirectly affects people and entities who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, State, and local levels, stakeholders, and the public to develop measures as outlined in the Scoping Plan Update and the Governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not applicable**. The proposed project would not conflict with ARB's efforts to develop measures to cultivate net carbon sequestration in natural and working lands.
Source: California Air Resource Board (ARB). 2017. California's 2017 Climate Change Scoping Plan. November. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed May 29, 2023.	

2022 ARB Scoping Plan

As explained earlier, the 2022 Scoping Plan addresses the recent signing of AB 1279, which codified Executive Order B-55-18's target for California to achieve and maintain carbon net neutrality by 2045 (equivalent to a reduction in Statewide anthropogenic GHG emissions of 85 percent below 1990 levels). The 2022 Scoping Plan establishes a scenario by which the State may achieve this goal by 2045 or earlier.

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.
- The second approach involves determining whether a project would result in net-zero GHG emissions.
- The third approach involves assessing a project's consistency with key project attributes that have been demonstrated to reduce operational GHG emissions while advancing fair housing.

In other words, the 2022 Scoping Plan considers these approaches to evaluate whether a project may have a less than significant impact on GHG emissions. An evaluation of the project's consistency with the Scoping Plan serves as a roadmap for evaluating a project's current design and to determine whether it complies with current policies and planned reduction measures for GHG emissions. The comparison of a project design to Scoping Plan proposals is not by itself a metric for determining project-level significance but a step in showing how the project supports current regulations and is aligned with future GHG reduction strategies in development stages.

Table 21 evaluates the proposed project's consistency with the 2022 Scoping Plan.

Table 21: Consistency with 2022 Scoping Plan

Scoping Plan Measure	Project Consistency
Deploy ZEVs and reduce driving demand. Passenger Vehicles. This scoping measure calls for a reduction in VMT per capita reduction of 12 percent below 2019 levels by 2030 and 22 percent below 2019 levels by 2045. It is further achieved via benefits from Light-Duty Vehicle (LDV) Fuel Economy Standards: Advanced Clean Cars I GHG standards for 2017–2025 model years, 2 percent annual fuel economy improvement for 2026-2035. Executive Order N79-20: 100 percent of LDV sales are ZEV by 2035 will contribute to an increase in ZEVs for employees of the projects.	**Not applicable:** The proposed project is a travel stop and mobile home park and does not control the fuel economy standard or type of the vehicles that visit the site.
Deploy ZEVs. Medium-Heavy and Heavy Heavy-Duty Trucks. This measure is supported by Executive Order N79-20 and plans in the AB 74 ITS Report: 100% of MD/HDV sales are ZEV by 2040. It does not depend on VMT reductions from the freight and truck transportation sector.	**Not applicable:** The proposed project is a travel stop and mobile home park and does not control the fuel economy standard or type of the vehicles that visit the site.
Coordinate supply of liquid fossil fuels with declining CA fuel demand. This measure involves the phase out oil and gas extraction operations by 2045 as well as CCS on majority of petroleum refining operations by	**Not Applicable.** The proposed project is not related to the petroleum industry.

Scoping Plan Measure	Project Consistency
2030 Interim goals are to reduce petroleum production reduced in line with its demand.	
Generate clean electricity. Electric sector GHG target of 38 MMT CO_2e in 2030 and 31 MMT CO_2e7 in 2045. This GHG target is determined to meet the loads associated with the scenario and corresponds to meeting the 2021 SB 100 Joint Agency Report's 100 percent of retail sales with eligible renewable and zero-carbon resources definition.	**Not Applicable**. The proposed project will benefit indirectly from these goals, however, there are no actions related to the proposed project itself because this measure would apply to passenger vehicle producers.
Decarbonize industrial energy supply. Phase out oil and gas extraction operations by 2045. Carbon Capture and Sequestration (CCS) on majority of petroleum refining operations by 2030. Production reduced in line with petroleum demand.	**Not Applicable**. This requirement is applicable to oil and gas production facilities.
Decarbonize buildings. The proposed scenario AB 197 modeling is based on all electric appliances beginning 2026 (residential) and 2029 (commercial). This measure aligns with 2019 Integrated Energy Policy Report : Mid-High (electric)/Mid-Mid (gas) scenario.	**Consistent.** The proposed project is consistent with the AB 197 commercial timeline. In addition, the proposed project would be required to comply with CALGreen measures in effect during permit issuance.
Reduce non-combustion emissions. This strategy involves a number of sectors and measures: • Increase landfill and dairy digester methane capture. • Capture of fugitive methane emissions from the oil and gas infrastructure components. • The introduction of Low GWP refrigerants introduced as building electrification increases mitigating HFC emissions.	**Consistent.** The proposed project will use low global warming potential (GWP) refrigerants as part of the building design consistent with current California Significant New Alternatives Policy (SNAP) regulations.
Compensate for remaining emissions. This measure encompasses using Carbon Dioxide Removal (CDR) to compensate for remaining emissions. Targets are demonstration projects by 2030 and CDR scaled to compensate for remaining GHG emissions in 2045.	**Not Applicable.** This measure relates to remaining emissions and is not applicable at the individual project level.
Source: California Air Resources Board (ARB). 2022. Scoping Plan for Achieving Carbon Neutrality. November.	

As evaluated in Table 21, many of the measures are not applicable to the proposed project, while the proposed project is consistent with strategies that are applicable. Furthermore, the proposed project is consistent with the County's GHG Plan (as detailed below). A proposed project is consistent with the State's climate goals if the project is consistent with the lead agency's GHG plan. As such, the proposed project would be consistent with the Scoping Plan.

County of San Bernardino Greenhouse Gas Reduction Plan

As discussed above, all development projects, including those otherwise determined to be exempt from CEQA, will be subject to applicable Development Code provisions in the County GHG Plan, including the GHG performance standards, and State requirements, such as the California Building Code requirements for energy efficiency. Projects that exceed the review standard of 3,000 MT CO_2e per year, such as the proposed project, are required to achieve at minimum 100 points worth of GHG performance standards listed in the County Screening Table. The point system in the Screening Tables was devised to ensure project compliance with reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those existing development, will allow the County to reduce GHG emissions, consistent with State-level GHG reduction goals. As discussed above, the proposed project would score 103 points in the County's GHG Screening Table as shown in Appendix C and would therefore be above the minimum number of points required to reduce GHG impacts to less than significant levels. As such, the proposed project would be consistent with the County GHG Plan and the proposed project's impact would be less than significant.

Summary

In summary, the proposed project is consistent with applicable strategies and would not conflict with the recommendations and reduction measures outlined in the 2017 Scoping Plan addressing the SB 32 targets, 2022 Scoping Plan, and the County GHG Plan. Considering this information, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of GHGs. Therefore, the impact would be less than significant with implementation of mitigation.

Level of Significance

Less than significant impact.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A: CalEEMod Files

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A: CalEEMod Files

Table of Contents

Baker Travel Stop CalEEMod Notes

Land Use The land use summary is based on site plan and applicant-provided information. Frontage construction includes roadway and is approximately 2.47 acres. The Main Site covers 22.5 acres and includes the travel stop and 8-unit Mobile Home Park.

Construction Phases The mobile home and truck stop would be constructed in one phase. The schedule lasts 12-month based on applicant-provided information. No demolition is needed. Minimum architecture coating is needed due to all structures are pre-fabricated and pre-coated.

Construction: Off-Road Equipment The horsepower of several pieces of equipment are adjusted to higher power for conservative estimate.

Trips and VMT The paving phase is assumed to generate 14 trucks per day to transport asphalt to the project site.

Architectural Coatings Based on applicant-provided information, minimum architecture coating is needed and the coating area is reduced to half of CalEEMod default.

Paving The paved area is based on land use summary. Storm retention area does not need pavement.

Operations: Vehicle Data

Vehicles are mainly passing and resting at the proposed stop. It is reasonable to assume 5 miles detour for each vehicle.

Convenience Store/Gas Station, ITE 11th Code 945, weekday trip rate: 346 x fueling position. Adjust to be 346x16/23 = 241 to account for gasoline vehicles only while keeping the construction work needed.

Fast Food with drive through, ITE 11th Code 934, weekday total vehicle 468, truck 1.92; Sat total 616.12; Sun total 472.58 x 1k sf

Mobile Home, ITE 11th Code 240, weekday 7.12, Sat 7.05, Sun 6.14 x DU.

Truck trips are based on ITE 11th Code 950 for Truck Stop: 224 trips per fueling position, and the 2% of HHD for other land use including convenience store, fast food restaurant, and mobile home. Daily truck trips = 224*7 + (346+616+7) x 0.02 = 1,588 per day as a conservative estimate.

The trucks are mainly passing and resting at the proposed stop. It is reasonable to assume 5 miles detour for each vehicle based on Google Maps.

Operations: Fleet Mix Please see fleet mix adjustment in appendix.

Adjusted fleet mix for land uses with no HHD trucks

	HHD%	LDA%	LDT1%	LDT2%	LHD1%	LHD2%	MCY%	MDV%	MH%	MHD%	OBUS%	SBUS%	UBUS%
County Default	2.0043	48.59391	4.30419	21.22161239	3.3921048	0.9270565	2.6048962	15.65020084	0.573134	0.549003	0.048318	0.107633	0.023647
Adjusted	0	49.5878	4.392223	21.655655	3.461483	0.9460174	2.6581738	15.97029216	0.584857	0.560231	0.049306	0.109834	0.024131

Baker Travel Stop Construction Frontage Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Baker Travel Stop Construction Frontage
Construction Start Date	1/6/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	5.00
Precipitation (days)	8.20
Location	35.276508, -116.055809
County	San Bernardino-Mojave Desert
City	Unincorporated
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5139
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.13

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
Other Asphalt Surfaces	2.47	Acre	2.47	0.00	0.00	—	—	Frontage construction

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

3. Construction Emissions Details

3.1. Site Preparation (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.42	1.19	10.9	11.0	0.03	0.47	—	0.47	0.43	—	0.43	—	2,717	2,717	0.11	0.02	—	2,726
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2	37.2	< 0.005	< 0.005	—	37.3
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
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	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.16	6.16	< 0.005	< 0.005	—	6.18
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.42	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.8	96.8	< 0.005	< 0.005	0.01	98.1
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.38
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	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.23
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

3.3. Grading (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
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	0.02	0.02	0.19	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.6	33.6	< 0.005	< 0.005	—	33.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.57	5.57	< 0.005	< 0.005	—	5.59
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	< 0.005	0.01	131
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.85
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	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
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. Paving (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.69	0.58	5.37	8.60	0.01	0.25	—	0.25	0.23	—	0.23	—	1,418	1,418	0.06	0.01	—	1,423
Paving	—	0.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.01	0.07	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Paving	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.22	3.22	< 0.005	< 0.005	—	3.23
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.07	0.70	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	161	161	0.01	0.01	0.02	163
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
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	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.75	1.75	< 0.005	< 0.005	< 0.005	1.82

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	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30
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

Baker Travel Stop Construction and Operation Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Baker Travel Stop Construction and Operation
Construction Start Date	1/6/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	5.00
Precipitation (days)	8.20
Location	35.276508, -116.055809
County	San Bernardino-Mojave Desert
City	Unincorporated
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5139
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.13

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

Convenience Market with Gas Pumps	23.0	Pump	0.07	9,600	0.00	—	—	16 gasoline fueling position
Fast Food Restaurant with Drive Thru	2.60	1000sqft	0.06	2,600	0.00	—	—	—
Parking Lot	463	1000sqft	10.6	0.00	271,648	—	—	Parking lot of Travel Stop and Mobile Home Park
City Park	0.12	Acre	0.12	0.00	0.00	0.00	—	Dog park
Mobile Home Park	8.00	Dwelling Unit	0.26	11,246	53,729	—	26.0	—
Other Non-Asphalt Surfaces	62.9	1000sqft	1.44	0.00	0.00	—	—	Store retention area
User Defined Commercial	1.00	User Defined Unit	1.00	0.00	0.00	—	—	Truck Stop with Diesel Fueling Stations

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.	2.01	1.68	14.6	16.5	0.03	0.59	0.35	0.80	0.55	0.09	0.58	—	3,269	3,269	0.12	0.11	2.31	3,306
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.07	27.5	31.7	33.9	0.07	1.37	7.89	9.26	1.26	3.99	5.25	—	7,692	7,692	0.31	0.11	0.06	7,721

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.44	2.03	10.7	12.6	0.02	0.45	0.64	1.10	0.42	0.26	0.67	—	2,524	2,524	0.10	0.04	0.33	2,539
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.37	1.95	2.29	< 0.005	0.08	0.12	0.20	0.08	0.05	0.12	—	418	418	0.02	0.01	0.05	420
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	548	137	82.0	—	82.0	65.0	—	65.0	—	—	—	—	—	—	—
Unmit.	Yes	No	No	No	No	No	—	No	No	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	548	137	82.0	—	82.0	65.0	—	65.0	—	—	—	—	—	—	—
Unmit.	Yes	No	No	No	No	No	—	No	No	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	100	25.0	15.0	—	15.0	12.0	—	12.0	—	—	—	—	—	—	100,000
Unmit.	Yes	No	No	No	No	No	—	No	No	—	No	—	—	—	—	—	—	No

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.01	1.68	14.6	16.5	0.03	0.59	0.35	0.80	0.55	0.09	0.58	—	3,269	3,269	0.12	0.11	2.31	3,306

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.07	27.5	31.7	33.9	0.07	1.37	7.89	9.26	1.26	3.99	5.25	—	7,692	7,692	0.31	0.11	0.06	7,721
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.44	2.03	10.7	12.6	0.02	0.45	0.64	1.10	0.42	0.26	0.67	—	2,524	2,524	0.10	0.04	0.33	2,539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.26	0.37	1.95	2.29	< 0.005	0.08	0.12	0.20	0.08	0.05	0.12	—	418	418	0.02	0.01	0.05	420

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.	48.0	46.7	63.8	200	0.60	2.90	13.7	16.6	2.85	2.61	5.46	249	60,803	61,052	4.79	5.85	2,154	65,068
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.4	42.0	68.1	172	0.57	2.90	13.7	16.6	2.85	2.61	5.46	249	58,064	58,313	4.92	5.92	1,999	62,198
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	31.7	66.9	164	0.55	1.28	13.3	14.5	1.23	2.53	3.76	77.1	57,347	57,424	4.72	5.86	2,061	61,351
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.00	5.78	12.2	30.0	0.10	0.23	2.42	2.65	0.23	0.46	0.69	12.8	9,494	9,507	0.78	0.97	341	10,157
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	Yes	—	Yes	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	Yes	—	Yes	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	Yes	Yes	Yes	Yes	Yes	Yes	—	Yes	Yes	—	Yes	—	—	—	—	—	—	—

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	35.4	33.7	63.4	183	0.57	0.80	13.7	14.5	0.76	2.61	3.37	—	59,220	59,220	1.77	5.82	160	61,157
Area	12.6	13.0	0.25	16.1	0.03	2.08	—	2.08	2.07	—	2.07	222	96.0	318	0.21	0.02	—	328
Energy	0.02	0.01	0.16	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,429	1,429	0.09	0.01	—	1,434
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	57.6	60.2	0.27	0.01	—	69.0
Waste	—	—	—	—	—	—	—	—	—	—	—	24.5	0.00	24.5	2.45	0.00	—	85.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
Total	48.0	46.7	63.8	200	0.60	2.90	13.7	16.6	2.85	2.61	5.46	249	60,803	61,052	4.79	5.85	2,154	65,068
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	30.9	29.1	67.8	157	0.55	0.81	13.7	14.5	0.77	2.61	3.37	—	56,484	56,484	1.90	5.89	4.14	58,290
Area	12.4	12.9	0.24	15.1	0.03	2.08	—	2.08	2.07	—	2.07	222	92.6	315	0.20	0.02	—	325
Energy	0.02	0.01	0.16	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,429	1,429	0.09	0.01	—	1,434
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	57.6	60.2	0.27	0.01	—	69.0
Waste	—	—	—	—	—	—	—	—	—	—	—	24.5	0.00	24.5	2.45	0.00	—	85.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
Total	43.4	42.0	68.1	172	0.57	2.90	13.7	16.6	2.85	2.61	5.46	249	58,064	58,313	4.92	5.92	1,999	62,198
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	28.3	66.6	160	0.54	0.80	13.3	14.1	0.76	2.53	3.28	—	55,838	55,838	1.86	5.84	66.9	57,693
Area	2.86	3.43	0.06	3.88	0.01	0.47	—	0.47	0.47	—	0.47	49.9	22.5	72.4	0.05	< 0.005	—	74.6
Energy	0.02	0.01	0.16	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,429	1,429	0.09	0.01	—	1,434
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	57.6	60.2	0.27	0.01	—	69.0
Waste	—	—	—	—	—	—	—	—	—	—	—	24.5	0.00	24.5	2.45	0.00	—	85.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
Total	32.9	31.7	66.9	164	0.55	1.28	13.3	14.5	1.23	2.53	3.76	77.1	57,347	57,424	4.72	5.86	2,061	61,351
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.47	5.16	12.2	29.3	0.10	0.15	2.42	2.56	0.14	0.46	0.60	—	9,245	9,245	0.31	0.97	11.1	9,552
Area	0.52	0.63	0.01	0.71	< 0.005	0.09	—	0.09	0.09	—	0.09	8.26	3.72	12.0	0.01	< 0.005	—	12.4
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	237	237	0.02	< 0.005	—	237
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	9.53	9.96	0.04	< 0.005	—	11.4
Waste	—	—	—	—	—	—	—	—	—	—	—	4.06	0.00	4.06	0.41	0.00	—	14.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	330
Total	6.00	5.78	12.2	30.0	0.10	0.23	2.42	2.65	0.23	0.46	0.69	12.8	9,494	9,507	0.78	0.97	341	10,157

3. Construction Emissions Details

3.1. Site Preparation (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	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	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	0.98	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	226	226	0.01	0.01	0.02	229
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.37	6.37	< 0.005	< 0.005	0.01	6.46
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.07
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

3.3. Grading (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.97	3.34	30.5	32.8	0.07	1.30	—	1.30	1.20	—	1.20	—	7,434	7,434	0.30	0.06	—	7,459
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
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	0.33	0.27	2.51	2.70	0.01	0.11	—	0.11	0.10	—	0.10	—	611	611	0.02	< 0.005	—	613
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
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	0.06	0.05	0.46	0.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	101	101	< 0.005	< 0.005	—	102
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.11	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	0.01	0.01	0.03	262
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
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	—	21.9	21.9	< 0.005	< 0.005	0.04	22.2
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	—	3.62	3.62	< 0.005	< 0.005	0.01	3.67
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

3.5. Building Construction (2025) - 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	1.95	1.62	14.4	15.7	0.03	0.59	—	0.59	0.55	—	0.55	—	2,917	2,917	0.12	0.02	—	2,927
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	1.95	1.62	14.4	15.7	0.03	0.59	—	0.59	0.55	—	0.55	—	2,917	2,917	0.12	0.02	—	2,927
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	0.80	0.67	5.92	6.44	0.01	0.24	—	0.24	0.22	—	0.22	—	1,199	1,199	0.05	0.01	—	1,203
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	0.15	0.12	1.08	1.17	< 0.005	0.04	—	0.04	0.04	—	0.04	—	198	198	0.01	< 0.005	—	199
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	0.05	0.05	0.82	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	< 0.005	0.53	147
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	90.9	90.9	< 0.005	0.01	0.25	94.8
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	0.05	0.04	0.05	0.55	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	130
Vendor	< 0.005	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	91.0	91.0	< 0.005	0.01	0.01	94.7
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	0.02	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.2	54.2	< 0.005	< 0.005	0.09	55.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.4	37.4	< 0.005	0.01	0.04	38.9
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.98	8.98	< 0.005	< 0.005	0.02	9.10
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.19	6.19	< 0.005	< 0.005	0.01	6.44
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

3.7. Paving (2025) - 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	1.13	0.95	8.86	14.6	0.02	0.44	—	0.44	0.41	—	0.41	—	2,467	2,467	0.10	0.02	—	2,476
Paving	—	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1.13	0.95	8.86	14.6	0.02	0.44	—	0.44	0.41	—	0.41	—	2,467	2,467	0.10	0.02	—	2,476
Paving	—	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.15	0.13	1.21	2.01	< 0.005	0.06	—	0.06	0.06	—	0.06	—	338	338	0.01	< 0.005	—	339
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	0.22	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.0	56.0	< 0.005	< 0.005	—	56.2
Paving	—	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	0.09	0.08	0.07	1.25	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	219	219	0.01	0.01	0.80	222
Vendor	0.02	0.02	0.45	0.20	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	446	446	< 0.005	0.06	1.22	465
Hauling	< 0.005	< 0.005	0.15	0.03	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	< 0.005	0.02	0.29	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.08	0.84	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	194	194	0.01	0.01	0.02	196
Vendor	0.02	0.02	0.48	0.20	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	446	446	< 0.005	0.06	0.03	464
Hauling	< 0.005	< 0.005	0.16	0.03	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	< 0.005	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.3	27.3	< 0.005	< 0.005	0.05	27.7
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.1	61.1	< 0.005	0.01	0.07	63.6
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	0.02	19.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.52	4.52	< 0.005	< 0.005	0.01	4.59

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.5
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.10	3.10	< 0.005	< 0.005	< 0.005	3.25

3.9. Architectural Coating (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	27.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	—	0.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61

Architect Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.6	25.6	< 0.005	< 0.005	< 0.005	26.0
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
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	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	25.5	24.4	10.6	121	0.22	0.16	7.52	7.68	0.15	1.31	1.45	—	22,651	22,651	1.24	0.93	78.7	23,038
Fast Food Restaurant with Drive Thru	7.36	7.05	3.05	34.9	0.06	0.05	2.17	2.22	0.04	0.38	0.42	—	6,546	6,546	0.36	0.27	22.7	6,658
Parking Lot	0.00	0.00	0.00	0.00	0.00	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
Mobile Home Park	0.37	0.33	0.33	3.96	0.01	0.01	0.31	0.32	0.01	0.05	0.06	—	907	907	0.03	0.03	3.25	919
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
User Defined Commercial	2.20	1.89	49.5	23.9	0.28	0.59	3.71	4.30	0.57	0.87	1.44	—	29,116	29,116	0.14	4.59	55.0	30,541
Total	35.4	33.7	63.4	183	0.57	0.80	13.7	14.5	0.76	2.61	3.37	—	59,220	59,220	1.77	5.82	160	61,157
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	22.2	21.1	11.4	101	0.20	0.16	7.52	7.68	0.15	1.31	1.45	—	20,540	20,540	1.35	0.97	2.04	20,866

Fast Food Restaurant with Drive Thru	6.39	6.07	3.28	28.9	0.06	0.05	2.16	2.21	0.04	0.38	0.42	—	5,904	5,904	0.39	0.28	0.59	5,997
Parking Lot	0.00	0.00	0.00	0.00	0.00	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
Mobile Home Park	0.33	0.30	0.36	2.96	0.01	0.01	0.31	0.32	0.01	0.05	0.06	—	819	819	0.03	0.03	0.08	828
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
User Defined Commercial	1.95	1.67	52.7	24.6	0.28	0.60	3.71	4.31	0.57	0.87	1.44	—	29,221	29,221	0.13	4.60	1.43	30,598
Total	30.9	29.1	67.8	157	0.55	0.81	13.7	14.5	0.77	2.61	3.37	—	56,484	56,484	1.90	5.89	4.14	58,290
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	4.09	3.88	2.14	19.7	0.04	0.03	1.37	1.40	0.03	0.24	0.27	—	3,481	3,481	0.23	0.16	5.63	3,541
Fast Food Restaurant with Drive Thru	0.94	0.89	0.49	4.54	0.01	0.01	0.32	0.32	0.01	0.05	0.06	—	800	800	0.05	0.04	1.29	814
Parking Lot	0.00	0.00	0.00	0.00	0.00	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
Mobile Home Park	0.06	0.05	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	136	136	< 0.005	< 0.005	0.23	138

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
User Defined Commercial	0.38	0.33	9.46	4.41	0.05	0.11	0.68	0.79	0.10	0.16	0.26	—	4,828	4,828	0.02	0.76	3.93	5,059
Total	5.47	5.16	12.2	29.3	0.10	0.15	2.42	2.56	0.14	0.46	0.60	—	9,245	9,245	0.31	0.97	11.1	9,552

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	452	452	0.03	< 0.005	—	453
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	133	133	0.01	< 0.005	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	591	591	0.04	< 0.005	—	594
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	64.2	64.2	< 0.005	< 0.005	—	64.5

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,240	1,240	0.08	0.01	—	1,245
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	452	452	0.03	< 0.005	—	453
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	133	133	0.01	< 0.005	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	591	591	0.04	< 0.005	—	594
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	64.2	64.2	< 0.005	< 0.005	—	64.5
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,240	1,240	0.08	0.01	—	1,245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	74.8	74.8	< 0.005	< 0.005	—	75.1
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	22.0	22.0	< 0.005	< 0.005	—	22.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	97.9	97.9	0.01	< 0.005	—	98.3
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	10.6	10.6	< 0.005	< 0.005	—	10.7
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	205	205	0.01	< 0.005	—	206

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Convenience Market with Gas Pumps	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.9	51.9	< 0.005	< 0.005	—	52.1
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.2	95.2	0.01	< 0.005	—	95.5
Parking Lot	0.00	0.00	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
Mobile Home Park	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.8	41.8	< 0.005	< 0.005	—	41.9
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
User Defined Commercial	0.00	0.00	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	0.16	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	189	189	0.02	< 0.005	—	189
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.9	51.9	< 0.005	< 0.005	—	52.1
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.2	95.2	0.01	< 0.005	—	95.5

Parking Lot	0.00	0.00	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
Mobile Home Park	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.8	41.8	< 0.005	< 0.005	—	41.9
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
User Defined Commercial	0.00	0.00	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	0.16	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	189	189	0.02	< 0.005	—	189
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.60	8.60	< 0.005	< 0.005	—	8.62
Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Parking Lot	0.00	0.00	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
Mobile Home Park	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.91	6.91	< 0.005	< 0.005	—	6.93
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
User Defined Commercial	0.00	0.00	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	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.3	31.3	< 0.005	< 0.005	—	31.4

4.3. Area Emissions by Source

4.3.2. 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	12.4	12.2	0.24	15.1	0.03	2.08	—	2.08	2.07	—	2.07	222	92.6	315	0.20	0.02	—	325
Consumer Products	—	0.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.13	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.40	3.40	< 0.005	< 0.005	—	3.41
Total	12.6	13.0	0.25	16.1	0.03	2.08	—	2.08	2.07	—	2.07	222	96.0	318	0.21	0.02	—	328
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	12.4	12.2	0.24	15.1	0.03	2.08	—	2.08	2.07	—	2.07	222	92.6	315	0.20	0.02	—	325
Consumer Products	—	0.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	12.4	12.9	0.24	15.1	0.03	2.08	—	2.08	2.07	—	2.07	222	92.6	315	0.20	0.02	—	325

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.51	0.50	0.01	0.62	< 0.005	0.09	—	0.09	0.08	—	0.08	8.26	3.45	11.7	0.01	< 0.005	—	12.1
Consumer Products	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.52	0.63	0.01	0.71	< 0.005	0.09	—	0.09	0.09	—	0.09	8.26	3.72	12.0	0.01	< 0.005	—	12.4

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.46	2.02	2.48	0.05	< 0.005	—	4.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.51	6.62	8.14	0.16	< 0.005	—	13.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	37.2	37.2	< 0.005	< 0.005	—	37.3

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	0.64	11.8	12.4	0.07	< 0.005	—	14.6
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.61	57.6	60.2	0.27	0.01	—	69.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.46	2.02	2.48	0.05	< 0.005	—	4.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.51	6.62	8.14	0.16	< 0.005	—	13.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	37.2	37.2	< 0.005	< 0.005	—	37.3
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	0.64	11.8	12.4	0.07	< 0.005	—	14.6
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	2.61	57.6	60.2	0.27	0.01	—	69.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.08	0.33	0.41	0.01	< 0.005	—	0.66
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.25	1.10	1.35	0.03	< 0.005	—	2.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	6.15	6.15	< 0.005	< 0.005	—	6.17
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	0.11	1.95	2.06	0.01	< 0.005	—	2.41
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	9.53	9.96	0.04	< 0.005	—	11.4

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	5.25	0.00	5.25	0.52	0.00	—	18.4
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	16.1	0.00	16.1	1.61	0.00	—	56.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	3.13	0.00	3.13	0.31	0.00	—	11.0
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	24.5	0.00	24.5	2.45	0.00	—	85.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	5.25	0.00	5.25	0.52	0.00	—	18.4

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	16.1	0.00	16.1	1.61	0.00	—	56.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	3.13	0.00	3.13	0.31	0.00	—	11.0
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	24.5	0.00	24.5	2.45	0.00	—	85.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.87	0.00	0.87	0.09	0.00	—	3.04
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.67	0.00	2.67	0.27	0.00	—	9.35
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	< 0.005
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	0.52	0.00	0.52	0.05	0.00	—	1.81

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Commercial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.06	0.00	4.06	0.41	0.00	—	14.2

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,990	1,990
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.06	4.06
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Convenie Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,990	1,990
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.06	4.06
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,994	1,994
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convenie nce Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	330
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Mobile Home Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	330

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)

Equipme 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
Site Preparation	Site Preparation	1/6/2025	1/17/2025	5.00	10.0	—
Grading	Grading	1/20/2025	2/28/2025	5.00	30.0	—
Building Construction	Building Construction	3/3/2025	9/26/2025	5.00	150	—
Paving	Paving	9/29/2025	12/5/2025	5.00	50.0	—
Coating	Architectural Coating	12/8/2025	12/19/2025	5.00	10.0	—

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
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	158	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	84.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	130	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	132	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	80.0	0.38
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

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	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	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	9.92	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	2.85	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	14.0	10.2	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Coating	—	—	—	—
Coating	Worker	1.98	18.5	LDA,LDT1,LDT2
Coating	Vendor	—	10.2	HHDT,MHDT
Coating	Hauling	0.00	20.0	HHDT
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)
Coating	22,773	7,591	18,300	6,100	31,569

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	10.6

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Convenience Market with Gas Pumps	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	10.6	100%
City Park	0.00	0%
Mobile Home Park	—	0%

Other Non-Asphalt Surfaces	0.00	0%
User Defined Commercial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	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
Convenience Market with Gas Pumps	5,543	5,543	5,543	2,023,195	27,715	27,715	27,715	10,115,975
Fast Food Restaurant with Drive Thru	1,217	1,602	1,229	464,834	6,084	8,010	6,144	2,324,169
Parking Lot	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
Mobile Home Park	57.0	56.4	49.1	20,352	1,144	1,133	987	408,916
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Commercial	1,588	1,588	1,588	579,620	7,940	7,940	7,940	2,898,100

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Mobile Home Park	—
Wood Fireplaces	3
Gas Fireplaces	4
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
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)
22773.149999999998	7,591	18,300	6,100	31,569

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Convenience Market with Gas Pumps	309,858	532	0.0330	0.0040	162,048
Fast Food Restaurant with Drive Thru	91,173	532	0.0330	0.0040	297,104
Parking Lot	405,789	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00
Mobile Home Park	44,060	532	0.0330	0.0040	130,311
Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00
User Defined Commercial	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)
Convenience Market with Gas Pumps	240,515	0.00
Fast Food Restaurant with Drive Thru	789,188	0.00
Parking Lot	0.00	6,013,889
City Park	0.00	0.00
Mobile Home Park	333,449	1,453,811
Other Non-Asphalt Surfaces	0.00	0.00
User Defined Commercial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Convenience Market with Gas Pumps	9.75	—
Fast Food Restaurant with Drive Thru	29.9	—
Parking Lot	0.00	—
City Park	0.01	—
Mobile Home Park	5.81	—
Other Non-Asphalt Surfaces	0.00	—
User Defined Commercial	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
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
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
Mobile Home Park	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Mobile Home Park	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	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)

5.18. 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)

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B:
Health Risk Assessment

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B: Health Risk Assessment

Table of Contents

Project Construction Emissions for HRA Without Mitigation Measures

Annual Construction Emissions (pounds)
(data is based on CalEEMod 2022.1 Online Results/Construction Calcs)

	PM_{10} (Exhaust)
Onsite	6.82
Offsite	0.02
Frontage (2025)	**6.84**
Onsite	13.66
Offsite	0
Site Preparation (2025)	**13.66**
Onsite	39.14
Offsite	0
Grading (2025)	**39.14**
Onsite	89.04
Offsite	0.19
Building Construction (2025)	**89.23**
Onsite	22.03
Offsite	0.45
Paving (2025)	**22.48**
Onsite	0.27
Offsite	0
Architecture Coating (2025)	**0.27**
Total Onsite[1]	**170.97**
Total Offsite[1]	**0.66**

Exhaust PM_{10}

Elapsed Days	**347**		
Construction Hours	**2,776**	**8 hours/day**	
Elapsed Hours	**8,328**	**24 hours/day**	
Construction Year	**1.0**		
Variable Factor	**4.20**		**Applied in AERMOD**
On-Site Emissions	**170.97**	**pounds**	
	77,549.72	**grams**	
	9.312E+00	**grams/hours**	
	2.587E-03	**grams/sec**	
	171.0	**pounds/year**	**Applied in HARP2**
	0.0189	**pounds/hour**	
Off-Site Emissions	**0.66**	**pounds**	
	0.66	**pounds/year**	

Avoidance and Minimization Measures Applied

Basic Construction Mitigation Measures Recommended For All Proposed Projects would apply to the project

1 The Offsite and Onsite emission results do not appear in the CalEEMod 2022.1 Detailed Report when they are less than 0.005 tons/year. Instead, the Offsite emission is obtained from CalEEMod 2022.1 Results/Construction Cals Tab when running the model online.

Off-Site AERMOD Input Adjustments

Applied in HARP2

Roadway Segment	Length (Miles)	Proportion of Total	$PM_{2.5}$ (Exhaust) Emission Rate (pounds/year)
Baker Boulevard 1	0.58	34.43%	**0.04**
Baker Boulevard 2	0.59	34.80%	**0.04**
Baker Boulevard 3	0.52	30.77%	**0.03**
Baker Boulevard 4	0.76	45.18%	**0.05**
Totals	*1.7*	*100.00%*	**0.15**

Notes:
Off-site emissions used in the HARP2 model were based on the proportion of emissions occurring within 1,000 feet of the project site.

Off-Site Emission Adjustment for 1,000-foot Radius of Project Site

Phase Name	Days	Vendor Trip Number (Daily)	Hauling Trip Number (Daily)	Vendor Trip Length	Hauling Trip Length
Site Preparation	10	0	0	10	20
Grading	30	0	0	10	20
Building Construction	150	3	0	10	20
Paving	50	14	2	10	20
Architectural Coating	10	0	0	10	20
	Totals	**1,150**	**100**		

Diesel-Fueled Vehicle Results		
	Total Vehicle Trips	Vehicle Miles Traveled (VMT)
Vendor Trucks	1,150	11,500
Hauling Trucks	100	2,000
Total VMT		**13,500**

AERMOD 1,000-ft Radius Adjustment		
	Total Vehicle Trips	Vehicle Miles Traveled (VMT)
Vendor Trucks	1,150.00	1,935.31
Hauling Trucks	100	168
Total VMT		**2,103.60**

Proportion of off-site emissions potentially occurring within 1,000 of project site:	**15.5822%**

Control Pathway

Dispersion Options

Titles

F:\Jobs\46470005\BakerTS_CON\BakerTS_CON.isc

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Rural

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

Option not available

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: BakerTS_CON.err

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: CONS (On-site construction)

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]
313.96	5.00	9.96E-6		17	585789.86	3904316.22
		9.96E-6			585791.79	3904186.75
		9.96E-6			585804.03	3904173.86
		9.96E-6			585644.93	3904043.75
		9.96E-6			585690.66	3904066.94
		9.96E-6			585691.95	3903913.64
		9.96E-6			585767.31	3903914.28
		9.96E-6			586092.59	3904171.29
		9.96E-6			586091.95	3904317.50
		9.96E-6			586009.50	3904317.50
		9.96E-6			586006.28	3904314.28
		9.96E-6			585998.55	3904324.59
		9.96E-6			585961.19	3904298.18
		9.96E-6			585945.09	3904320.08
		9.96E-6			585926.41	3904319.44
		9.96E-6			585892.27	3904318.15
		9.96E-6			585844.61	3904316.86

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME
Source: HAUL1 (Enter/exit route1)

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]
9.00	1.00000		585812.03	3904173.46	313.16	3.11
			585395.31	3903854.21	305.87	3.11

Source Type: LINE VOLUME
Source: HAUL2 (Entry/exit route2)

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]
9.00	1.00000		585814.22	3904175.65	313.18	3.11
			586004.23	3904327.33	316.89	3.11
			586114.30	3904416.04	316.58	3.11
			586230.72	3904508.38	319.95	3.11

Source Type: LINE VOLUME
Source: HAUL3 (Haul route 3)

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]
9.00	1.00000		585874.30	3904317.68	315.94	3.11
			585941.90	3904319.70	316.00	3.11
			585959.05	3904304.23	315.78	3.11
			585962.41	3904301.88	315.73	3.11
			586004.79	3904328.78	316.89	3.11
			586228.09	3904507.35	319.93	3.11

Source Pathway - Source Inputs

Source Type: LINE VOLUME
Source: HAUL4 (Haul route 4)

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]
9.00	1.00000		585873.71	3904320.79	315.94	3.11
			585944.00	3904322.89	315.99	3.11
			585962.88	3904299.81	315.67	3.11
			585395.33	3903855.00	305.87	3.11

Source Pathway - Source Inputs

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]
HAUL3	L0000652	585878.80	3904317.82	315.96	3.11	0.02083	9.00		4.19	2.89
	L0000653	585887.80	3904318.08	315.97	3.11	0.02083	9.00		4.19	2.89
	L0000654	585896.79	3904318.35	315.98	3.11	0.02083	9.00		4.19	2.89
	L0000655	585905.79	3904318.62	315.99	3.11	0.02083	9.00		4.19	2.89
	L0000656	585914.78	3904318.89	316.00	3.11	0.02083	9.00		4.19	2.89
	L0000657	585923.78	3904319.16	316.00	3.11	0.02083	9.00		4.19	2.89
	L0000658	585932.78	3904319.43	316.00	3.11	0.02083	9.00		4.19	2.89
	L0000659	585941.77	3904319.70	316.01	3.11	0.02083	9.00		4.19	2.89
	L0000660	585948.49	3904313.76	315.80	3.11	0.02083	9.00		4.19	2.89
	L0000661	585955.17	3904307.73	315.55	3.11	0.02083	9.00		4.19	2.89
	L0000662	585962.14	3904302.06	315.34	3.11	0.02083	9.00		4.19	2.89
	L0000663	585969.73	3904306.52	315.67	3.11	0.02083	9.00		4.19	2.89
	L0000664	585977.33	3904311.35	316.03	3.11	0.02083	9.00		4.19	2.89
	L0000665	585984.93	3904316.17	316.39	3.11	0.02083	9.00		4.19	2.89
	L0000666	585992.53	3904321.00	316.67	3.11	0.02083	9.00		4.19	2.89
	L0000667	586000.13	3904325.82	316.73	3.11	0.02083	9.00		4.19	2.89
	L0000668	586007.50	3904330.95	316.77	3.11	0.02083	9.00		4.19	2.89
	L0000669	586014.53	3904336.57	316.80	3.11	0.02083	9.00		4.19	2.89
	L0000670	586021.56	3904342.19	316.91	3.11	0.02083	9.00		4.19	2.89
	L0000671	586028.59	3904347.82	317.03	3.11	0.02083	9.00		4.19	2.89
	L0000672	586035.62	3904353.44	317.12	3.11	0.02083	9.00		4.19	2.89
	L0000673	586042.65	3904359.06	317.18	3.11	0.02083	9.00		4.19	2.89
	L0000674	586049.68	3904364.68	317.20	3.11	0.02083	9.00		4.19	2.89
	L0000675	586056.71	3904370.30	317.19	3.11	0.02083	9.00		4.19	2.89

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]
HAUL3	L0000676	586063.73	3904375.92	317.15	3.11	0.02083	9.00		4.19	2.89
	L0000677	586070.76	3904381.54	317.07	3.11	0.02083	9.00		4.19	2.89
	L0000678	586077.79	3904387.16	316.96	3.11	0.02083	9.00		4.19	2.89
	L0000679	586084.82	3904392.78	316.81	3.11	0.02083	9.00		4.19	2.89
	L0000680	586091.85	3904398.40	316.64	3.11	0.02083	9.00		4.19	2.89
	L0000681	586098.88	3904404.02	316.48	3.11	0.02083	9.00		4.19	2.89
	L0000682	586105.91	3904409.65	316.33	3.11	0.02083	9.00		4.19	2.89
	L0000683	586112.94	3904415.27	316.32	3.11	0.02083	9.00		4.19	2.89
	L0000684	586119.96	3904420.89	316.54	3.11	0.02083	9.00		4.19	2.89
	L0000685	586126.99	3904426.51	316.75	3.11	0.02083	9.00		4.19	2.89
	L0000686	586134.02	3904432.13	316.96	3.11	0.02083	9.00		4.19	2.89
	L0000687	586141.05	3904437.75	317.18	3.11	0.02083	9.00		4.19	2.89
	L0000688	586148.08	3904443.37	317.39	3.11	0.02083	9.00		4.19	2.89
	L0000689	586155.11	3904448.99	317.60	3.11	0.02083	9.00		4.19	2.89
	L0000690	586162.14	3904454.61	317.82	3.11	0.02083	9.00		4.19	2.89
	L0000691	586169.17	3904460.23	318.02	3.11	0.02083	9.00		4.19	2.89
	L0000692	586176.20	3904465.86	318.19	3.11	0.02083	9.00		4.19	2.89
	L0000693	586183.22	3904471.48	318.38	3.11	0.02083	9.00		4.19	2.89
	L0000694	586190.25	3904477.10	318.57	3.11	0.02083	9.00		4.19	2.89
	L0000695	586197.28	3904482.72	318.78	3.11	0.02083	9.00		4.19	2.89
	L0000696	586204.31	3904488.34	319.00	3.11	0.02083	9.00		4.19	2.89
	L0000697	586211.34	3904493.96	319.23	3.11	0.02083	9.00		4.19	2.89
	L0000698	586218.37	3904499.58	319.47	3.11	0.02083	9.00		4.19	2.89
	L0000699	586225.40	3904505.20	319.73	3.11	0.02083	9.00		4.19	2.89

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]
HAUL1	L0000700	585808.45	3904170.72	312.42	3.11	0.01724	9.00		4.19	2.89
	L0000701	585801.31	3904165.25	312.44	3.11	0.01724	9.00		4.19	2.89
	L0000702	585794.16	3904159.78	312.46	3.11	0.01724	9.00		4.19	2.89
	L0000703	585787.02	3904154.30	312.45	3.11	0.01724	9.00		4.19	2.89
	L0000704	585779.88	3904148.83	312.41	3.11	0.01724	9.00		4.19	2.89
	L0000705	585772.73	3904143.36	312.34	3.11	0.01724	9.00		4.19	2.89
	L0000706	585765.59	3904137.88	312.25	3.11	0.01724	9.00		4.19	2.89
	L0000707	585758.44	3904132.41	312.13	3.11	0.01724	9.00		4.19	2.89
	L0000708	585751.30	3904126.94	311.95	3.11	0.01724	9.00		4.19	2.89
	L0000709	585744.15	3904121.46	311.78	3.11	0.01724	9.00		4.19	2.89
	L0000710	585737.01	3904115.99	311.64	3.11	0.01724	9.00		4.19	2.89
	L0000711	585729.86	3904110.52	311.52	3.11	0.01724	9.00		4.19	2.89
	L0000712	585722.72	3904105.04	311.42	3.11	0.01724	9.00		4.19	2.89
	L0000713	585715.58	3904099.57	311.35	3.11	0.01724	9.00		4.19	2.89
	L0000714	585708.43	3904094.10	311.31	3.11	0.01724	9.00		4.19	2.89
	L0000715	585701.29	3904088.62	311.28	3.11	0.01724	9.00		4.19	2.89
	L0000716	585694.14	3904083.15	311.24	3.11	0.01724	9.00		4.19	2.89
	L0000717	585687.00	3904077.68	311.20	3.11	0.01724	9.00		4.19	2.89
	L0000718	585679.85	3904072.20	311.17	3.11	0.01724	9.00		4.19	2.89
	L0000719	585672.71	3904066.73	311.13	3.11	0.01724	9.00		4.19	2.89
	L0000720	585665.56	3904061.26	311.10	3.11	0.01724	9.00		4.19	2.89
	L0000721	585658.42	3904055.78	311.06	3.11	0.01724	9.00		4.19	2.89
	L0000722	585651.28	3904050.31	311.02	3.11	0.01724	9.00		4.19	2.89
	L0000723	585644.13	3904044.84	310.99	3.11	0.01724	9.00		4.19	2.89
	L0000724	585636.99	3904039.36	310.95	3.11	0.01724	9.00		4.19	2.89

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]
HAUL1	L0000725	585629.84	3904033.89	310.80	3.11	0.01724	9.00		4.19	2.89
	L0000726	585622.70	3904028.42	310.65	3.11	0.01724	9.00		4.19	2.89
	L0000727	585615.55	3904022.94	310.50	3.11	0.01724	9.00		4.19	2.89
	L0000728	585608.41	3904017.47	310.34	3.11	0.01724	9.00		4.19	2.89
	L0000729	585601.26	3904012.00	310.19	3.11	0.01724	9.00		4.19	2.89
	L0000730	585594.12	3904006.52	310.04	3.11	0.01724	9.00		4.19	2.89
	L0000731	585586.98	3904001.05	309.88	3.11	0.01724	9.00		4.19	2.89
	L0000732	585579.83	3903995.58	309.73	3.11	0.01724	9.00		4.19	2.89
	L0000733	585572.69	3903990.10	309.58	3.11	0.01724	9.00		4.19	2.89
	L0000734	585565.54	3903984.63	309.42	3.11	0.01724	9.00		4.19	2.89
	L0000735	585558.40	3903979.16	309.21	3.11	0.01724	9.00		4.19	2.89
	L0000736	585551.25	3903973.68	308.98	3.11	0.01724	9.00		4.19	2.89
	L0000737	585544.11	3903968.21	308.75	3.11	0.01724	9.00		4.19	2.89
	L0000738	585536.96	3903962.74	308.50	3.11	0.01724	9.00		4.19	2.89
	L0000739	585529.82	3903957.26	308.24	3.11	0.01724	9.00		4.19	2.89
	L0000740	585522.68	3903951.79	307.97	3.11	0.01724	9.00		4.19	2.89
	L0000741	585515.53	3903946.32	307.69	3.11	0.01724	9.00		4.19	2.89
	L0000742	585508.39	3903940.84	307.52	3.11	0.01724	9.00		4.19	2.89
	L0000743	585501.24	3903935.37	307.39	3.11	0.01724	9.00		4.19	2.89
	L0000744	585494.10	3903929.90	307.26	3.11	0.01724	9.00		4.19	2.89
	L0000745	585486.95	3903924.42	307.17	3.11	0.01724	9.00		4.19	2.89
	L0000746	585479.81	3903918.95	307.11	3.11	0.01724	9.00		4.19	2.89
	L0000747	585472.67	3903913.48	307.03	3.11	0.01724	9.00		4.19	2.89
	L0000748	585465.52	3903908.00	306.94	3.11	0.01724	9.00		4.19	2.89
	L0000749	585458.38	3903902.53	306.84	3.11	0.01724	9.00		4.19	2.89

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]
HAUL1	L0000750	585451.23	3903897.06	306.73	3.11	0.01724	9.00		4.19	2.89
	L0000751	585444.09	3903891.58	306.61	3.11	0.01724	9.00		4.19	2.89
	L0000752	585436.94	3903886.11	306.48	3.11	0.01724	9.00		4.19	2.89
	L0000753	585429.80	3903880.64	306.34	3.11	0.01724	9.00		4.19	2.89
	L0000754	585422.65	3903875.16	306.18	3.11	0.01724	9.00		4.19	2.89
	L0000755	585415.51	3903869.69	306.02	3.11	0.01724	9.00		4.19	2.89
	L0000756	585408.37	3903864.22	305.85	3.11	0.01724	9.00		4.19	2.89
	L0000757	585401.22	3903858.74	305.67	3.11	0.01724	9.00		4.19	2.89

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]
HAUL2	L0000758	585817.73	3904178.46	312.38	3.11	0.01695	9.00		4.19	2.89
	L0000759	585824.77	3904184.07	312.35	3.11	0.01695	9.00		4.19	2.89
	L0000760	585831.80	3904189.69	312.32	3.11	0.01695	9.00		4.19	2.89
	L0000761	585838.83	3904195.30	312.30	3.11	0.01695	9.00		4.19	2.89
	L0000762	585845.87	3904200.92	312.27	3.11	0.01695	9.00		4.19	2.89
	L0000763	585852.90	3904206.53	312.24	3.11	0.01695	9.00		4.19	2.89
	L0000764	585859.93	3904212.15	312.22	3.11	0.01695	9.00		4.19	2.89
	L0000765	585866.97	3904217.76	312.17	3.11	0.01695	9.00		4.19	2.89
	L0000766	585874.00	3904223.38	311.96	3.11	0.01695	9.00		4.19	2.89
	L0000767	585881.04	3904228.99	311.93	3.11	0.01695	9.00		4.19	2.89
	L0000768	585888.07	3904234.61	312.10	3.11	0.01695	9.00		4.19	2.89
	L0000769	585895.10	3904240.22	312.27	3.11	0.01695	9.00		4.19	2.89
	L0000770	585902.14	3904245.84	312.46	3.11	0.01695	9.00		4.19	2.89
	L0000771	585909.17	3904251.45	312.66	3.11	0.01695	9.00		4.19	2.89
	L0000772	585916.20	3904257.06	312.88	3.11	0.01695	9.00		4.19	2.89

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]
HAUL2	L0000773	585923.24	3904262.68	313.10	3.11	0.01695	9.00		4.19	2.89
	L0000774	585930.27	3904268.29	313.33	3.11	0.01695	9.00		4.19	2.89
	L0000775	585937.31	3904273.91	313.58	3.11	0.01695	9.00		4.19	2.89
	L0000776	585944.34	3904279.52	313.89	3.11	0.01695	9.00		4.19	2.89
	L0000777	585951.37	3904285.14	314.28	3.11	0.01695	9.00		4.19	2.89
	L0000778	585958.41	3904290.75	314.68	3.11	0.01695	9.00		4.19	2.89
	L0000779	585965.44	3904296.37	315.07	3.11	0.01695	9.00		4.19	2.89
	L0000780	585972.47	3904301.98	315.46	3.11	0.01695	9.00		4.19	2.89
	L0000781	585979.51	3904307.60	315.86	3.11	0.01695	9.00		4.19	2.89
	L0000782	585986.54	3904313.21	316.25	3.11	0.01695	9.00		4.19	2.89
	L0000783	585993.58	3904318.83	316.64	3.11	0.01695	9.00		4.19	2.89
	L0000784	586000.61	3904324.44	316.75	3.11	0.01695	9.00		4.19	2.89
	L0000785	586007.63	3904330.07	316.78	3.11	0.01695	9.00		4.19	2.89
	L0000786	586014.64	3904335.72	316.81	3.11	0.01695	9.00		4.19	2.89
	L0000787	586021.65	3904341.37	316.92	3.11	0.01695	9.00		4.19	2.89
	L0000788	586028.65	3904347.02	317.05	3.11	0.01695	9.00		4.19	2.89
	L0000789	586035.66	3904352.66	317.14	3.11	0.01695	9.00		4.19	2.89
	L0000790	586042.67	3904358.31	317.20	3.11	0.01695	9.00		4.19	2.89
	L0000791	586049.67	3904363.96	317.22	3.11	0.01695	9.00		4.19	2.89
	L0000792	586056.68	3904369.61	317.21	3.11	0.01695	9.00		4.19	2.89
	L0000793	586063.69	3904375.26	317.17	3.11	0.01695	9.00		4.19	2.89
	L0000794	586070.70	3904380.90	317.09	3.11	0.01695	9.00		4.19	2.89
	L0000795	586077.70	3904386.55	316.98	3.11	0.01695	9.00		4.19	2.89
	L0000796	586084.71	3904392.20	316.84	3.11	0.01695	9.00		4.19	2.89
	L0000797	586091.72	3904397.85	316.66	3.11	0.01695	9.00		4.19	2.89

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]
HAUL2	L0000798	586098.73	3904403.49	316.50	3.11	0.01695	9.00		4.19	2.89
	L0000799	586105.73	3904409.14	316.35	3.11	0.01695	9.00		4.19	2.89
	L0000800	586112.74	3904414.79	316.31	3.11	0.01695	9.00		4.19	2.89
	L0000801	586119.78	3904420.39	316.52	3.11	0.01695	9.00		4.19	2.89
	L0000802	586126.83	3904425.99	316.74	3.11	0.01695	9.00		4.19	2.89
	L0000803	586133.89	3904431.58	316.95	3.11	0.01695	9.00		4.19	2.89
	L0000804	586140.94	3904437.17	317.16	3.11	0.01695	9.00		4.19	2.89
	L0000805	586147.99	3904442.76	317.38	3.11	0.01695	9.00		4.19	2.89
	L0000806	586155.04	3904448.36	317.59	3.11	0.01695	9.00		4.19	2.89
	L0000807	586162.09	3904453.95	317.80	3.11	0.01695	9.00		4.19	2.89
	L0000808	586169.14	3904459.54	318.00	3.11	0.01695	9.00		4.19	2.89
	L0000809	586176.20	3904465.13	318.18	3.11	0.01695	9.00		4.19	2.89
	L0000810	586183.25	3904470.73	318.36	3.11	0.01695	9.00		4.19	2.89
	L0000811	586190.30	3904476.32	318.55	3.11	0.01695	9.00		4.19	2.89
	L0000812	586197.35	3904481.91	318.76	3.11	0.01695	9.00		4.19	2.89
	L0000813	586204.40	3904487.50	318.98	3.11	0.01695	9.00		4.19	2.89
	L0000814	586211.45	3904493.10	319.21	3.11	0.01695	9.00		4.19	2.89
	L0000815	586218.51	3904498.69	319.45	3.11	0.01695	9.00		4.19	2.89
	L0000816	586225.56	3904504.28	319.70	3.11	0.01695	9.00		4.19	2.89

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]
HAUL4	L0000817	585878.21	3904320.92	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000818	585887.20	3904321.19	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000819	585896.20	3904321.46	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000820	585905.19	3904321.73	316.00	3.11	0.01099	9.00		4.19	2.89

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]
HAUL4	L0000821	585914.19	3904322.00	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000822	585923.19	3904322.27	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000823	585932.18	3904322.53	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000824	585941.18	3904322.80	316.00	3.11	0.01099	9.00		4.19	2.89
	L0000825	585947.91	3904318.10	316.03	3.11	0.01099	9.00		4.19	2.89
	L0000826	585953.61	3904311.14	315.72	3.11	0.01099	9.00		4.19	2.89
	L0000827	585959.31	3904304.17	315.41	3.11	0.01099	9.00		4.19	2.89
	L0000828	585960.23	3904297.73	315.08	3.11	0.01099	9.00		4.19	2.89
	L0000829	585953.15	3904292.18	314.69	3.11	0.01099	9.00		4.19	2.89
	L0000830	585946.07	3904286.63	314.30	3.11	0.01099	9.00		4.19	2.89
	L0000831	585938.98	3904281.08	313.95	3.11	0.01099	9.00		4.19	2.89
	L0000832	585931.90	3904275.53	313.70	3.11	0.01099	9.00		4.19	2.89
	L0000833	585924.82	3904269.98	313.46	3.11	0.01099	9.00		4.19	2.89
	L0000834	585917.73	3904264.42	313.23	3.11	0.01099	9.00		4.19	2.89
	L0000835	585910.65	3904258.87	313.02	3.11	0.01099	9.00		4.19	2.89
	L0000836	585903.57	3904253.32	312.81	3.11	0.01099	9.00		4.19	2.89
	L0000837	585896.48	3904247.77	312.62	3.11	0.01099	9.00		4.19	2.89
	L0000838	585889.40	3904242.22	312.43	3.11	0.01099	9.00		4.19	2.89
	L0000839	585882.31	3904236.66	312.26	3.11	0.01099	9.00		4.19	2.89
	L0000840	585875.23	3904231.11	312.10	3.11	0.01099	9.00		4.19	2.89
	L0000841	585868.15	3904225.56	311.99	3.11	0.01099	9.00		4.19	2.89
	L0000842	585861.06	3904220.01	312.06	3.11	0.01099	9.00		4.19	2.89
	L0000843	585853.98	3904214.46	312.09	3.11	0.01099	9.00		4.19	2.89
	L0000844	585846.90	3904208.91	312.11	3.11	0.01099	9.00		4.19	2.89
	L0000845	585839.81	3904203.35	312.14	3.11	0.01099	9.00		4.19	2.89

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]
HAUL4	L0000846	585832.73	3904197.80	312.16	3.11	0.01099	9.00		4.19	2.89
	L0000847	585825.64	3904192.25	312.18	3.11	0.01099	9.00		4.19	2.89
	L0000848	585818.56	3904186.70	312.21	3.11	0.01099	9.00		4.19	2.89
	L0000849	585811.48	3904181.15	312.23	3.11	0.01099	9.00		4.19	2.89
	L0000850	585804.39	3904175.60	312.26	3.11	0.01099	9.00		4.19	2.89
	L0000851	585797.31	3904170.04	312.28	3.11	0.01099	9.00		4.19	2.89
	L0000852	585790.23	3904164.49	312.30	3.11	0.01099	9.00		4.19	2.89
	L0000853	585783.14	3904158.94	312.29	3.11	0.01099	9.00		4.19	2.89
	L0000854	585776.06	3904153.39	312.25	3.11	0.01099	9.00		4.19	2.89
	L0000855	585768.98	3904147.84	312.18	3.11	0.01099	9.00		4.19	2.89
	L0000856	585761.89	3904142.29	312.10	3.11	0.01099	9.00		4.19	2.89
	L0000857	585754.81	3904136.73	311.99	3.11	0.01099	9.00		4.19	2.89
	L0000858	585747.72	3904131.18	311.85	3.11	0.01099	9.00		4.19	2.89
	L0000859	585740.64	3904125.63	311.69	3.11	0.01099	9.00		4.19	2.89
	L0000860	585733.56	3904120.08	311.54	3.11	0.01099	9.00		4.19	2.89
	L0000861	585726.47	3904114.53	311.42	3.11	0.01099	9.00		4.19	2.89
	L0000862	585719.39	3904108.98	311.32	3.11	0.01099	9.00		4.19	2.89
	L0000863	585712.31	3904103.42	311.27	3.11	0.01099	9.00		4.19	2.89
	L0000864	585705.22	3904097.87	311.23	3.11	0.01099	9.00		4.19	2.89
	L0000865	585698.14	3904092.32	311.20	3.11	0.01099	9.00		4.19	2.89
	L0000866	585691.06	3904086.77	311.16	3.11	0.01099	9.00		4.19	2.89
	L0000867	585683.97	3904081.22	311.13	3.11	0.01099	9.00		4.19	2.89
	L0000868	585676.89	3904075.67	311.09	3.11	0.01099	9.00		4.19	2.89
	L0000869	585669.80	3904070.11	311.06	3.11	0.01099	9.00		4.19	2.89
	L0000870	585662.72	3904064.56	311.02	3.11	0.01099	9.00		4.19	2.89

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]
HAUL4	L0000871	585655.64	3904059.01	310.99	3.11	0.01099	9.00		4.19	2.89
	L0000872	585648.55	3904053.46	310.95	3.11	0.01099	9.00		4.19	2.89
	L0000873	585641.47	3904047.91	310.92	3.11	0.01099	9.00		4.19	2.89
	L0000874	585634.39	3904042.35	310.88	3.11	0.01099	9.00		4.19	2.89
	L0000875	585627.30	3904036.80	310.80	3.11	0.01099	9.00		4.19	2.89
	L0000876	585620.22	3904031.25	310.65	3.11	0.01099	9.00		4.19	2.89
	L0000877	585613.13	3904025.70	310.49	3.11	0.01099	9.00		4.19	2.89
	L0000878	585606.05	3904020.15	310.34	3.11	0.01099	9.00		4.19	2.89
	L0000879	585598.97	3904014.60	310.19	3.11	0.01099	9.00		4.19	2.89
	L0000880	585591.88	3904009.04	310.03	3.11	0.01099	9.00		4.19	2.89
	L0000881	585584.80	3904003.49	309.88	3.11	0.01099	9.00		4.19	2.89
	L0000882	585577.72	3903997.94	309.73	3.11	0.01099	9.00		4.19	2.89
	L0000883	585570.63	3903992.39	309.57	3.11	0.01099	9.00		4.19	2.89
	L0000884	585563.55	3903986.84	309.41	3.11	0.01099	9.00		4.19	2.89
	L0000885	585556.47	3903981.29	309.19	3.11	0.01099	9.00		4.19	2.89
	L0000886	585549.38	3903975.73	308.97	3.11	0.01099	9.00		4.19	2.89
	L0000887	585542.30	3903970.18	308.73	3.11	0.01099	9.00		4.19	2.89
	L0000888	585535.21	3903964.63	308.49	3.11	0.01099	9.00		4.19	2.89
	L0000889	585528.13	3903959.08	308.23	3.11	0.01099	9.00		4.19	2.89
	L0000890	585521.05	3903953.53	307.96	3.11	0.01099	9.00		4.19	2.89
	L0000891	585513.96	3903947.98	307.68	3.11	0.01099	9.00		4.19	2.89
	L0000892	585506.88	3903942.42	307.47	3.11	0.01099	9.00		4.19	2.89
	L0000893	585499.80	3903936.87	307.34	3.11	0.01099	9.00		4.19	2.89
	L0000894	585492.71	3903931.32	307.22	3.11	0.01099	9.00		4.19	2.89
	L0000895	585485.63	3903925.77	307.14	3.11	0.01099	9.00		4.19	2.89

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]
HAUL4	L0000896	585478.54	3903920.22	307.08	3.11	0.01099	9.00		4.19	2.89
	L0000897	585471.46	3903914.67	307.00	3.11	0.01099	9.00		4.19	2.89
	L0000898	585464.38	3903909.11	306.91	3.11	0.01099	9.00		4.19	2.89
	L0000899	585457.29	3903903.56	306.82	3.11	0.01099	9.00		4.19	2.89
	L0000900	585450.21	3903898.01	306.71	3.11	0.01099	9.00		4.19	2.89
	L0000901	585443.13	3903892.46	306.59	3.11	0.01099	9.00		4.19	2.89
	L0000902	585436.04	3903886.91	306.46	3.11	0.01099	9.00		4.19	2.89
	L0000903	585428.96	3903881.36	306.32	3.11	0.01099	9.00		4.19	2.89
	L0000904	585421.88	3903875.80	306.16	3.11	0.01099	9.00		4.19	2.89
	L0000905	585414.79	3903870.25	306.00	3.11	0.01099	9.00		4.19	2.89
	L0000906	585407.71	3903864.70	305.84	3.11	0.01099	9.00		4.19	2.89
	L0000907	585400.62	3903859.15	305.65	3.11	0.01099	9.00		4.19	2.89

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: ..\KDAG_723815_23161\KDAG_2015_2016_2018-2020_ADJU.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: ..\KDAG_723815_23161\KDAG_2015_2016_2018-2020_ADJU.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): 584.30 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2015			DAGGETT/FAA AIRPORT
Upper Air		2015			

Data Period

Data Period to Process

Start Date: 1/1/2015 Start Hour: 1 End Date: 12/31/2020 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

HARP2 - HRACalc (dated 22118) 6/7/2023 1:29:52 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1
2<9 Years Bin: 0
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: LongTerm24HR

```
**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 breakdown by pollutant and receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_CancerRisk.csv
Cancer risk total by receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_NCChronicRisk.csv
Chronic risk total by receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_NCAcuteRisk.csv
Acute risk total by receptor saved to:
F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_NCAcuteRiskSumByRec.csv
HRA ran successfully
```

HARP Project Summary Report 6/7/2023 1:47:55 AM

PROJECT INFORMATION
HARP Version: 22118
Project Name: HARP_CONS
Project Output Directory: F:\Jobs\46470005\BakerTS_CON\HARP_CONS
HARP Database: NA

EMISSION INVENTORY
No. of Pollutants:5
No. of Background Pollutants:0

Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr Ems (lbs/hr)	MWAF
HAUL1	0	0	9901	DieselExhPM	1	0.04	0	1
HAUL2	0	0	9901	DieselExhPM	1	0.04	0	1
HAUL3	0	0	9901	DieselExhPM	1	0.03	0	1
HUAL4	0	0	9901	DieselExhPM	1	0.05	0	1
CONS	0	0	9901	DieselExhPM	1	171	0	1

Background

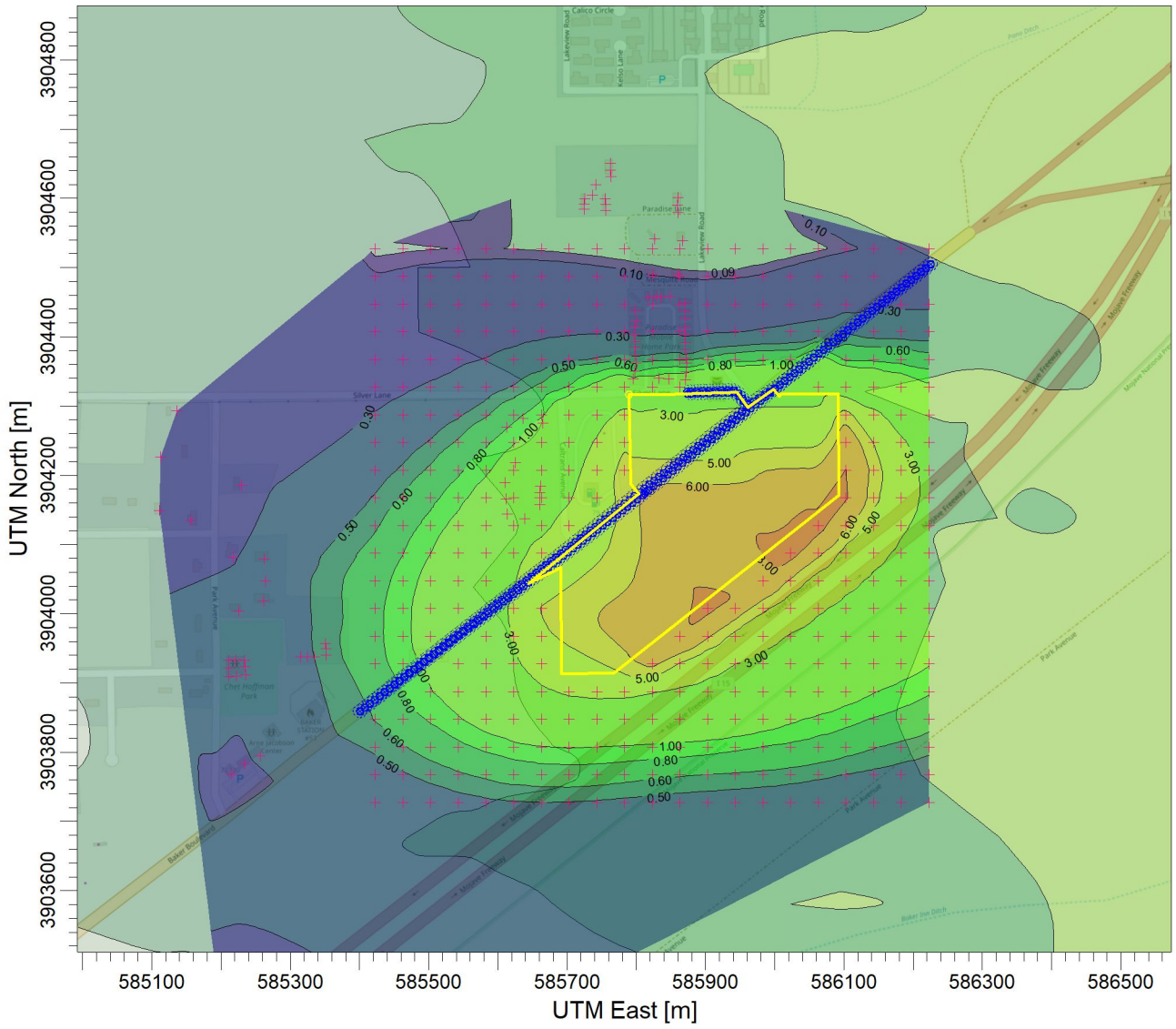
PolID	PolAbbrev	Conc (ug/m^3)	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

PROJECT TITLE:

Baker Travel Stop Construction HRA



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

Risk/Million

Max: 8.81 [Risk/Million] at (586022.85, 3904087.45)

0.09 0.10 0.30 0.50 0.60 0.80 1.00 3.00 5.00 6.00 8.00 8.81

COMMENTS:	SOURCES: **5**	COMPANY NAME:	
	RECEPTORS: **448**	MODELER:	
	OUTPUT TYPE: **Concentration**	SCALE: 1:9,943 0 0.3 km	
	MAX: **8.81 Risk/Million**	DATE: **6/7/2023**	PROJECT NO.:

Baker's Travel Stop Project - Construction (Unmitigated)
Summary of HARP2 Results and Health Risk Calculations

	RISK_SUM	Cancer Risk/million	Concentration	MAXHI NonCancer Chronic	MAXHI Acute
Maximum Risk	2.0821E-06	2	0.01171	2.3415E-03	0

	X	Y	
MIR UTM	585661	3904158	Receptor # 37

Latitude, Longitude: 35.27690, -116.05810

*HARP - HRACalc v22118 6/7/2023 - Cancer Risk - Input File: F:\Jobs\46470005\BakerTS_CON\HARP_CONS\hra\UNMIT_HRAInput.hra
SCENARIO 1YrCancerHighEnd_Inh_FAH16to70
POLID 9901
POLABBREV DieselExhPM

Sorted and show the highest 50 sensitive receptors

REC	GRP	X	Y	CONC	RISK_SUM	MAXHI NonCancerChronic[1]	MAXHI Acute[2]
37	SEN	585660.80	3904157.57	0.01170727	2.0821E-06	2.3415E-03	0
39	SEN	585660.80	3904167.65	0.01111324	1.9764E-06	2.2226E-03	0
35	SEN	585638.61	3904137.39	0.01108232	1.9709E-06	2.2165E-03	0
38	SEN	585660.47	3904175.05	0.01069048	1.9013E-06	2.1381E-03	0
36	SEN	585661.14	3904184.13	0.01029445	1.8308E-06	2.0589E-03	0
28	SEN	585613.30	3904143.90	0.008905143	1.5837E-06	1.7810E-03	0
29	SEN	585611.71	3904165.64	0.007887366	1.4027E-06	1.5775E-03	0
4	SEN	585871.57	3904338.02	0.007534121	1.3399E-06	1.5068E-03	0
30	SEN	585610.03	3904189.51	0.006941327	1.2345E-06	1.3883E-03	0
31	SEN	585625.16	3904218.42	0.006634042	1.1798E-06	1.3268E-03	0
3	SEN	585846.58	3904339.69	0.00652269	1.1600E-06	1.3045E-03	0
34	SEN	585664.56	3904275.24	0.006120144	1.0884E-06	1.2240E-03	0
2	SEN	585832.42	3904340.52	0.006055724	1.0770E-06	1.2111E-03	0
1	SEN	585795.76	3904339.69	0.005758926	1.0242E-06	1.1518E-03	0
14	SEN	585872.41	3904349.69	0.005252271	9.3409E-07	1.0505E-03	0
33	SEN	585636.37	3904282.34	0.00467087	8.3070E-07	9.3417E-04	0
5	SEN	585798.26	3904350.52	0.004440392	7.8971E-07	8.8808E-04	0
32	SEN	585612.82	3904269.51	0.004429974	7.8785E-07	8.8599E-04	0
15	SEN	585873.24	3904362.18	0.003754959	6.6780E-07	7.5099E-04	0
6	SEN	585799.92	3904362.18	0.003434227	6.1076E-07	6.8685E-04	0
16	SEN	585872.41	3904369.68	0.003127661	5.5624E-07	6.2553E-04	0
51	SEN	585350.89	3903957.27	0.003030621	5.3898E-07	6.0612E-04	0
52	SEN	585351.36	3903949.36	0.003029054	5.3870E-07	6.0581E-04	0
50	SEN	585351.82	3903940.05	0.003020788	5.3723E-07	6.0416E-04	0
47	SEN	585335.07	3903937.73	0.002819268	5.0140E-07	5.6385E-04	0
7	SEN	585798.26	3904373.01	0.002766533	4.9202E-07	5.5331E-04	0
49	SEN	585324.83	3903938.19	0.002708692	4.8173E-07	5.4174E-04	0
48	SEN	585315.05	3903937.73	0.002607771	4.6378E-07	5.2155E-04	0
17	SEN	585871.57	3904381.34	0.002422466	4.3083E-07	4.8449E-04	0
8	SEN	585799.09	3904384.68	0.002238534	3.9811E-07	4.4771E-04	0
55	SEN	585262.00	3904018.24	0.00209311	3.7225E-07	4.1862E-04	0
54	SEN	585264.32	3904047.10	0.00204244	3.6324E-07	4.0849E-04	0
18	SEN	585871.57	3904391.34	0.001991237	3.5413E-07	3.9825E-04	0
43	SEN	585234.07	3903933.07	0.001950316	3.4686E-07	3.9006E-04	0
58	SEN	585234.54	3903923.30	0.001946912	3.4625E-07	3.8938E-04	0
9	SEN	585799.09	3904393.01	0.001945694	3.4603E-07	3.8914E-04	0
44	SEN	585235.47	3903911.66	0.001941813	3.4534E-07	3.8836E-04	0
53	SEN	585262.46	3904079.21	0.001928646	3.4300E-07	3.8573E-04	0
60	SEN	585221.04	3903934.00	0.001868519	3.3231E-07	3.7370E-04	0
57	SEN	585225.69	3904004.28	0.001863959	3.3150E-07	3.7279E-04	0
61	SEN	585222.44	3903910.27	0.001860266	3.3084E-07	3.7205E-04	0
46	SEN	585211.27	3903932.61	0.001809602	3.2183E-07	3.6192E-04	0

59	SEN	585210.80	3903921.90	0.001801536	3.2040E-07	3.6031E-04	0
45	SEN	585211.27	3903909.34	0.001794575	3.1916E-07	3.5892E-04	0
40	SEN	585256.41	3903794.38	0.001758879	3.1281E-07	3.5178E-04	0
10	SEN	585797.42	3904402.17	0.001684591	2.9960E-07	3.3692E-04	0
56	SEN	585218.25	3904080.61	0.001654182	2.9419E-07	3.3084E-04	0
41	SEN	585233.61	3903782.75	0.001619035	2.8794E-07	3.2381E-04	0
19	SEN	585869.91	3904403.01	0.001614902	2.8720E-07	3.2298E-04	0
42	SEN	585215.46	3903768.78	0.001504678	2.6760E-07	3.0094E-04	0

1 NonCancerChronic equals concentration divided by 5 µg/m3

2 DPM does not have an acute toxicity value and, therefore, all acute HI values are zero

Baker Travel Stop Project — Operational DPM

Emission Assumptions

Emission Factors

1) Truck Emissions

(1) EMFAC2021	
(a) Calculations for	San Bernardino-Mojave Desert
(b) Truck Mix	Fleet mix consistent with the buildout year CalEEMod runs
(c) Truck Idle	Based on diesel truck trips
(d) Onsite Vehicle Travel Speed	5 mph for trucks
(e) Offsite Vehicle Travel Speed	5-25 mph aggregated for trucks

Traffic Allocation

1) Traffic distribution based on project-specific traffic impact analysis
2) Project-specific trip generation (based on traffic impact analysis)
3) Onsite travel emissions generated from diesel trucks
4) Onsite idling emissions generated only by trucks

Emission Source Configuration

1) Project onsite truck traffic represented by a line source
2) Project onsite truck idling represented as line sources (series of point sources)
3) Offsite vehicles represented by line sources

Onsite Vehicle Travel Segments

Segment	Source ID	Segment Travel Distance (m)	
On-site Truck Route 1	ONSITE1	594.8	On-site Trucks (On-site Travel)
On-site Truck Route 2	ONSITE2	927.9	0
Onsite Truck Idling			
On-site Idling – Location 1	IDLE1	107.4	IDLE1
On-site Idling – Location 2	IDLE2	41.2	IDLE2
On-site Idling – Location 3	IDLE3	83.5	IDLE3
On-site Idling – Location 4	IDLE4	83.9	IDLE4
On-site Idling – Location 5	IDLE5	47.3	IDLE5

Offsite Vehicle Travel Segments

Segment		Segment Travel Distance (m)	
Offsite 1 - Truck Route 1	HAUL1	525.0	Enter/exit route1
Offsite 2 - Truck Route 2	HAUL2	533.1	Entry/exit route2
Offsite 3 - Truck Route 3	HAUL3	430.9	Haul route 3
Offsite 3 - Truck Route 4	HAUL4	821.2	Haul route 4

On-site TRUs

On-site TRUs – Location 1	Added to the Idle Emissions
On-site TRUs – Location 2	Added to the Idle Emissions
On-site TRUs – Location 3	Added to the Idle Emissions
On-site TRUs – Location 4	Added to the Idle Emissions
On-site TRUs – Location 5	Added to the Idle Emissions

Other Input Parameters

Facility Operations (hr/day): 24

Baker Travel Stop Project

Vehicle Fleet Mix

Total Daily Truck Trips		Trucks	Total Daily Truck Trips
(Trips/day)	Daily Trips	1,588	1,588
1,588	Fleet Mix	100.0%	100.0%

—

Vehicle Fleet

	Trucks Project Vehicle Mix	**EMFAC % Diesel**	**Total Number of Daily Trips**	**Number of Daily Diesel Trips**	**Number of Daily Non-Diesel Trips**	**Total Number of Daily Trips**	**% Diesel Trips**	**% Non-Diesel Trips**	**Total Trips**
HHDT (4+ axle truck)	100.0%	100.0%	1,588	1,588.0	0	1,588	100.00%	0.00%	
Truck Subtotal	100.0%		1,588	1,588.0	0	1,588	100.00%	0.00%	100.00%

Assumed 100% diesel HHDT.

Baker Travel Stop Project

Trip Distribution

Vehicle Allocation - Number of Daily Diesel Trips

Allocation of Building Trips

Percent Allocation - On-site Travel

50% On-site Travel – Route 1 (DSL trucks)
50% On-site Travel – Route 2 (DSL trucks)
100% Total Diesel Truck Trips

Segment - On-site Travel	Source ID	LDA	LDT1	LDT2	MDT	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	SBUS	MH	Total
On-site Truck Route 1	ONSITE1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	794.0	0.0	0.0	0.0	0.0	794.0
On-site Truck Route 2	ONSITE2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	794.0	0.0	0.0	0.0	0.0	794.0
Total Diesel Trucks	—	0	0	0	0	0	0	0	1,588	0	0	0	0	1,588

Percent Allocation of Trips - On-site Diesel Truck Idling

20.0% On-site Idling – Location 1
20.0% On-site Idling – Location 2
20.0% On-site Idling – Location 3
20.0% On-site Idling – Location 4
20.0% On-site Idling – Location 5
100% Total Diesel Truck Trips

Segment - On-site Truck Idle	Source ID	LDA	LDT1	LDT2	MDT	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	SBUS	MH	Total
On-site Idling – Location 1	IDLE1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.6	0.0	0.0	0.0	0.0	317.6
On-site Idling – Location 2	IDLE2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.6	0.0	0.0	0.0	0.0	317.6
On-site Idling – Location 3	IDLE3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.6	0.0	0.0	0.0	0.0	317.6
On-site Idling – Location 4	IDLE4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.6	0.0	0.0	0.0	0.0	317.6
On-site Idling – Location 5	IDLE5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.6	0.0	0.0	0.0	0.0	317.6
Total Idling (Diesel Trucks Idling)	—	0	0	0	0	0	0	0	1,588	0	0	0	0	1,588

Baker Travel Stop Project

Diesel Vehicle Emissions

Processes Modeled

Diesel vehicle exhaust

Diesel vehicle idling

Facility Operations

24 hrs/day, 52 weeks/year

On-site Travel Links Modeled

Link	Truck Type	Average Speed (mph)	Emission Factor (g/mi)	Trips per Daily (in and out)	Link Length (m)	Link Length (mi)	Ave Emissions Over Link (g/day)	Ave Emissions (lbs/day)	Average Emissions (g/sec)	Total Emissions for all Vehicles (g/sec)
ONSITE1	**HHDT**	5	0.012	794.0	594.8	0.37	3.391E+00	7.47E-03	3.925E-05	**3.92E-05**
ONSITE2	**HHDT**	5	0.012	794.0	927.9	0.58	5.29E+00	1.17E-02	6.12E-05	**6.12E-05**

Baker Travel Stop Project

Diesel Truck Idling Emissions

Onsite Vehicle Travel Segments	Truck Type	DPM Emission Factor (g/vehicle/day)	Idling Time (min)	Number Idling Vehicle Trips/day	Emissions (g/day)	Emissions (lb/day)	Average Emissions (g/sec)	Total Emissions for all Vehicles (g/sec)
IDLE1	**HHDT**	0.044	15	317.6	3.48E-01	7.67E-04	4.03E-06	**4.0296E-06**
IDLE2	**HHDT**	0.044	15	317.6	3.48E-01	7.67E-04	4.03E-06	**4.0296E-06**
IDLE3	**HHDT**	0.044	15	317.6	3.48E-01	7.67E-04	4.03E-06	**4.0296E-06**
IDLE4	**HHDT**	0.044	15	317.6	3.48E-01	7.67E-04	4.03E-06	**4.0296E-06**
IDLE5	**HHDT**	0.044	15	317.6	3.48E-01	7.67E-04	4.03E-06	**4.0296E-06**

Baker Travel Stop Project

Project Operations **24 hours/day**

Emission Rates **Running Emissions 5-25 mph Averaged (EMFAC2021 for San Bernardino (MD) by vehicle type and speed)**

Trip Distribution **One route within 1,000 feet of the project site**

Offsite DSL Truck Roadway Emissions

Segment ID	Description	% total Trips
HAUL1	Offsite 1 - Truck Route 1	25.0%
HAUL2	Offsite 2 - Truck Route 2	25.0%
HAUL3	Offsite 3 - Truck Route 3	25.0%
HAUL4	Offsite 3 - Truck Route 4	25.0%
	Total	100.0%

Segment ID: HAUL1

Travel Distance: 525 meters

Operations 24 hours/day

Vehicle Class	Daily Trips (trips/day)	Emission Factor (g/mi)	Travel Distance (mi)	Emissions (g/day)	Emissions (g/sec)
HHDT-DSL	397.0	0.0079606	0.33	1.031	1.19E-05
Total	397.0			**1.03E+00**	**1.19E-05**

Segment ID: HAUL2

Travel Distance: 533.1 meters

Operations 24 hours/day

Vehicle Class	Daily Trips (trips/day)	Emission Factor (g/mi)	Travel Distance (mi)	Emissions (g/day)	Emissions (g/sec)
HHDT-DSL	397.0	0.0079606	0.33	1.047	1.21E-05
Total	397.0			**1.05E+00**	**1.21E-05**

Segment ID: HAUL3

Travel Distance: 430.9 meters

Operations 24 hours/day

Vehicle Class	Daily Trips (trips/day)	Emission Factor (g/mi)	Travel Distance (mi)	Emissions (g/day)	Emissions (g/sec)
HHDT-DSL	397.0	0.0079606	0.27	0.846	9.79E-06
Total	397.0			**8.46E-01**	**9.79E-06**

Segment ID: HAUL4

Travel Distance: 821.2 meters

Operations 24 hours/day

Vehicle Class	Daily Trips (trips/day)	Emission Factor (g/mi)	Travel Distance (mi)	Emissions (g/day)	Emissions (g/sec)
HHDT-DSL	397.0	0.0079606	0.51	1.612	1.87E-05
Total	397.0				**1.87E-05**

Operational DPM **2026**

EMFAC Running Diesel Exhaust Emissions (as PM10 exhaust)
in units of grams/mile

EMFAC2021 - San Bernardino (MD)

		Emission Factor (g/mi)			
		5 mph	**10 mph**	**25 mph**	**35 mph**
HHDT	DSL	0.01156	0.01	0.005731	—

Idling Emissions for Trucks (Emission Factors from EMFAC2021)
in units of g/vehicle/day

EMFAC2021 - San Bernardino (MD)

Vehicle Class	**Fuel**	**Vehicle Speed (mph)**	**DPM g/vehicle/day**
HHDT	DSL	Idle	0.043849

Off-site Truck Running Emissions for the Health Risk Analysis—Love's Travel Stop Baker Project

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: San Bernardino (MD)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed, kWh/mile for Energy Consumption, gallon/mile for Fuel Consumption. PHEV calculated based on total VMT.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
San Bernardino (MD)	2026	HHDT	Aggregate	5	Diesel	19.04738982	10.98167338	0.011058682	0.011558706	2870.864356	0.005477954	0.452305848	0.117938843	0.134264396	1.054008328	0.027185369
San Bernardino (MD)	2026	HHDT	Aggregate	10	Diesel	122.8218692	7.786575262	0.00919768	0.009613558	2453.568733	0.003031553	0.386560753	0.065268508	0.074303228	0.647291812	0.023233829
San Bernardino (MD)	2026	HHDT	Aggregate	15	Diesel	232.089343	5.050156818	0.007211596	0.007537672	2029.546766	0.001450382	0.319755919	0.031226337	0.035548808	0.354856806	0.019218594
San Bernardino (MD)	2026	HHDT	Aggregate	20	Diesel	5765.982693	3.194055098	0.005129838	0.005361786	2010.058664	0.001120142	0.316685561	0.024116353	0.027454632	0.26041627	0.019034054
San Bernardino (MD)	2026	HHDT	Aggregate	25	Diesel	4415.736296	2.935116323	0.005483333	0.005731265	1638.759926	0.000680213	0.258187294	0.014644793	0.016671982	0.184825484	0.015518077
						Total	29.94757688	0.038081128	0.039802988	11002.79844	0.011760244	1.733495376	0.253194834	0.288243045	2.5013987	0.104189922

Running Emissions 5-25 MPH Averaged			NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
		HHDT	5.9895	0.0076	0.0080	2200.5597	0.0024	0.3467	0.0506	0.0576	0.5003	0.0208

Baker Travel Stop Project

Summary of Emissions in Pounds and Summary of HARP2 Emission Inputs for Operational DPM HRA

Diesel Truck Idling Emissions

Segment - On-site Truck Idle	Source ID	Emissions (g/day)	Emissions (lb/day)	Emissions (lb/year)	Max Emissions in an Hour (lbs/hr)
On-site Idling – Location 1	IDLE1	0.34816	0.000766872	0.279908222	7.66872E-05
On-site Idling – Location 2	IDLE2	0.34816	0.000766872	0.279908222	7.66872E-05
On-site Idling – Location 3	IDLE3	0.34816	0.000766872	0.279908222	7.66872E-05
On-site Idling – Location 4	IDLE4	0.34816	0.000766872	0.279908222	7.66872E-05
On-site Idling – Location 5	IDLE5	0.34816	0.000766872	0.279908222	7.66872E-05
	Subtotal Idle	**1.74080**	**0.003834359**	**1.399541111**	

TRU Emissions

Segment		Emissions (lb/year)	Emissions (lb/day)	Max Emissions in an Hour (lbs/hr)
On-site TRUs – Location 1		9.652011688	0.026443868	0.002644387
On-site TRUs – Location 2		9.652011688	0.026443868	0.002644387
On-site TRUs – Location 3		9.652011688	0.026443868	0.002644387
On-site TRUs – Location 4		9.652011688	0.026443868	0.002644387
On-site TRUs – Location 5		9.652011688	0.026443868	0.002644387
	Subtotal TRUs	**48.26005844**	**0.132219338**	**0.013221934**

Segment - On-site Truck Idle + TRUs	Source ID	Source #	Source Group	Emissions (lb/day)	Emissions (lb/year)	Max Emissions in an Hour (lbs/hr)
On-site Idling – Location 1	IDLE1	1	Idle1	0.027210739	9.931919911	0.002721074
On-site Idling – Location 2	IDLE2	2	Idle2	0.027210739	9.931919911	0.002721074
On-site Idling – Location 3	IDLE3	3	Idle3	0.027210739	9.931919911	0.002721074
On-site Idling – Location 4	IDLE4	4	Idle4	0.027210739	9.931919911	0.002721074
On-site Idling – Location 5	IDLE5	5	Idle5	0.027210739	9.931919911	0.002721074
			Subtotal Idle + TRUs for HARP2 Inputs	**0.136053697**	**49.65959955**	**0.01360537**

Diesel Truck On-site Travel Emissions (5 mph)

Segment	Source ID	Source Group	Emissions (g/day)	Emissions (lb/day)	Emissions (lb/year)	Max Emissions in an Hour (lbs/hr)
On-site Truck Route	ONSITE1	ONSITE1	3.391100129	0.007469384	2.726324994	0.000746938
On-site Truck Route 2	ONSITE2	ONSITE2	5.290184617	0.011652389	4.253121994	0.001165239
		Subtotal On-site Travel	**8.681284746**	**0.019121773**	**6.979446988**	

Diesel Truck Localized Off-site Travel Emissions (5-25 mph aggregated)

Segment	Source ID	Source Group	Emissions (g/day)	Emissions (lb/day)	Emissions (lb/year)	Max Emissions in an Hour (lbs/hr)
Off-site Truck Route 1	HAUL1	Off1	1.030707409	0.002270281	0.828652432	0.000227028
Off-site Truck Route 2	HAUL2	Off2	1.046609752	0.002305308	0.841437356	0.000230531
Off-site Truck Route 3	HAUL3	Off3	0.845965376	0.00186336	0.680126349	0.000186336
Off-site Truck Route 4	HAUL4	Off4	1.612222713	0.003551151	1.296170243	0.000355115
		Subtotal Off-site Travel	**4.53550525**	**0.0099901**	**3.646386379**	

Notes: Divided pounds per day by 10 hours to estimate maximum pounds in an hour.

Health Risk Summary (Summary of HARP2 Results) - Operational DPM (Unmitigated)

Baker Travel Stop

	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
Maximum Risk	1.572E-05	15.7	3.555E-03	0.0000

	X	Y
Operational MIR UTM	585899	3904285

Latitude, Longitude: 35.27803, -116.05547
Receptor # 443
MIR = Maximally Impacted Receptor

*HARP - HRACalc v22118 6/8/2023 3:36:16 PM - Cancer Risk - Input File: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30 yr)HRAInput.hra
*HARP - HRACalc v22118 6/8/2023 3:36:16 PM - Chronic Risk - Input File: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30 yr)HRAInput.hra
*HARP - HRACalc v22118 6/8/2023 3:36:16 PM - Acute Risk - Input File: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30 yr)HRAInput.hra

REC	GRP	On-site or Off-site	X	Y	RISK_SUM	SCENARIO	MAXHI NonCancer Chronic	MAXHI Acute
443	SEN	On-site	585898.69	3904284.98	1.5719E-05	30YrCancerDerived_InhSoilDermMMilkCrops	3.5553E-03	0.000
442	SEN	On-site	585879.68	3904270.72	1.4565E-05	30YrCancerDerived_InhSoilDermMMilkCrops	3.2943E-03	0.000
441	SEN	On-site	585868.81	3904260.54	1.3833E-05	30YrCancerDerived_InhSoilDermMMilkCrops	3.1288E-03	0.000
440	SEN	On-site	585854.55	3904251.03	1.2520E-05	30YrCancerDerived_InhSoilDermMMilkCrops	2.8318E-03	0.000
439	SEN	On-site	585837.58	3904238.81	1.1259E-05	30YrCancerDerived_InhSoilDermMMilkCrops	2.5465E-03	0.000
444	SEN	On-site	585847.76	3904288.38	9.7593E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.2073E-03	0.000
445	SEN	On-site	585836.22	3904276.16	9.5819E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.1672E-03	0.000
4	SEN	Off-site	585871.57	3904338.02	8.8454E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.0006E-03	0.000
438	SEN	On-site	585802.26	3904225.22	8.6322E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.9524E-03	0.000
437	SEN	On-site	585808.37	3904259.86	8.2852E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.8739E-03	0.000
14	SEN	Off-site	585872.41	3904349.69	8.1329E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.8395E-03	0.000
436	SEN	On-site	585809.05	3904277.51	7.8324E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.7715E-03	0.000
15	SEN	Off-site	585873.24	3904362.18	7.4301E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.6805E-03	0.000
3	SEN	Off-site	585846.58	3904339.69	7.4201E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.6783E-03	0.000
16	SEN	Off-site	585872.41	3904369.68	6.9936E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.5818E-03	0.000
2	SEN	Off-site	585832.42	3904340.52	6.7159E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.5190E-03	0.000
17	SEN	Off-site	585871.57	3904381.34	6.3932E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.4460E-03	0.000
18	SEN	Off-site	585871.57	3904391.34	5.9541E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.3467E-03	0.000
1	SEN	Off-site	585795.76	3904339.69	5.5669E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.2591E-03	0.000
19	SEN	Off-site	585869.91	3904403.01	5.4714E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.2375E-03	0.000
5	SEN	Off-site	585798.26	3904350.52	5.3420E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.2082E-03	0.000
20	SEN	Off-site	585870.74	3904413.00	5.1483E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.1644E-03	0.000
6	SEN	Off-site	585799.92	3904362.18	5.0870E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.1506E-03	0.000
7	SEN	Off-site	585798.26	3904373.01	4.7946E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.0844E-03	0.000
21	SEN	Off-site	585870.74	3904426.33	4.7510E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.0746E-03	0.000
8	SEN	Off-site	585799.09	3904384.68	4.5438E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.0277E-03	0.000
22	SEN	Off-site	585870.74	3904436.33	4.5014E-06	30YrCancerDerived_InhSoilDermMMilkCrops	1.0181E-03	0.000
9	SEN	Off-site	585799.09	3904393.01	4.3597E-06	30YrCancerDerived_InhSoilDermMMilkCrops	9.8606E-04	0.000
23	SEN	Off-site	585870.74	3904448.83	4.2149E-06	30YrCancerDerived_InhSoilDermMMilkCrops	9.5333E-04	0.000
10	SEN	Off-site	585797.42	3904402.17	4.1396E-06	30YrCancerDerived_InhSoilDermMMilkCrops	9.3629E-04	0.000
37	SEN	Off-site	585660.80	3904157.57	4.0303E-06	30YrCancerDerived_InhSoilDermMMilkCrops	9.1157E-04	0.000
39	SEN	Off-site	585660.80	3904167.65	3.9777E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.9966E-04	0.000
38	SEN	Off-site	585660.47	3904175.05	3.9320E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.8933E-04	0.000
11	SEN	Off-site	585798.26	3904414.67	3.9009E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.8229E-04	0.000
36	SEN	Off-site	585661.14	3904184.13	3.8983E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.8171E-04	0.000
12	SEN	Off-site	585799.92	3904423.83	3.7497E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.4809E-04	0.000
27	SEN	Off-site	585848.25	3904458.83	3.7414E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.4622E-04	0.000
35	SEN	Off-site	585638.61	3904137.39	3.6641E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.2875E-04	0.000
26	SEN	Off-site	585835.75	3904456.33	3.6608E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.2800E-04	0.000
25	SEN	Off-site	585828.25	3904458.83	3.5418E-06	30YrCancerDerived_InhSoilDermMMilkCrops	8.0107E-04	0.000
13	SEN	Off-site	585799.09	3904438.83	3.4924E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.8990E-04	0.000
24	SEN	Off-site	585817.42	3904457.16	3.4506E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.8046E-04	0.000
34	SEN	Off-site	585664.56	3904275.24	3.4457E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.7935E-04	0.000
63	SEN	Off-site	585859.97	3904490.93	3.2888E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.4387E-04	0.000
28	SEN	Off-site	585613.30	3904143.90	3.2504E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.3518E-04	0.000
29	SEN	Off-site	585611.71	3904165.64	3.1599E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.1470E-04	0.000
31	SEN	Off-site	585625.16	3904218.42	3.1333E-06	30YrCancerDerived_InhSoilDermMMilkCrops	7.0868E-04	0.000
30	SEN	Off-site	585610.03	3904189.51	3.0550E-06	30YrCancerDerived_InhSoilDermMMilkCrops	6.9099E-04	0.000
62	SEN	Off-site	585822.78	3904490.14	3.0370E-06	30YrCancerDerived_InhSoilDermMMilkCrops	6.8691E-04	0.000
33	SEN	Off-site	585636.37	3904282.34	3.0318E-06	30YrCancerDerived_InhSoilDermMMilkCrops	6.8572E-04	0.000
32	SEN	Off-site	585612.82	3904269.51	2.7763E-06	30YrCancerDerived_InhSoilDermMMilkCrops	6.2795E-04	0.000
64	SEN	Off-site	585867.09	3904539.20	2.6400E-06	30YrCancerDerived_InhSoilDermMMilkCrops	5.9711E-04	0.000
65	SEN	Off-site	585826.34	3904541.18	2.4645E-06	30YrCancerDerived_InhSoilDermMMilkCrops	5.5742E-04	0.000

67	SEN	Off-site	585859.97	3904579.15	2.1879E-06	30YrCancerDerived_InhSoilDermMMilkCrops	4.9485E-04	0.000
68	SEN	Off-site	585859.58	3904589.84	2.0951E-06	30YrCancerDerived_InhSoilDermMMilkCrops	4.7386E-04	0.000
66	SEN	Off-site	585859.97	3904601.31	2.0026E-06	30YrCancerDerived_InhSoilDermMMilkCrops	4.5294E-04	0.000
73	SEN	Off-site	585755.53	3904582.32	1.8563E-06	30YrCancerDerived_InhSoilDermMMilkCrops	4.1985E-04	0.000
74	SEN	Off-site	585755.53	3904591.02	1.8082E-06	30YrCancerDerived_InhSoilDermMMilkCrops	4.0898E-04	0.000
72	SEN	Off-site	585755.13	3904599.73	1.7600E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.9808E-04	0.000
78	SEN	Off-site	585724.28	3904583.90	1.7230E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.8970E-04	0.000
79	SEN	Off-site	585724.67	3904592.21	1.6904E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.8232E-04	0.000
76	SEN	Off-site	585736.54	3904604.47	1.6813E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.8027E-04	0.000
77	SEN	Off-site	585725.46	3904599.33	1.6645E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.7648E-04	0.000
75	SEN	Off-site	585741.68	3904619.90	1.6217E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.6678E-04	0.000
69	SEN	Off-site	585763.05	3904631.77	1.6118E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.6454E-04	0.000
71	SEN	Off-site	585762.25	3904640.47	1.5662E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.5425E-04	0.000
70	SEN	Off-site	585762.25	3904650.76	1.5163E-06	30YrCancerDerived_InhSoilDermMMilkCrops	3.4297E-04	0.000
51	SEN	Off-site	585350.89	3903957.27	1.1784E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.6652E-04	0.000
52	SEN	Off-site	585351.36	3903949.36	1.1721E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.6510E-04	0.000
50	SEN	Off-site	585351.82	3903940.05	1.1666E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.6387E-04	0.000
47	SEN	Off-site	585335.07	3903937.73	1.1029E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.4945E-04	0.000
49	SEN	Off-site	585324.83	3903938.19	1.0695E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.4189E-04	0.000
48	SEN	Off-site	585315.05	3903937.73	1.0392E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.3505E-04	0.000
53	SEN	Off-site	585262.46	3904079.21	1.0120E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.2888E-04	0.000
54	SEN	Off-site	585264.32	3904047.10	1.0052E-06	30YrCancerDerived_InhSoilDermMMilkCrops	2.2736E-04	0.000
55	SEN	Off-site	585262.00	3904018.24	9.8114E-07	30YrCancerDerived_InhSoilDermMMilkCrops	2.2191E-04	0.000
81	SEN	Off-site	585229.46	3904185.19	9.2440E-07	30YrCancerDerived_InhSoilDermMMilkCrops	2.0908E-04	0.000
56	SEN	Off-site	585218.25	3904080.61	9.1695E-07	30YrCancerDerived_InhSoilDermMMilkCrops	2.0740E-04	0.000
57	SEN	Off-site	585225.69	3904004.28	8.8702E-07	30YrCancerDerived_InhSoilDermMMilkCrops	2.0063E-04	0.000
43	SEN	Off-site	585234.07	3903933.07	8.2909E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.8752E-04	0.000
58	SEN	Off-site	585234.54	3903923.30	8.1769E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.8494E-04	0.000
44	SEN	Off-site	585235.47	3903911.66	8.0466E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.8200E-04	0.000
60	SEN	Off-site	585221.04	3903934.00	8.0346E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.8173E-04	0.000
80	SEN	Off-site	585156.21	3904134.54	7.9161E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.7905E-04	0.000
46	SEN	Off-site	585211.27	3903932.61	7.8645E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.7788E-04	0.000
61	SEN	Off-site	585222.44	3903910.27	7.7658E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.7565E-04	0.000
59	SEN	Off-site	585210.80	3903921.90	7.7271E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.7477E-04	0.000
45	SEN	Off-site	585211.27	3903909.34	7.5807E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.7146E-04	0.000
82	SEN	Off-site	585136.36	3904292.66	7.2617E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.6424E-04	0.000
84	SEN	Off-site	585111.03	3904148.91	7.1554E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.6184E-04	0.000
83	SEN	Off-site	585112.40	3904226.26	7.0722E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.5996E-04	0.000
40	SEN	Off-site	585256.41	3903794.38	6.6813E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.5112E-04	0.000
41	SEN	Off-site	585233.61	3903782.75	6.2548E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.4147E-04	0.000
42	SEN	Off-site	585215.46	3903768.78	5.8953E-07	30YrCancerDerived_InhSoilDermMMilkCrops	1.3334E-04	0.000
87	SEN	Off-site	585262.50	3903266.61	2.5460E-07	30YrCancerDerived_InhSoilDermMMilkCrops	5.7585E-05	0.000
86	SEN	Off-site	585282.78	3903244.35	2.4373E-07	30YrCancerDerived_InhSoilDermMMilkCrops	5.5128E-05	0.000
85	SEN	Off-site	585222.43	3903240.89	2.4187E-07	30YrCancerDerived_InhSoilDermMMilkCrops	5.4707E-05	0.000

Transport Refrigeration Units (TRUs) DPM Emissions—Baker Travel Stop Project

Total Daily Truck Trips	1,588
HHD Trucks Onsite per Day	**794.00**

California TRU Inventory	**Cal Trailer**	**Cal Gen**	**OOS Trailer**	**OOS Gen**	**Total**	**Fraction**	**Trucks w/TRU (if based on inventory)**	**Trucks w/TRU**
Trucks with TRUs Under 25 HP	6,000	1,500	55,000	10,000	72,500	0.3836	92.38	304.58
Trucks with TRUs Over 25 HP	28,000	3,500	70,000	15,000	116,500	0.6164	148.44	489.42
					189,000	1.000	240.82	794.00

Source: California Air Resources (ARB). 2021. ARB ISOR Appendix H: Update to Inventory of Transportation Units.
Public Hearing to Consider the Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate Initial Statement of Reasons.

Statewide Trucks All T6 and T7 Classes	623,136
Fraction of Trucks w/TRU	0.303

TRU use Onsite

	Time Onsite (hours)	**HHD and MHD Trucks Onsite/Day**	**Trucks Onsite w/TRUs**	**TRU On Time**	**TRU Op Time/Day in Hours**	**Hours by TRUs under 25 Hp**	**Hours by TRUs over 25 HP**	**Check Sum**	**Fraction**
Project Area 1	3	158.8	48.2	0.116	16.71	6.4	10.3	16.7	0.2
Project Area 2	3	158.8	48.2	0.116	16.71	6.4	10.3	16.7	0.2
Project Area 3	3	158.8	48.2	0.116	16.71	6.4	10.3	16.7	0.2
Project Area 4	3	158.8	48.2	0.116	16.71	6.4	10.3	16.7	0.2
Project Area 5	3	158.8	48.2	0.116	16.71	6.4	10.3	16.7	0.2
		794	241		**83.5**	**32.0**	**51.5**	**83.5**	**1**

Assumed 85% of trucks with TRUS that would park or fuel would stay for 1.5 hours and 15% of all trucks visiting would stay for 10 hours (mandatory rest period).
TRU on time from ARB ISOR TRU Regulation Appendix H Emission Inventory

	1.5	0.0625	0.053125	
TRU Emission Factors	10	0.416666667	0.0625	
			0.115625	

	PM2.5 g/bhp-hr	**HP**
TRUs Under 25 HP	0.12	24.8
TRUs Over 25 HP	0.02	34

Load Factors	
Under 25 HP	0.46
Over 25 HP	0.46

Source: ARB 2021 MSEI - Documentation - Off-Road - Diesel Equipment 2017 Offroad Diesel Emission Factors
https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road
Over 25 HP assumed to comply with Tier 4 Offroad Standard

TRU Emissions

	Trucks with TRUs	**Total Engine Hours/Day**	**Emission Factor g/bhp-hr**	**HP**	**Load Factor**	**Emission (g/day)**	**Emission (g/year)**	**Emission (lbs/year)**	**Emissions at Each Area (lbs/year)**	**Emissions at Each Area (average g/sec)**
TRUs Under 25 HP	304.6	32.0	0.12	24.8	0.46	43.87	16011.52	35.30	7.06	1.0154E-04
TRUs Over 25 HP	489.4	51.5	0.02	34	0.46	16.11	5878.90	12.96	2.59	3.7284E-05
Total	794.0	83.5				**59.97**	**21890.42**	**48.26**	**9.65**	**1.3883E-04**

g/lb conversion factor	0.00220

HARP2 - HRACalc (dated 22118) 6/8/2023 3:36:16 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
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: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True

Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

```
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM
(30 yr)CancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30
yr)CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM
(30 yr)NCChronicRisk.csv
Chronic risk total by receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30
yr)NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30
yr)NCAcuteRisk.csv
Acute risk total by receptor saved to: F:\Jobs\46470005\BakerTS_OP_DPM\HARP\hra\Op DPM (30
yr)NCAcuteRiskSumByRec.csv
HRA ran successfully
```

Baker Travel Center Project Gas Station—Benzene Emissions Calculations

Total Capacity (gallons) 38,000 (1 x 8,000 + 1 x 30,000 gallon gasoline storage tanks)
Maximum Permitted Total Annual Throughput (gallons) 2,750,000 (Annual permitted throughput value in gallons)

Benzene Emissions Calculations (Based on 24-hr, 7-day per week Operations)

Storage Tanks (Area 1 of 2)	Total Capacity (gallons)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Fuel Movement (gallons)	lbs/day	g/day	g/sec
Loading	19,000	1,375,000	0.001260	3,767	0.005	2.1530E+00	2.4919E-05
Breathing			0.000075	19,000	0.001	6.4637E-01	7.4811E-06

Storage Tanks (Area 2 of 2)	Total Capacity (gallons)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Fuel Movement (gallons)	lbs/day	g/day	g/sec
Loading	19,000	1,375,000	0.001260	3,767	0.005	2.1530E+00	2.4919E-05
Breathing			0.000075	19,000	0.001	6.4637E-01	7.4811E-06

Fuel Dispensers (Total)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	2,750,000	0.000960	7,534	0.007	3.2808E+00	3.7972E-05
Spillage		0.002400	7,534	0.018	8.2019E+00	9.4930E-05

Sources:
BAAQMD Air Toxics NSR Program Health Risk Assessment Guidelines (2016); SCAQMD Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations (2007); and CAPCOA Gasoline Service Station Industrywide Risk Assessment Guidelines (1997).

Fuel Dispensers (Row 1 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Fuel Dispensers (Row 2 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Fuel Dispensers (Row 3 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Fuel Dispensers (Row 4 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Fuel Dispensers (Row 5 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Fuel Dispensers (Row 6 of 6)	Annual Throughput (gallons)	Emission Factor (lbs/1,000 gallons)	Daily Throughput (gallons)	lbs/day	g/day	g/sec
Refueling	458,333	0.000960	1,256	0.001	5.4680E-01	6.3287E-06
Spillage		0.002400	1,256	0.003	1.3670E+00	1.5822E-05

Benzene Input Summary

Parameter	Location	Source	Height (m)	Diameter (m)	Vertical dimension (m)	Release height (m)
Loading	Storage tanks	Point	3.66	0.05	-	-
Breathing	Storage tanks	Point	3.66	0.05	-	-
Refueling	Canopy	Volume	-	-	5	1
Spillage	Canopy	Volume	-	-	5	0

Storage Tanks (Loading + Breathing)
Fuel Dispensers (Refueling)
Fuel Dispensers (Spillage)

Assumed Hours per Day	Hours of Operation	Hours Per Day	Hours Per Year of Operations	Hours Per Year (24/day)	Factor
Sunday	24 hours	24	1,248	1,248	1.0000
Monday	24 hours	24	1,248	1,248	1.0000
Tuesday	24 hours	24	1,248	1,248	1.0000
Wednesday	24 hours	24	1,248	1,248	1.0000
Thursday	24 hours	24	1,248	1,248	1.0000
Friday	24 hours	24	1,248	1,248	1.0000
Saturday	24 hours	24	1,248	1,248	1.0000

Baker Travel Center Project Gas Station—Benzene Health Risk Calculations

Risk Calculations

1-Hour Average Concentration:	1.48040	1-Hour concentration (µg/m3) from air dispersion model
24-Hour Average Concentration:	0.08202	24-Hour average concentration (µg/m3) from air dispersion model
Annual Average Concentration:	0.00583	annual average concentration (µg/m3) from air dispersion model

Cancer Risk

	3rd trimester	0<2 years	2<9 years	9<16 years	2<16 years	16<30 years	30<70 years	16<70 years
DOSEair = (Cair*(BR/BW)*A*EF*10^{-6})	2.02044E-06	6.10051E-06	3.53158E-06	3.20137E-06	3.20137E-06	1.46076E-06	1.30405E-06	1.30405E-06
Risk = DOSEair * CPF * ASF * ED/AT * FAH	6.13349E-09	1.48155E-07	7.62821E-08	6.91496E-08	1.38299E-07	2.13272E-08	5.43977E-08	7.34369E-08
Exposure Duration (years)	0.25	2	7	7	14	14	40	54

Cancer Risk:

	Risk	in one million	Exposure (years)
70-year exposure	3.660E-07	0.37	70
30-year exposure	3.139E-07	0.31	30
9-year exposure	2.306E-07	0.23	9

	DOSEair		mg/kg-d	Dose through inhalation
	CPF	0.1	$(mg/kg/day)^{-1}$	Cancer Potency Factor for Benzene
BR/BW	BR/BW (3rd trimester)	361	L/kg	Daily Breathing rate normalized to body weight
	BR/BW (0 < 2 years)	1,090	bodyweight-	95th percentile used for 3rd trimester and 0<2
	BR/BW (2 < 9 years)	631	day	80th percentile used for all other age bins
	BR/BW (2 < 16 years)	572		
	BR/BW (9 < 16 years)	572		
	BR/BW (16 < 30 years)	261		
	BR/BW (16 < 70 years)	233		
	10^{-6}	1.00E-06		Micrograms to milligrams conversions, liters to cubic meters conversion
	Cair	0.1	ug/m3	Concentration in air (ug/m3), modeled annual average concentration
	A	1		Inhalation absorption factor
	EF	0.96	days/year	Exposure frequency (days/year)
ED	ED (3rd trimester)	0.25	years	Exposure duration (years)
	ED (0 < 2 years)	2		
	ED (2 < 9 years)	7		
	ED (9 < 16 years)	7		
	ED (2 < 16, 16 < 30 years)	14		
	ED (16<70 years)	40		
	ED (16 - 70 years)	54		
	AT	70	years	Averaging time period over which exposure is averaged
ASF	ASF (3rd trimester - 2 years)	10		Age Sensitivity Factor
	ASF (2 - 16 years)	3		
	ASF (16 - 70 years)	1		
FAH	FAH (3rd trimester - 2 years)	0.85		Fraction of time spent at home (unitless)
	FAH (2 - 16 years)	0.72		
	FAH (16 - 70 years)	0.73		

Baker Travel Center Project Gas Station—Benzene Health Risk Calculations (Continued)

Chronic Noncancer Hazard

Threshold:	1	
Hazard Quotient = Ci/RELi		
HQ =	0.0019	Hazard Quotient
C_i	0.006	Concentration in the air of substance i (annual average concentration in µg/m^3)
REL_i	3	Chronic noncancer Reference Exposure Level for substance i (µg/m^3)
Chronic RELi (Benzene):	3	
Chronic RELi (Diesel Exhaust):	5	Shown for informational purposes only (not used in benzene calculations)

Acute NonCancer Hazard

Threshold:	1	
Acute HQ = Maximum Hourly Concentration/Acute REL		
Acute HQ =	0.0548	Acute HQ = Maximum Hourly Air Concentration (µg/m^3) / Acute REL (µg/m^3)
Maximum Hourly	1.480	Maximum Hourly Air Concentration (µg/m^3)
Acute (Benzene):	27	Acute REL (µg/m^3)
8-hour (Benzene):	3	
Chronic (Benzene):	3	

1-HR
AVERAGE CONC
Maximum 1.4804

24-HR
AVERAGE CONC
Maximum 0.08202

PERIOD
AVERAGE CONC
Maximum 0.005830
UTM
X Y
585802.26 3904225.22

```
*  AERMOD (22112): F:\Jobs\46470005\BakerTS_OP_Benzene\BakerTS_OP_Benzene.isc 6/8/2023
*  AERMET (19191): 5:59:56 PM
*  MODELING OPTIONS USED:  Reg DFAULT CONCELEV RURAL ADJ_U*
*  PLOT FILE OF  HIGH 1ST HIGH  1-HR VALUES FOR SOURCE GROUP: ALL
*  FOR A TOTAL OF 477 RECEPTORS.
*  FORMAT: (3(1X,F13.5),3(1X,F8.2),3X,A5,2X,A8,2X,A5,5X,A8,2X,I8)
*
*       X           Y          AVERAGE CONC    ZELEV     ZHILL     ZFLAG   AVE     GRP    RANK    NET ID   DATE(CONC)
*
     585795.76  3904339.69      0.23532       307       307        0    1-HR    ALL     1ST                  15010903
     585832.42  3904340.52      0.27104    307.38    307.38        0    1-HR    ALL     1ST                  20122019
     585846.58  3904339.69      0.27883    307.85    307.85        0    1-HR    ALL     1ST                  19121219
     585871.57  3904338.02      0.30604       308       308        0    1-HR    ALL     1ST                  16020722
     585798.26  3904350.52      0.22844       307       307        0    1-HR    ALL     1ST                  15010903
     585799.92  3904362.18      0.21851       307       307        0    1-HR    ALL     1ST                  15010903
     585798.26  3904373.01      0.21039       307       307        0    1-HR    ALL     1ST                  15010903
     585799.09  3904384.68      0.20088       307       307        0    1-HR    ALL     1ST                  15010903
     585799.09  3904393.01      0.19453       307       307        0    1-HR    ALL     1ST                  15010903
     585797.42  3904402.17      0.18917       307       307        0    1-HR    ALL     1ST                  15010903
     585798.26  3904414.67      0.17969       307       307        0    1-HR    ALL     1ST                  15010903
     585799.92  3904423.83      0.1772        307       307        0    1-HR    ALL     1ST                  19121703
     585799.09  3904438.83      0.16903    307.12    307.12        0    1-HR    ALL     1ST                  19121703
     585872.41  3904349.69      0.29042       308       308        0    1-HR    ALL     1ST                  16020722
     585873.24  3904362.18      0.27456       308       308        0    1-HR    ALL     1ST                  16020722
     585872.41  3904369.68      0.26496       308       308        0    1-HR    ALL     1ST                  16020722
     585871.57  3904381.34      0.24904       308       308        0    1-HR    ALL     1ST                  16020722
     585871.57  3904391.34      0.23607       308       308        0    1-HR    ALL     1ST                  16020722
     585869.91  3904403.01      0.22455       308       308        0    1-HR    ALL     1ST                  18020121
     585870.74  3904413.00      0.21603       308       308        0    1-HR    ALL     1ST                  18020121
     585870.74  3904426.33      0.20663    308.02    308.02        0    1-HR    ALL     1ST                  16020720
     585870.74  3904436.33      0.19961    308.23    308.23        0    1-HR    ALL     1ST                  16020720
     585870.74  3904448.83      0.19089    308.51    308.51        0    1-HR    ALL     1ST                  16020720
     585817.42  3904457.16      0.16535    307.88    307.88        0    1-HR    ALL     1ST                  15010420
     585828.25  3904458.83      0.17558       308       308        0    1-HR    ALL     1ST                  15010420
     585835.75  3904456.33      0.17679       308       308        0    1-HR    ALL     1ST                  20122019
     585848.25  3904458.83        0.1762      308       308        0    1-HR    ALL     1ST                  19121219
     585613.30  3904143.90      0.37697       303       303        0    1-HR    ALL     1ST                  16020308
     585611.71  3904165.64      0.30899       303       303        0    1-HR    ALL     1ST                  20121619
     585610.03  3904189.51      0.30915    302.96    302.96        0    1-HR    ALL     1ST                  16012108
     585625.16  3904218.42      0.27183       303       303        0    1-HR    ALL     1ST                  16102717
     585612.82  3904269.51      0.19313    303.04    303.04        0    1-HR    ALL     1ST                  19122021
     585636.37  3904282.34      0.20428    303.84    303.84        0    1-HR    ALL     1ST                  20112808
     585664.56  3904275.24      0.21905       304       304        0    1-HR    ALL     1ST                  16012202
     585638.61  3904137.39      0.42539       303       303        0    1-HR    ALL     1ST                  16020308
     585661.14  3904184.13      0.35573    303.67    303.67        0    1-HR    ALL     1ST                  15012820
     585660.80  3904157.57      0.39469    303.65    303.65        0    1-HR    ALL     1ST                  15120818
     585660.47  3904175.05      0.38524    303.64    303.64        0    1-HR    ALL     1ST                  16012108
     585660.80  3904167.65      0.40017    303.65    303.65        0    1-HR    ALL     1ST                  16012108
     585256.41  3903794.38      0.10127    296.18    296.18        0    1-HR    ALL     1ST                  16020419
     585233.61  3903782.75      0.09568       296       296        0    1-HR    ALL     1ST                  16020419
     585215.46  3903768.78      0.09314    295.81    295.81        0    1-HR    ALL     1ST                  16020419
     585234.07  3903933.07      0.10254    296.43    296.43        0    1-HR    ALL     1ST                  19011918
     585235.47  3903911.66      0.10845    296.48    296.48        0    1-HR    ALL     1ST                  16011418
     585211.27  3903909.34      0.10082       296       296        0    1-HR    ALL     1ST                  20010419
     585211.27  3903932.61      0.09562       296       296        0    1-HR    ALL     1ST                  19011918
     585335.07  3903937.73        0.1363      298       298        0    1-HR    ALL     1ST                  16011418
     585315.05  3903937.73      0.13311       298       298        0    1-HR    ALL     1ST                  16011418
     585324.83  3903938.19        0.1356      298       298        0    1-HR    ALL     1ST                  16011418
     585351.82  3903940.05        0.1376      298       298        0    1-HR    ALL     1ST                  16011418
     585350.89  3903957.27      0.14383    298.13    298.13        0    1-HR    ALL     1ST                  20010419
     585351.36  3903949.36      0.14506    298.04    298.04        0    1-HR    ALL     1ST                  16011418
     585262.46  3904079.21      0.11632       297       297        0    1-HR    ALL     1ST                  19123006
     585264.32  3904047.10      0.11683       297       297        0    1-HR    ALL     1ST                  15021706
     585262.00  3904018.24      0.11337       297       297        0    1-HR    ALL     1ST                  18010308
     585218.25  3904080.61      0.10689     296.9     296.9        0    1-HR    ALL     1ST                  19123006
     585225.69  3904004.28      0.10122    296.15    296.15        0    1-HR    ALL     1ST                  16123024
     585234.54  3903923.30      0.10725    296.45    296.45        0    1-HR    ALL     1ST                  20010419
     585210.80  3903921.90        0.0994      296       296        0    1-HR    ALL     1ST                  20010419
     585221.04  3903934.00      0.09805       296       296        0    1-HR    ALL     1ST                  19011918
     585222.44  3903910.27      0.10414    296.04    296.04        0    1-HR    ALL     1ST                  16011418
     585822.78  3904490.14      0.15597       308       308        0    1-HR    ALL     1ST                  15010420
     585859.97  3904490.93      0.16017    308.29    308.29        0    1-HR    ALL     1ST                  19121219
     585867.09  3904539.20      0.13699    308.53    308.53        0    1-HR    ALL     1ST                  19121219
     585826.34  3904541.18      0.13647       308       308        0    1-HR    ALL     1ST                  15010420
     585859.97  3904601.31      0.11704     308.9     308.9        0    1-HR    ALL     1ST                  19121219
     585859.97  3904579.15      0.12488    308.38    308.38        0    1-HR    ALL     1ST                  19121219
     585859.58  3904589.84      0.12089    308.62    308.62        0    1-HR    ALL     1ST                  19121219
     585763.05  3904631.77      0.10076    307.06    307.06        0    1-HR    ALL     1ST                  15010903
     585762.25  3904650.76      0.09694    307.04    307.04        0    1-HR    ALL     1ST                  15010903
     585762.25  3904640.47      0.09887    307.04    307.04        0    1-HR    ALL     1ST                  15010903
     585755.13  3904599.73      0.10351    306.96    306.96        0    1-HR    ALL     1ST                  16110824
     585755.53  3904582.32      0.10785    306.85    306.85        0    1-HR    ALL     1ST                  16111921
     585755.53  3904591.02      0.10559    306.91    306.91        0    1-HR    ALL     1ST                  16111921
     585741.68  3904619.90      0.10299       307       307        0    1-HR    ALL     1ST                  15020218
     585736.54  3904604.47        0.1087    306.97    306.97        0    1-HR    ALL     1ST                  15020218
     585725.46  3904599.33        0.1071    306.64    306.64        0    1-HR    ALL     1ST                  18010720
     585724.28  3904583.90      0.11205       306.21    306.21        0    1-HR    ALL     1ST                  18010720
     585724.67  3904592.21      0.10954    306.43    306.43        0    1-HR    ALL     1ST                  18010720
     585156.21  3904134.54      0.08828    295.84    295.84        0    1-HR    ALL     1ST                  16122306
     585229.46  3904185.19      0.10404       297       297        0    1-HR    ALL     1ST                  19011704
     585136.36  3904292.66      0.08308       296       296        0    1-HR    ALL     1ST                  20121619
     585112.40  3904226.26      0.08639    295.38    295.38        0    1-HR    ALL     1ST                  16020308
     585111.03  3904148.91        0.0795      295       295        0    1-HR    ALL     1ST                  20022021
     585222.43  3903240.89      0.05486    292.53    292.53        0    1-HR    ALL     1ST                  16010219
     585282.78  3903244.35      0.06018    294.03    294.03        0    1-HR    ALL     1ST                  16020420
     585262.50  3903266.61      0.05804    293.61    293.61        0    1-HR    ALL     1ST                  16010219
     585422.85  3903727.45      0.14395    298.72    298.72        0    1-HR    ALL     1ST                  15013021
     585462.85  3903727.45      0.15315    299.06    299.06        0    1-HR    ALL     1ST                  20010319
     585502.85  3903727.45      0.15127       300       300        0    1-HR    ALL     1ST                  16011918
     585542.85  3903727.45      0.18577       300       300        0    1-HR    ALL     1ST                  19012817
     585582.85  3903727.45      0.18977       301       301        0    1-HR    ALL     1ST                  16020420

*  AERMOD (22112): F:\Jobs\46470005\BakerTS_OP_Benzene\BakerTS_OP_Benzene.isc 6/8/2023
*  AERMET (19191): 6:22:22 PM
*  MODELING OPTIONS USED:  Reg DFAULT CONCELEV RURAL ADJ_U*
*  PLOT FILE OF  HIGH 1ST HIGH 24-HR VALUES FOR SOURCE GROUP: ALL
*  FOR A TOTAL OF 97 RECEPTORS.
*  FORMAT: (3(1X,F13.5),3(1X,F8.2),3X,A5,2X,A8,2X,A5,5X,A8,2X,I8)
*
*       X           Y          AVERAGE CONC    ZELEV     ZHILL     ZFLAG   AVE     GRP    RANK    NET ID   DATE(CONC)
*
     585795.76  3904339.69      0.03002       307       307        0   24-HR    ALL     1ST                  15112724
     585832.42  3904340.52       0.0198    307.38    307.38        0   24-HR    ALL     1ST                  19010524
     585846.58  3904339.69      0.02296    307.85    307.85        0   24-HR    ALL     1ST                  16020724
     585871.57  3904338.02      0.02787       308       308        0   24-HR    ALL     1ST                  16020724
     585798.26  3904350.52      0.02676       307       307        0   24-HR    ALL     1ST                  15112724
     585799.92  3904362.18      0.02384       307       307        0   24-HR    ALL     1ST                  15112724
     585798.26  3904373.01      0.02237       307       307        0   24-HR    ALL     1ST                  15112724
     585799.09  3904384.68       0.0201       307       307        0   24-HR    ALL     1ST                  15112724
     585799.09  3904393.01      0.01879       307       307        0   24-HR    ALL     1ST                  15112724
     585797.42  3904402.17      0.01792       307       307        0   24-HR    ALL     1ST                  15112724
     585798.26  3904414.67      0.01599       307       307        0   24-HR    ALL     1ST                  15112724
     585799.92  3904423.83      0.01445       307       307        0   24-HR    ALL     1ST                  15112724
     585799.09  3904438.83      0.01302    307.12    307.12        0   24-HR    ALL     1ST                  15112724
     585872.41  3904349.69      0.02596       308       308        0   24-HR    ALL     1ST                  16020724
     585873.24  3904362.18        0.0242      308       308        0   24-HR    ALL     1ST                  16020724
     585872.41  3904369.68      0.02327       308       308        0   24-HR    ALL     1ST                  16020724
     585871.57  3904381.34       0.0219       308       308        0   24-HR    ALL     1ST                  16020724
     585871.57  3904391.34      0.02081       308       308        0   24-HR    ALL     1ST                  16020724
     585869.91  3904403.01      0.01952       308       308        0   24-HR    ALL     1ST                  16020724
     585870.74  3904413.00      0.01862       308       308        0   24-HR    ALL     1ST                  16020724
     585870.74  3904426.33      0.01741    308.02    308.02        0   24-HR    ALL     1ST                  16020724
     585870.74  3904436.33      0.01654    308.23    308.23        0   24-HR    ALL     1ST                  16020724
     585870.74  3904448.83        0.0155    308.51    308.51        0   24-HR    ALL     1ST                  16020724
     585817.42  3904457.16      0.01082    307.88    307.88        0   24-HR    ALL     1ST                  16012124
     585828.25  3904458.83      0.01072       308       308        0   24-HR    ALL     1ST                  16012124
     585835.75  3904456.33      0.01109       308       308        0   24-HR    ALL     1ST                  15030424
     585848.25  3904458.83      0.01211       308       308        0   24-HR    ALL     1ST                  15121824
     585613.30  3904143.90      0.03436       303       303        0   24-HR    ALL     1ST                  19120424
     585611.71  3904165.64      0.03707       303       303        0   24-HR    ALL     1ST                  18120524
     585610.03  3904189.51      0.04053    302.96    302.96        0   24-HR    ALL     1ST                  16122324
     585625.16  3904218.42      0.03342       303       303        0   24-HR    ALL     1ST                  19120524
     585612.82  3904269.51      0.02705    303.04    303.04        0   24-HR    ALL     1ST                  19120524
     585636.37  3904282.34      0.02863    303.84    303.84        0   24-HR    ALL     1ST                  18120424
     585664.56  3904275.24      0.03838       304       304        0   24-HR    ALL     1ST                  18120424
     585638.61  3904137.39      0.04031       303       303        0   24-HR    ALL     1ST                  19120424
     585661.14  3904184.13      0.05135    303.67    303.67        0   24-HR    ALL     1ST                  16122324
     585660.80  3904157.57      0.05663    303.65    303.65        0   24-HR    ALL     1ST                  16122324
     585660.47  3904175.05      0.05548    303.64    303.64        0   24-HR    ALL     1ST                  16122324
     585660.80  3904167.65       0.0575    303.65    303.65        0   24-HR    ALL     1ST                  16122324
     585256.41  3903794.38      0.00739    296.18    296.18        0   24-HR    ALL     1ST                  19120124
     585233.61  3903782.75      0.00705       296       296        0   24-HR    ALL     1ST                  19120124
     585215.46  3903768.78      0.00654    295.81    295.81        0   24-HR    ALL     1ST                  19120124
     585234.07  3903933.07      0.00652    296.43    296.43        0   24-HR    ALL     1ST                  19120224
     585235.47  3903911.66      0.00593    296.48    296.48        0   24-HR    ALL     1ST                  20040724
     585211.27  3903909.34      0.00552       296       296        0   24-HR    ALL     1ST                  20040724
     585211.27  3903932.61      0.00658       296       296        0   24-HR    ALL     1ST                  19011524
     585335.07  3903937.73      0.00836       298       298        0   24-HR    ALL     1ST                  16011624
     585315.05  3903937.73      0.00733       298       298        0   24-HR    ALL     1ST                  20040724
     585324.83  3903938.19       0.0077       298       298        0   24-HR    ALL     1ST                  16011624
     585351.82  3903940.05      0.00913       298       298        0   24-HR    ALL     1ST                  16011624
     585350.89  3903957.27      0.00791    298.13    298.13        0   24-HR    ALL     1ST                  20040724
     585351.36  3903949.36      0.00805    298.04    298.04        0   24-HR    ALL     1ST                  20040724
     585262.46  3904079.21      0.01108       297       297        0   24-HR    ALL     1ST                  16010224
     585264.32  3904047.10      0.00857       297       297        0   24-HR    ALL     1ST                  16010424
     585262.00  3904018.24      0.00917       297       297        0   24-HR    ALL     1ST                  20040924
     585218.25  3904080.61      0.01016     296.9     296.9        0   24-HR    ALL     1ST                  16010224
     585225.69  3904004.28      0.00846    296.15    296.15        0   24-HR    ALL     1ST                  20040924
     585234.54  3903923.30      0.00581    296.45    296.45        0   24-HR    ALL     1ST                  19120224
     585210.80  3903921.90      0.00594       296       296        0   24-HR    ALL     1ST                  19120224
     585221.04  3903934.00      0.00657       296       296        0   24-HR    ALL     1ST                  19011524
     585222.44  3903910.27       0.0057    296.04    296.04        0   24-HR    ALL     1ST                  20040724
     585822.78  3904490.14      0.00977       308       308        0   24-HR    ALL     1ST                  16012124
     585859.97  3904490.93      0.01177    308.29    308.29        0   24-HR    ALL     1ST                  15121824
     585867.09  3904539.20      0.01017    308.53    308.53        0   24-HR    ALL     1ST                  15121824
     585826.34  3904541.18      0.00829       308       308        0   24-HR    ALL     1ST                  16012124
     585859.97  3904601.31      0.00769     308.9     308.9        0   24-HR    ALL     1ST                  15121824
     585859.97  3904579.15      0.00837    308.38    308.38        0   24-HR    ALL     1ST                  15121824
     585859.58  3904589.84       0.008     308.62    308.62        0   24-HR    ALL     1ST                  15121824
     585763.05  3904631.77      0.00677    307.06    307.06        0   24-HR    ALL     1ST                  15112724
     585762.25  3904650.76      0.00616    307.04    307.04        0   24-HR    ALL     1ST                  15112724
     585762.25  3904640.47      0.00653    307.04    307.04        0   24-HR    ALL     1ST                  15112724
     585755.13  3904599.73      0.00924    306.96    306.96        0   24-HR    ALL     1ST                  15112724
     585755.53  3904582.32      0.01015    306.85    306.85        0   24-HR    ALL     1ST                  15112724
     585755.53  3904591.02      0.00965    306.91    306.91        0   24-HR    ALL     1ST                  15112724
     585741.68  3904619.90      0.00994       307       307        0   24-HR    ALL     1ST                  15112724
     585736.54  3904604.47      0.01142    306.97    306.97        0   24-HR    ALL     1ST                  15112724
     585725.46  3904599.33      0.01293    306.64    306.64        0   24-HR    ALL     1ST                  15112724
     585724.28  3904583.90      0.01395    306.21    306.21        0   24-HR    ALL     1ST                  15112724
     585724.67  3904592.21      0.01342    306.43    306.43        0   24-HR    ALL     1ST                  15112724
     585156.21  3904134.54       0.008     295.84    295.84        0   24-HR    ALL     1ST                  16122324
     585229.46  3904185.19      0.00695       297       297        0   24-HR    ALL     1ST                  19102824
     585136.36  3904292.66      0.00539       296       296        0   24-HR    ALL     1ST                  18021124
     585112.40  3904226.26      0.00592    295.38    295.38        0   24-HR    ALL     1ST                  19120424
     585111.03  3904148.91      0.00643       295       295        0   24-HR    ALL     1ST                  16122324
     585222.43  3903240.89      0.00342    292.53    292.53        0   24-HR    ALL     1ST                  15112324
     585282.78  3903244.35      0.00277    294.03    294.03        0   24-HR    ALL     1ST                  18101524
     585262.50  3903266.61      0.00316    293.61    293.61        0   24-HR    ALL     1ST                  15112324
     585809.05  3904277.51      0.04177       306.6     306.6        0   24-HR    ALL     1ST                  15112724
     585808.37  3904259.86      0.04894    306.57    306.57        0   24-HR    ALL     1ST                  15112724
     585802.26  3904225.22      0.08202     306.12    306.12        0   24-HR    ALL     1ST                  15112724
     585837.58  3904238.81      0.05271       306.9     306.9        0   24-HR    ALL     1ST                  15112724
     585854.55  3904251.03      0.05776    307.11    307.11        0   24-HR    ALL     1ST                  16020724

*  AERMOD (22112): F:\Jobs\46470005\BakerTS_OP_Benzene\BakerTS_OP_Benzene.isc 6/8/2023
*  AERMET (19191): 6:22:02 PM
*  MODELING OPTIONS USED:  Reg DFAULT CONCELEV RURAL ADJ_U*
*  PLOT     FILE OF PERIOD    VALUES AVERA      GED ACROS 0 YEARS     FOR SO      URCE GRO   UP: ALL
*  FOR A    TOTAL OF  97      RECEPTORS.
*  FORMAT: (3(1X,F13.5),3(1X,F8.2),2X,A6,2X,A8,2X,I8.8,2X,A8)
*  X           Y          AVERAGE CONC    ZELEV     ZHILL     ZFLAG   AVE     GRP    NUM HRS  NET ID
*
     585795.76  3904339.69      0.00162       307       307        0  PERIOD    ALL      43848
     585832.42  3904340.52      0.00157    307.38    307.38        0  PERIOD    ALL      43848
     585846.58  3904339.69      0.00157    307.85    307.85        0  PERIOD    ALL      43848
     585871.57  3904338.02      0.00159       308       308        0  PERIOD    ALL      43848
     585798.26  3904350.52      0.00148       307       307        0  PERIOD    ALL      43848
     585799.92  3904362.18      0.00135       307       307        0  PERIOD    ALL      43848
     585798.26  3904373.01      0.00125       307       307        0  PERIOD    ALL      43848
     585799.09  3904384.68      0.00115       307       307        0  PERIOD    ALL      43848
     585799.09  3904393.01      0.00108       307       307        0  PERIOD    ALL      43848
     585797.42  3904402.17      0.00102       307       307        0  PERIOD    ALL      43848
     585798.26  3904414.67      0.00094       307       307        0  PERIOD    ALL      43848
     585799.92  3904423.83      0.00089       307       307        0  PERIOD    ALL      43848
     585799.09  3904438.83      0.00082    307.12    307.12        0  PERIOD    ALL      43848
     585872.41  3904349.69      0.00144       308       308        0  PERIOD    ALL      43848
     585873.24  3904362.18        0.0013      308       308        0  PERIOD    ALL      43848
     585872.41  3904369.68      0.00123       308       308        0  PERIOD    ALL      43848
     585871.57  3904381.34      0.00112       308       308        0  PERIOD    ALL      43848
     585871.57  3904391.34      0.00105       308       308        0  PERIOD    ALL      43848
     585869.91  3904403.01      0.00097       308       308        0  PERIOD    ALL      43848
     585870.74  3904413.00      0.0009        308       308        0  PERIOD    ALL      43848
     585870.74  3904426.33      0.00083    308.02    308.02        0  PERIOD    ALL      43848
     585870.74  3904436.33      0.00078    308.23    308.23        0  PERIOD    ALL      43848
     585870.74  3904448.83      0.00073    308.51    308.51        0  PERIOD    ALL      43848
     585817.42  3904457.16      0.00073    307.88    307.88        0  PERIOD    ALL      43848
     585828.25  3904458.83      0.00071       308       308        0  PERIOD    ALL      43848
     585835.75  3904456.33      0.00071       308       308        0  PERIOD    ALL      43848
     585848.25  3904458.83      0.00069       308       308        0  PERIOD    ALL      43848
     585613.30  3904143.90      0.00224       303       303        0  PERIOD    ALL      43848
     585611.71  3904165.64      0.00216       303       303        0  PERIOD    ALL      43848
     585610.03  3904189.51      0.00205    302.96    302.96        0  PERIOD    ALL      43848
     585625.16  3904218.42      0.00193       303       303        0  PERIOD    ALL      43848
     585612.82  3904269.51      0.00136    303.04    303.04        0  PERIOD    ALL      43848
     585636.37  3904282.34      0.00146    303.84    303.84        0  PERIOD    ALL      43848
     585664.56  3904275.24      0.00174       304       304        0  PERIOD    ALL      43848
     585638.61  3904137.39        0.0028      303       303        0  PERIOD    ALL      43848
     585661.14  3904184.13      0.00302    303.67    303.67        0  PERIOD    ALL      43848
     585660.80  3904157.57      0.00342    303.65    303.65        0  PERIOD    ALL      43848
     585660.47  3904175.05      0.00317    303.64    303.64        0  PERIOD    ALL      43848
     585660.80  3904167.65      0.0033     303.65    303.65        0  PERIOD    ALL      43848
     585256.41  3903794.38      0.00025    296.18    296.18        0  PERIOD    ALL      43848
     585233.61  3903782.75      0.00023       296       296        0  PERIOD    ALL      43848
     585215.46  3903768.78      0.00022    295.81    295.81        0  PERIOD    ALL      43848
     585234.07  3903933.07      0.00033    296.43    296.43        0  PERIOD    ALL      43848
     585235.47  3903911.66      0.00031    296.48    296.48        0  PERIOD    ALL      43848
     585211.27  3903909.34      0.00029       296       296        0  PERIOD    ALL      43848
     585211.27  3903932.61      0.00031       296       296        0  PERIOD    ALL      43848
     585335.07  3903937.73      0.00041       298       298        0  PERIOD    ALL      43848
     585315.05  3903937.73      0.0004        298       298        0  PERIOD    ALL      43848
     585324.83  3903938.19      0.00041       298       298        0  PERIOD    ALL      43848
     585351.82  3903940.05      0.00043       298       298        0  PERIOD    ALL      43848
     585350.89  3903957.27      0.00046    298.13    298.13        0  PERIOD    ALL      43848
     585351.36  3903949.36      0.00045    298.04    298.04        0  PERIOD    ALL      43848
     585262.46  3904079.21      0.00041       297       297        0  PERIOD    ALL      43848
     585264.32  3904047.10      0.00041       297       297        0  PERIOD    ALL      43848
     585262.00  3904018.24      0.00041       297       297        0  PERIOD    ALL      43848
     585218.25  3904080.61      0.00036     296.9     296.9        0  PERIOD    ALL      43848
     585225.69  3904004.28      0.00036    296.15    296.15        0  PERIOD    ALL      43848
     585234.54  3903923.30      0.00032    296.45    296.45        0  PERIOD    ALL      43848
     585210.80  3903921.90       0.0003       296       296        0  PERIOD    ALL      43848
     585221.04  3903934.00      0.00032       296       296        0  PERIOD    ALL      43848
     585222.44  3903910.27       0.0003    296.04    296.04        0  PERIOD    ALL      43848
     585822.78  3904490.14      0.00061       308       308        0  PERIOD    ALL      43848
     585859.97  3904490.93      0.00058    308.29    308.29        0  PERIOD    ALL      43848
     585867.09  3904539.20      0.00047    308.53    308.53        0  PERIOD    ALL      43848
     585826.34  3904541.18      0.00048       308       308        0  PERIOD    ALL      43848
     585859.97  3904601.31      0.00036     308.9     308.9        0  PERIOD    ALL      43848
     585859.97  3904579.15       0.0004    308.38    308.38        0  PERIOD    ALL      43848
     585859.58  3904589.84      0.00038    308.62    308.62        0  PERIOD    ALL      43848
     585763.05  3904631.77      0.00035    307.06    307.06        0  PERIOD    ALL      43848
     585762.25  3904650.76      0.00033    307.04    307.04        0  PERIOD    ALL      43848
     585762.25  3904640.47      0.00034    307.04    307.04        0  PERIOD    ALL      43848
     585755.13  3904599.73       0.0004    306.96    306.96        0  PERIOD    ALL      43848
     585755.53  3904582.32      0.00042    306.85    306.85        0  PERIOD    ALL      43848
     585755.53  3904591.02      0.00041    306.91    306.91        0  PERIOD    ALL      43848
     585741.68  3904619.90      0.00037       307       307        0  PERIOD    ALL      43848
     585736.54  3904604.47      0.00039    306.97    306.97        0  PERIOD    ALL      43848
     585725.46  3904599.33       0.0004    306.64    306.64        0  PERIOD    ALL      43848
     585724.28  3904583.90      0.00043    306.21    306.21        0  PERIOD    ALL      43848
     585724.67  3904592.21      0.00041    306.43    306.43        0  PERIOD    ALL      43848
     585156.21  3904134.54      0.00029    295.84    295.84        0  PERIOD    ALL      43848
     585229.46  3904185.19      0.00036       297       297        0  PERIOD    ALL      43848
     585136.36  3904292.66      0.00026       296       296        0  PERIOD    ALL      43848
     585112.40  3904226.26      0.00026    295.38    295.38        0  PERIOD    ALL      43848
     585111.03  3904148.91      0.00026       295       295        0  PERIOD    ALL      43848
     585222.43  3903240.89      0.00007    292.53    292.53        0  PERIOD    ALL      43848
     585282.78  3903244.35      0.00007    294.03    294.03        0  PERIOD    ALL      43848
     585262.50  3903266.61      0.00007    293.61    293.61        0  PERIOD    ALL      43848
     585422.85  3903727.45      0.00301       306.6     306.6        0  PERIOD    ALL      43848
     585462.85  3903727.45      0.00374    306.57    306.57        0  PERIOD    ALL      43848
     585502.85  3903727.45      0.00583    306.12    306.12        0  PERIOD    ALL      43848
     585542.85  3903727.45      0.00545       306.9     306.9        0  PERIOD    ALL      43848
     585582.85  3903727.45      0.00449    307.11    307.11        0  PERIOD    ALL      43848
```

585622.85	3903727.45	0.1689	301.28	301.28	0	1-HR	ALL	1ST	18010719	585868.81	3904260.54	0.05531	307.59	307.59	0	24-HR	ALL	1ST	16020724	585868.81	3904260.54	0.00383	307.59	307.59	0	PERIOD	ALL	43848							
585662.85	3903727.45	0.16584	301.92	301.92	0	1-HR	ALL	1ST	15013017	585879.68	3904270.72	0.05145	307.95	307.95	0	24-HR	ALL	1ST	16020724	585879.68	3904270.72	0.00327	307.95	307.95	0	PERIOD	ALL	43848							
585702.85	3903727.45	0.18368	302.74	302.74	0	1-HR	ALL	1ST	16012217	585898.69	3904284.98	0.04302	308	308	0	24-HR	ALL	1ST	16020724	585898.69	3904284.98	0.0027	308	308	0	PERIOD	ALL	43848							
585742.85	3903727.45	0.17706	303.28	303.28	0	1-HR	ALL	1ST	15011117	585847.76	3904288.38	0.03668	307	307	0	24-HR	ALL	1ST	16020724	585847.76	3904288.38	0.00267	307	307	0	PERIOD	ALL	43848							
585782.85	3903727.45	0.1739	303.92	303.92	0	1-HR	ALL	1ST	16122922	585836.22	3904276.16	0.03597	307	307	0	24-HR	ALL	1ST	15112724	585836.22	3904276.16	0.00311	307	307	0	PERIOD	ALL	43848							
585822.85	3903727.45	0.1866	304.06	304.06	0	1-HR	ALL	1ST	16020819	** CONCUNIT ug/	m^3									** CONCUNIT ug/	m^3														
585862.85	3903727.45	0.16084	305	305	0	1-HR	ALL	1ST	19102618	** DEPUNIT g/m^	2.00									** DEPUNIT g/m^	2.00														
585902.85	3903727.45	0.16847	305.72	305.72	0	1-HR	ALL	1ST	19022322																										
585942.85	3903727.45	0.15817	306.06	306.06	0	1-HR	ALL	1ST	18012320																										
585982.85	3903727.45	0.15154	307	307	0	1-HR	ALL	1ST	20011520																										
586022.85	3903727.45	0.14212	307.72	307.72	0	1-HR	ALL	1ST	15121808																										
586062.85	3903727.45	0.12688	308.06	308.06	0	1-HR	ALL	1ST	18012217																										
586102.85	3903727.45	0.12774	309	309	0	1-HR	ALL	1ST	15020404																										
586142.85	3903727.45	0.11542	309.72	309.72	0	1-HR	ALL	1ST	20012920																										
586182.85	3903727.45	0.11231	310.06	310.06	0	1-HR	ALL	1ST	15020520																										
586222.85	3903727.45	0.11747	311	311	0	1-HR	ALL	1ST	20120808																										
585422.85	3903767.45	0.14488	298.72	298.72	0	1-HR	ALL	1ST	15021705																										
585462.85	3903767.45	0.16587	299.06	299.06	0	1-HR	ALL	1ST	15013021																										
585502.85	3903767.45	0.17967	300	300	0	1-HR	ALL	1ST	20010319																										
585542.85	3903767.45	0.16767	300.04	300.04	0	1-HR	ALL	1ST	16092102																										
585582.85	3903767.45	0.2058	301	301	0	1-HR	ALL	1ST	16010219																										
585622.85	3903767.45	0.23381	301.43	301.43	0	1-HR	ALL	1ST	15012608																										
585662.85	3903767.45	0.18582	302	302	0	1-HR	ALL	1ST	19121917																										
585702.85	3903767.45	0.21618	303	303	0	1-HR	ALL	1ST	16012217																										
585742.85	3903767.45	0.19835	303.39	303.39	0	1-HR	ALL	1ST	18122220																										
585782.85	3903767.45	0.19606	304	304	0	1-HR	ALL	1ST	18020119																										
585822.85	3903767.45	0.21324	305	305	0	1-HR	ALL	1ST	16020819																										
585862.85	3903767.45	0.18085	305.02	305.02	0	1-HR	ALL	1ST	19102618																										
585902.85	3903767.45	0.18681	305.74	305.74	0	1-HR	ALL	1ST	19022322																										
585942.85	3903767.45	0.17115	306.06	306.06	0	1-HR	ALL	1ST	16010405																										
585982.85	3903767.45	0.17484	307	307	0	1-HR	ALL	1ST	15121808																										
586022.85	3903767.45	0.14517	307.72	307.72	0	1-HR	ALL	1ST	19010405																										
586062.85	3903767.45	0.15264	308.06	308.06	0	1-HR	ALL	1ST	15020404																										
586102.85	3903767.45	0.13074	309	309	0	1-HR	ALL	1ST	16010120																										
586142.85	3903767.45	0.12839	309.72	309.72	0	1-HR	ALL	1ST	15020520																										
586182.85	3903767.45	0.13123	310.06	310.06	0	1-HR	ALL	1ST	20120808																										
586222.85	3903767.45	0.11657	311	311	0	1-HR	ALL	1ST	19122324																										
585422.85	3903807.45	0.15274	298.83	298.83	0	1-HR	ALL	1ST	19120317																										
585462.85	3903807.45	0.17293	299.06	299.06	0	1-HR	ALL	1ST	15021705																										
585502.85	3903807.45	0.19763	300	300	0	1-HR	ALL	1ST	15013021																										
585542.85	3903807.45	0.21182	300.72	300.72	0	1-HR	ALL	1ST	20010319																										
585582.85	3903807.45	0.22015	301.06	301.06	0	1-HR	ALL	1ST	19012817																										
585622.85	3903807.45	0.25405	302	302	0	1-HR	ALL	1ST	16020420																										
585662.85	3903807.45	0.23049	302.29	302.29	0	1-HR	ALL	1ST	18010719																										
585702.85	3903807.45	0.22064	303	303	0	1-HR	ALL	1ST	16020520																										
585742.85	3903807.45	0.24176	303.39	303.39	0	1-HR	ALL	1ST	18122220																										
585782.85	3903807.45	0.2335	304	304	0	1-HR	ALL	1ST	19011424																										
585822.85	3903807.45	0.24324	305	305	0	1-HR	ALL	1ST	16020819																										
585862.85	3903807.45	0.21585	305.39	305.39	0	1-HR	ALL	1ST	18120603																										
585902.85	3903807.45	0.20268	306	306	0	1-HR	ALL	1ST	16102723																										
585942.85	3903807.45	0.1975	306.43	306.43	0	1-HR	ALL	1ST	16122521																										
585982.85	3903807.45	0.17939	307.15	307.15	0	1-HR	ALL	1ST	15121808																										
586022.85	3903807.45	0.17236	307.83	307.83	0	1-HR	ALL	1ST	15020404																										
586062.85	3903807.45	0.1487	308.43	308.43	0	1-HR	ALL	1ST	16111924																										
586102.85	3903807.45	0.14875	309	309	0	1-HR	ALL	1ST	15020520																										
586142.85	3903807.45	0.14768	309.72	309.72	0	1-HR	ALL	1ST	20120808																										
586182.85	3903807.45	0.13159	310.06	310.06	0	1-HR	ALL	1ST	19122324																										
586222.85	3903807.45	0.11477	311	311	0	1-HR	ALL	1ST	20122020																										
585422.85	3903847.45	0.16427	299	299	0	1-HR	ALL	1ST	16012020																										
585462.85	3903847.45	0.1812	299.74	299.74	0	1-HR	ALL	1ST	19120317																										
585502.85	3903847.45	0.20947	300	300	0	1-HR	ALL	1ST	15021705																										
585542.85	3903847.45	0.23896	300.72	300.72	0	1-HR	ALL	1ST	15013021																										
585582.85	3903847.45	0.25242	301.06	301.06	0	1-HR	ALL	1ST	19122005																										
585622.85	3903847.45	0.30767	302	302	0	1-HR	ALL	1ST	19012817																										
585662.85	3903847.45	0.33243	302.72	302.72	0	1-HR	ALL	1ST	15012608																										
585702.85	3903847.45	0.26095	303.04	303.04	0	1-HR	ALL	1ST	20090924																										
585742.85	3903847.45	0.28127	303.83	303.83	0	1-HR	ALL	1ST	16012217																										
585782.85	3903847.45	0.28078	304	304	0	1-HR	ALL	1ST	19011424																										
585822.85	3903847.45	0.28071	305	305	0	1-HR	ALL	1ST	16020819																										
585862.85	3903847.45	0.25629	305.39	305.39	0	1-HR	ALL	1ST	18120603																										
585902.85	3903847.45	0.22938	306	306	0	1-HR	ALL	1ST	18012320																										
585942.85	3903847.45	0.22748	307	307	0	1-HR	ALL	1ST	15121808																										
585982.85	3903847.45	0.18272	307.39	307.39	0	1-HR	ALL	1ST	18012217																										
586022.85	3903847.45	0.17685	308	308	0	1-HR	ALL	1ST	15013024																										
586062.85	3903847.45	0.17252	309	309	0	1-HR	ALL	1ST	15020520																										
586102.85	3903847.45	0.16798	309.28	309.28	0	1-HR	ALL	1ST	20120808																										
586142.85	3903847.45	0.14719	309.92	309.92	0	1-HR	ALL	1ST	19122324																										
586182.85	3903847.45	0.13273	310.06	310.06	0	1-HR	ALL	1ST	20122020																										
586222.85	3903847.45	0.1296	311	311	0	1-HR	ALL	1ST	15012223																										
585502.85	3903887.45	0.22589	300.39	300.39	0	1-HR	ALL	1ST	16010222																										
585542.85	3903887.45	0.25139	301	301	0	1-HR	ALL	1ST	15021705																										
585582.85	3903887.45	0.2931	301.11	301.11	0	1-HR	ALL	1ST	15013021																										
585622.85	3903887.45	0.3294	302	302	0	1-HR	ALL	1ST	19122005																										
585662.85	3903887.45	0.38134	302.72	302.72	0	1-HR	ALL	1ST	19012817																										
585702.85	3903887.45	0.34736	303.06	303.06	0	1-HR	ALL	1ST	15012608																										
585742.85	3903887.45	0.36662	304	304	0	1-HR	ALL	1ST	16012217																										
585782.85	3903887.45	0.33756	304.72	304.72	0	1-HR	ALL	1ST	18010221																										
585822.85	3903887.45	0.32843	305	305	0	1-HR	ALL	1ST	16020819																										
585862.85	3903887.45	0.29138	305.39	305.39	0	1-HR	ALL	1ST	18120603																										
585902.85	3903887.45	0.26159	306	306	0	1-HR	ALL	1ST	16122521																										
585942.85	3903887.45	0.23699	307	307	0	1-HR	ALL	1ST	15121808																										
585982.85	3903887.45	0.22357	307.39	307.39	0	1-HR	ALL	1ST	15020404																										
586022.85	3903887.45	0.20539	308	308	0	1-HR	ALL	1ST	15020520																										
586062.85	3903887.45	0.19291	309	309	0	1-HR	ALL	1ST	20120808																										
586102.85	3903887.45	0.16351	309.39	309.39	0	1-HR	ALL	1ST	19122324																										
586142.85	3903887.45	0.15696	310	310	0	1-HR	ALL	1ST	19020802																										
586182.85	3903887.45	0.15715	310.06	310.06	0	1-HR	ALL	1ST	19120108																										
586222.85	3903887.45	0.15765	311	311	0	1-HR	ALL	1ST	19120708																										
585422.85	3903927.45	0.17507	299	299	0	1-HR	ALL	1ST	16011621																										
585462.85	3903927.45	0.20104	300	300	0	1-HR	ALL	1ST	16022324																										
585542.85	3903927.45	0.27217	301	301	0	1-HR	ALL	1ST	16012020																										
585582.85	3903927.45	0.31226	302	302	0	1-HR	ALL	1ST	19120317																										
585622.85	3903927.45	0.38182	302.15	302.15	0	1-HR	ALL	1ST	15013021																										
585662.85	3903927.45	0.4353	302.83	302.83	0	1-HR	ALL	1ST	19122005																										
585822.85	3903927.45	0.39105	305.02	305.02	0	1-HR	ALL	1ST	16020819																										
585862.85	3903927.45	0.33194	305.63	305.63	0	1-HR	ALL	1ST	19022322																										
585902.85	3903927.45	0.31673	306	306	0	1-HR	ALL	1ST	15121808																										

585942.85	3903927.45	0.27537	307	307	0	1-HR	ALL	1ST	15020404
585982.85	3903927.45	0.24739	307.39	307.39	0	1-HR	ALL	1ST	15020520
586022.85	3903927.45	0.22797	308	308	0	1-HR	ALL	1ST	20120808
586062.85	3903927.45	0.18937	309	309	0	1-HR	ALL	1ST	20122020
586102.85	3903927.45	0.18548	309.24	309.24	0	1-HR	ALL	1ST	20122119
586142.85	3903927.45	0.19454	309.89	309.89	0	1-HR	ALL	1ST	19120708
586182.85	3903927.45	0.16575	310.06	310.06	0	1-HR	ALL	1ST	15121006
586222.85	3903927.45	0.15837	311	311	0	1-HR	ALL	1ST	16010208
585422.85	3903967.45	0.17445	299	299	0	1-HR	ALL	1ST	16011418
585462.85	3903967.45	0.20294	300	300	0	1-HR	ALL	1ST	16120920
585502.85	3903967.45	0.23465	300.39	300.39	0	1-HR	ALL	1ST	16011621
585582.85	3903967.45	0.35695	302	302	0	1-HR	ALL	1ST	15010817
585622.85	3903967.45	0.41654	302.39	302.39	0	1-HR	ALL	1ST	16010222
585662.85	3903967.45	0.52805	303	303	0	1-HR	ALL	1ST	16011702
585862.85	3903967.45	0.38873	306	306	0	1-HR	ALL	1ST	16010405
585902.85	3903967.45	0.34329	306.53	306.53	0	1-HR	ALL	1ST	15121808
585942.85	3903967.45	0.30494	307.04	307.04	0	1-HR	ALL	1ST	15020520
585982.85	3903967.45	0.27513	307.83	307.83	0	1-HR	ALL	1ST	19120107
586022.85	3903967.45	0.24318	308.53	308.53	0	1-HR	ALL	1ST	19020802
586062.85	3903967.45	0.25045	309	309	0	1-HR	ALL	1ST	19120108
586102.85	3903967.45	0.21377	309.28	309.28	0	1-HR	ALL	1ST	19120708
586142.85	3903967.45	0.19651	309.92	309.92	0	1-HR	ALL	1ST	16010208
586182.85	3903967.45	0.17569	310.06	310.06	0	1-HR	ALL	1ST	18011822
586222.85	3903967.45	0.16053	311	311	0	1-HR	ALL	1ST	15010721
585422.85	3904007.45	0.17261	299.72	299.72	0	1-HR	ALL	1ST	18121019
585462.85	3904007.45	0.19205	300	300	0	1-HR	ALL	1ST	19011918
585502.85	3904007.45	0.23958	300.39	300.39	0	1-HR	ALL	1ST	20010419
585542.85	3904007.45	0.27263	301	301	0	1-HR	ALL	1ST	16011418
585622.85	3904007.45	0.45233	302.39	302.39	0	1-HR	ALL	1ST	16022324
585662.85	3904007.45	0.60287	303	303	0	1-HR	ALL	1ST	16012020
585902.85	3904007.45	0.39936	306.72	306.72	0	1-HR	ALL	1ST	20120808
585942.85	3904007.45	0.35133	307.06	307.06	0	1-HR	ALL	1ST	19120107
585982.85	3904007.45	0.34533	308	308	0	1-HR	ALL	1ST	19120108
586022.85	3904007.45	0.29678	308.72	308.72	0	1-HR	ALL	1ST	19120708
586062.85	3904007.45	0.2525	309.11	309.11	0	1-HR	ALL	1ST	16010208
586102.85	3904007.45	0.22352	310	310	0	1-HR	ALL	1ST	15010721
586142.85	3904007.45	0.1994	310	310	0	1-HR	ALL	1ST	15010721
586182.85	3904007.45	0.17816	310.06	310.06	0	1-HR	ALL	1ST	15120221
586222.85	3904007.45	0.16403	311.39	311.39	0	1-HR	ALL	1ST	20010317
585422.85	3904047.45	0.1868	299.72	299.72	0	1-HR	ALL	1ST	18010308
585462.85	3904047.45	0.19555	300.02	300.02	0	1-HR	ALL	1ST	18010308
585502.85	3904047.45	0.23913	300.63	300.63	0	1-HR	ALL	1ST	16020220
585542.85	3904047.45	0.28453	301	301	0	1-HR	ALL	1ST	16020220
585582.85	3904047.45	0.33151	302	302	0	1-HR	ALL	1ST	16111004
585982.85	3904047.45	0.38061	308.15	308.15	0	1-HR	ALL	1ST	18011822
586022.85	3904047.45	0.31079	308.83	308.83	0	1-HR	ALL	1ST	15010721
586062.85	3904047.45	0.27147	309.63	309.63	0	1-HR	ALL	1ST	20010317
586102.85	3904047.45	0.24438	310	310	0	1-HR	ALL	1ST	20010317
586142.85	3904047.45	0.21721	310	310	0	1-HR	ALL	1ST	19013107
586182.85	3904047.45	0.19322	310.06	310.06	0	1-HR	ALL	1ST	18120920
586222.85	3904047.45	0.17681	311.39	311.39	0	1-HR	ALL	1ST	16020401
585422.85	3904087.45	0.17949	299.72	299.72	0	1-HR	ALL	1ST	19123006
585462.85	3904087.45	0.20155	300.06	300.06	0	1-HR	ALL	1ST	19123006
585502.85	3904087.45	0.23282	301	301	0	1-HR	ALL	1ST	19123006
585542.85	3904087.45	0.27531	301.53	301.53	0	1-HR	ALL	1ST	19121224
585582.85	3904087.45	0.33341	302.04	302.04	0	1-HR	ALL	1ST	19121224
585622.85	3904087.45	0.42544	302.83	302.83	0	1-HR	ALL	1ST	15021706
585662.85	3904087.45	0.58196	303.53	303.53	0	1-HR	ALL	1ST	18010308
586022.85	3904087.45	0.34983	309	309	0	1-HR	ALL	1ST	20122021
586062.85	3904087.45	0.29094	309.74	309.74	0	1-HR	ALL	1ST	15021823
586102.85	3904087.45	0.25561	310.28	310.28	0	1-HR	ALL	1ST	15021823
586142.85	3904087.45	0.22624	310.73	310.73	0	1-HR	ALL	1ST	15021823
586182.85	3904087.45	0.20253	310.74	310.74	0	1-HR	ALL	1ST	15021823
586222.85	3904087.45	0.18246	311.39	311.39	0	1-HR	ALL	1ST	15021823
585422.85	3904127.45	0.16231	299.72	299.72	0	1-HR	ALL	1ST	20101118
585462.85	3904127.45	0.18296	300.06	300.06	0	1-HR	ALL	1ST	20101118
585502.85	3904127.45	0.21113	301	301	0	1-HR	ALL	1ST	20101118
585542.85	3904127.45	0.24273	301.72	301.72	0	1-HR	ALL	1ST	16010404
585582.85	3904127.45	0.29926	302.06	302.06	0	1-HR	ALL	1ST	16010404
585622.85	3904127.45	0.37504	303	303	0	1-HR	ALL	1ST	16010404
585662.85	3904127.45	0.49733	303.72	303.72	0	1-HR	ALL	1ST	16020308
585702.85	3904127.45	0.64251	304.06	304.06	0	1-HR	ALL	1ST	16020308
586062.85	3904127.45	0.33959	310	310	0	1-HR	ALL	1ST	15121708
586102.85	3904127.45	0.28857	310.02	310.02	0	1-HR	ALL	1ST	15121708
586142.85	3904127.45	0.24428	310.74	310.74	0	1-HR	ALL	1ST	15121708
586182.85	3904127.45	0.21244	311.11	311.11	0	1-HR	ALL	1ST	15121708
586222.85	3904127.45	0.18347	312.02	312.02	0	1-HR	ALL	1ST	15121708
585422.85	3904167.45	0.16873	299.72	299.72	0	1-HR	ALL	1ST	16020308
585462.85	3904167.45	0.19931	300.06	300.06	0	1-HR	ALL	1ST	16020308
585502.85	3904167.45	0.23032	301	301	0	1-HR	ALL	1ST	16020308
585542.85	3904167.45	0.24955	301.72	301.72	0	1-HR	ALL	1ST	16020308
585582.85	3904167.45	0.26996	302.06	302.06	0	1-HR	ALL	1ST	20121619
585622.85	3904167.45	0.32365	303	303	0	1-HR	ALL	1ST	15120818
585662.85	3904167.45	0.40518	303.72	303.72	0	1-HR	ALL	1ST	16012108
585702.85	3904167.45	0.44455	304.06	304.06	0	1-HR	ALL	1ST	16102717
585742.85	3904167.45	0.48535	305	305	0	1-HR	ALL	1ST	16102717
586102.85	3904167.45	0.27688	310.63	310.63	0	1-HR	ALL	1ST	15020408
586142.85	3904167.45	0.23767	311.29	311.29	0	1-HR	ALL	1ST	16120801
586182.85	3904167.45	0.21113	312.02	312.02	0	1-HR	ALL	1ST	16120801
586222.85	3904167.45	0.19458	312.63	312.63	0	1-HR	ALL	1ST	20120308
585422.85	3904207.45	0.15279	299.72	299.72	0	1-HR	ALL	1ST	20121619
585462.85	3904207.45	0.17248	300.06	300.06	0	1-HR	ALL	1ST	20121619
585502.85	3904207.45	0.19713	301	301	0	1-HR	ALL	1ST	15120818
585542.85	3904207.45	0.21927	301.72	301.72	0	1-HR	ALL	1ST	16012108
585582.85	3904207.45	0.26169	302.06	302.06	0	1-HR	ALL	1ST	16012108
585622.85	3904207.45	0.28482	303	303	0	1-HR	ALL	1ST	16102717
585662.85	3904207.45	0.28853	303.72	303.72	0	1-HR	ALL	1ST	16102717
585702.85	3904207.45	0.31199	304.06	304.06	0	1-HR	ALL	1ST	16021019
585742.85	3904207.45	0.36285	305	305	0	1-HR	ALL	1ST	19120419
585782.85	3904207.45	0.42818	305.72	305.72	0	1-HR	ALL	1ST	18012323
586102.85	3904207.45	0.28358	311	311	0	1-HR	ALL	1ST	18120921
586142.85	3904207.45	0.25106	311.72	311.72	0	1-HR	ALL	1ST	20120318
586182.85	3904207.45	0.23008	312.06	312.06	0	1-HR	ALL	1ST	18120708
586222.85	3904207.45	0.19689	313	313	0	1-HR	ALL	1ST	19010319
585422.85	3904247.45	0.14852	299.72	299.72	0	1-HR	ALL	1ST	16120304
585462.85	3904247.45	0.17307	300.06	300.06	0	1-HR	ALL	1ST	16012108
585502.85	3904247.45	0.18602	301	301	0	1-HR	ALL	1ST	16012108

585542.85	3904247.45	0.20045	301.72	301.72	0	1-HR	ALL	1ST	16102717
585582.85	3904247.45	0.21015	302.11	302.11	0	1-HR	ALL	1ST	16102717
585622.85	3904247.45	0.20467	303.02	303.02	0	1-HR	ALL	1ST	19011919
585662.85	3904247.45	0.23986	303.74	303.74	0	1-HR	ALL	1ST	16021019
585702.85	3904247.45	0.2651	305	305	0	1-HR	ALL	1ST	16012202
585742.85	3904247.45	0.3027	305.39	305.39	0	1-HR	ALL	1ST	18020417
585782.85	3904247.45	0.34462	306	306	0	1-HR	ALL	1ST	19122903
586102.85	3904247.45	0.29249	311.39	311.39	0	1-HR	ALL	1ST	18011122
586142.85	3904247.45	0.23966	312	312	0	1-HR	ALL	1ST	16041804
586182.85	3904247.45	0.22388	312.11	312.11	0	1-HR	ALL	1ST	18011522
586222.85	3904247.45	0.19684	313.02	313.02	0	1-HR	ALL	1ST	18120921
585422.85	3904287.45	0.14318	299.83	299.83	0	1-HR	ALL	1ST	15012820
585462.85	3904287.45	0.15135	300.06	300.06	0	1-HR	ALL	1ST	19012919
585502.85	3904287.45	0.1661	301	301	0	1-HR	ALL	1ST	16102717
585542.85	3904287.45	0.14978	301.72	301.72	0	1-HR	ALL	1ST	15020507
585582.85	3904287.45	0.17144	303	303	0	1-HR	ALL	1ST	15010318
585622.85	3904287.45	0.19315	303.39	303.39	0	1-HR	ALL	1ST	16021019
585662.85	3904287.45	0.21078	304	304	0	1-HR	ALL	1ST	16012202
585702.85	3904287.45	0.23922	305	305	0	1-HR	ALL	1ST	19120419
585742.85	3904287.45	0.25375	305.39	305.39	0	1-HR	ALL	1ST	15010419
585782.85	3904287.45	0.29032	306	306	0	1-HR	ALL	1ST	18010720
586102.85	3904287.45	0.26904	311.39	311.39	0	1-HR	ALL	1ST	18020819
586142.85	3904287.45	0.23852	312	312	0	1-HR	ALL	1ST	20120718
586182.85	3904287.45	0.22286	313	313	0	1-HR	ALL	1ST	18011122
586222.85	3904287.45	0.18801	313.39	313.39	0	1-HR	ALL	1ST	16041804
585422.85	3904327.45	0.13516	300	300	0	1-HR	ALL	1ST	16102717
585462.85	3904327.45	0.12312	300.74	300.74	0	1-HR	ALL	1ST	16111919
585502.85	3904327.45	0.12967	301.28	301.28	0	1-HR	ALL	1ST	15020507
585542.85	3904327.45	0.14366	301.92	301.92	0	1-HR	ALL	1ST	19122021
585582.85	3904327.45	0.16077	303	303	0	1-HR	ALL	1ST	20112808
585622.85	3904327.45	0.17384	303.39	303.39	0	1-HR	ALL	1ST	16012202
585662.85	3904327.45	0.18745	304	304	0	1-HR	ALL	1ST	16120117
585702.85	3904327.45	0.20509	305	305	0	1-HR	ALL	1ST	19012517
585742.85	3904327.45	0.2206	305.39	305.39	0	1-HR	ALL	1ST	18012323
585782.85	3904327.45	0.25039	306.53	306.53	0	1-HR	ALL	1ST	16122819
585822.85	3904327.45	0.28234	307.04	307.04	0	1-HR	ALL	1ST	15010420
585862.85	3904327.45	0.32103	307.83	307.83	0	1-HR	ALL	1ST	16020722
586062.85	3904327.45	0.25226	311.04	311.04	0	1-HR	ALL	1ST	19122621
586102.85	3904327.45	0.22855	311.83	311.83	0	1-HR	ALL	1ST	16021120
586142.85	3904327.45	0.20801	312.53	312.53	0	1-HR	ALL	1ST	15120519
586182.85	3904327.45	0.21933	313.04	313.04	0	1-HR	ALL	1ST	18020819
586222.85	3904327.45	0.19233	313.83	313.83	0	1-HR	ALL	1ST	20120718
585422.85	3904367.45	0.10137	300	300	0	1-HR	ALL	1ST	15020507
585462.85	3904367.45	0.11273	301	301	0	1-HR	ALL	1ST	19011919
585502.85	3904367.45	0.12074	301.39	301.39	0	1-HR	ALL	1ST	19122021
585542.85	3904367.45	0.13526	302	302	0	1-HR	ALL	1ST	20112808
585582.85	3904367.45	0.14618	303	303	0	1-HR	ALL	1ST	16012202
585622.85	3904367.45	0.15868	303.39	303.39	0	1-HR	ALL	1ST	16120117
585662.85	3904367.45	0.1726	304.04	304.04	0	1-HR	ALL	1ST	18020417
585702.85	3904367.45	0.17998	305.06	305.06	0	1-HR	ALL	1ST	15010419
585742.85	3904367.45	0.19946	306	306	0	1-HR	ALL	1ST	16121423
585782.85	3904367.45	0.21455	306.72	306.72	0	1-HR	ALL	1ST	16122819
585822.85	3904367.45	0.23963	307.06	307.06	0	1-HR	ALL	1ST	15010420
585862.85	3904367.45	0.26079	308	308	0	1-HR	ALL	1ST	16020720
585902.85	3904367.45	0.27669	308.72	308.72	0	1-HR	ALL	1ST	19121118
585942.85	3904367.45	0.2747	309.06	309.06	0	1-HR	ALL	1ST	16020721
585982.85	3904367.45	0.29254	310	310	0	1-HR	ALL	1ST	19122908
586022.85	3904367.45	0.25853	310.72	310.72	0	1-HR	ALL	1ST	16010924
586102.85	3904367.45	0.20992	312	312	0	1-HR	ALL	1ST	19122621
586142.85	3904367.45	0.19471	312.72	312.72	0	1-HR	ALL	1ST	16021120
586182.85	3904367.45	0.17889	313.11	313.11	0	1-HR	ALL	1ST	18011823
586222.85	3904367.45	0.15832	314.02	314.02	0	1-HR	ALL	1ST	18011901
585422.85	3904407.45	0.09856	300	300	0	1-HR	ALL	1ST	15010318
585462.85	3904407.45	0.10405	301	301	0	1-HR	ALL	1ST	16122818
585502.85	3904407.45	0.11649	301.39	301.39	0	1-HR	ALL	1ST	20112808
585542.85	3904407.45	0.12361	302	302	0	1-HR	ALL	1ST	19011604
585582.85	3904407.45	0.13369	303.02	303.02	0	1-HR	ALL	1ST	16120421
585622.85	3904407.45	0.14721	303.63	303.63	0	1-HR	ALL	1ST	19120419
585662.85	3904407.45	0.15479	304.72	304.72	0	1-HR	ALL	1ST	19012517
585702.85	3904407.45	0.16268	305.06	305.06	0	1-HR	ALL	1ST	18012323
585742.85	3904407.45	0.17687	306	306	0	1-HR	ALL	1ST	19122903
585782.85	3904407.45	0.18152	306.72	306.72	0	1-HR	ALL	1ST	16111921
585822.85	3904407.45	0.20619	307.06	307.06	0	1-HR	ALL	1ST	15010420
585862.85	3904407.45	0.2222	308	308	0	1-HR	ALL	1ST	16020720
585902.85	3904407.45	0.22999	308.72	308.72	0	1-HR	ALL	1ST	19123008
585942.85	3904407.45	0.22575	309.43	309.43	0	1-HR	ALL	1ST	19122119
585982.85	3904407.45	0.23223	310.15	310.15	0	1-HR	ALL	1ST	18010223
586022.85	3904407.45	0.2226	310.83	310.83	0	1-HR	ALL	1ST	18012324
586062.85	3904407.45	0.21153	311.43	311.43	0	1-HR	ALL	1ST	16122308
586142.85	3904407.45	0.18643	312.83	312.83	0	1-HR	ALL	1ST	16022523
586182.85	3904407.45	0.16687	314	314	0	1-HR	ALL	1ST	19120601
586222.85	3904407.45	0.15846	314.39	314.39	0	1-HR	ALL	1ST	19022324
585422.85	3904447.45	0.09285	300	300	0	1-HR	ALL	1ST	16122818
585462.85	3904447.45	0.10193	301	301	0	1-HR	ALL	1ST	20112808
585502.85	3904447.45	0.10742	301.39	301.39	0	1-HR	ALL	1ST	19011604
585542.85	3904447.45	0.11595	302.53	302.53	0	1-HR	ALL	1ST	16120421
585582.85	3904447.45	0.12467	303.06	303.06	0	1-HR	ALL	1ST	20120306
585622.85	3904447.45	0.13487	304	304	0	1-HR	ALL	1ST	18020417
585662.85	3904447.45	0.13589	304.72	304.72	0	1-HR	ALL	1ST	19122023
585702.85	3904447.45	0.14278	305.06	305.06	0	1-HR	ALL	1ST	18012323
585742.85	3904447.45	0.15727	306	306	0	1-HR	ALL	1ST	16020222
585782.85	3904447.45	0.16274	306.72	306.72	0	1-HR	ALL	1ST	15010903
585822.85	3904447.45	0.17899	307.74	307.74	0	1-HR	ALL	1ST	15010420
585862.85	3904447.45	0.18675	308.28	308.28	0	1-HR	ALL	1ST	16020720
585902.85	3904447.45	0.19288	308.92	308.92	0	1-HR	ALL	1ST	16122202
585942.85	3904447.45	0.19189	310	310	0	1-HR	ALL	1ST	20010322
585982.85	3904447.45	0.18538	310.39	310.39	0	1-HR	ALL	1ST	16020721
586022.85	3904447.45	0.2002	311	311	0	1-HR	ALL	1ST	19122908
586062.85	3904447.45	0.19323	312	312	0	1-HR	ALL	1ST	19022504
586102.85	3904447.45	0.18562	312.39	312.39	0	1-HR	ALL	1ST	20120819
586182.85	3904447.45	0.16403	314	314	0	1-HR	ALL	1ST	16021119
586222.85	3904447.45	0.15088	314.39	314.39	0	1-HR	ALL	1ST	19120601
585422.85	3904487.45	0.08921	300.04	300.04	0	1-HR	ALL	1ST	20112808
585462.85	3904487.45	0.09455	301	301	0	1-HR	ALL	1ST	19011604
585502.85	3904487.45	0.10091	301.43	301.43	0	1-HR	ALL	1ST	16010123
585542.85	3904487.45	0.10958	302.72	302.72	0	1-HR	ALL	1ST	16120117
585582.85	3904487.45	0.11598	303.06	303.06	0	1-HR	ALL	1ST	18021719

585622.85	3904487.45	0.1217	304.02	304.02	0	1-HR	ALL	1ST	19012517
585662.85	3904487.45	0.12419	304.74	304.74	0	1-HR	ALL	1ST	18011624
585702.85	3904487.45	0.13422	305.11	305.11	0	1-HR	ALL	1ST	16121423
585742.85	3904487.45	0.14437	306.39	306.39	0	1-HR	ALL	1ST	18010720
585782.85	3904487.45	0.1465	307	307	0	1-HR	ALL	1ST	15010903
585822.85	3904487.45	0.15732	308	308	0	1-HR	ALL	1ST	15010420
585862.85	3904487.45	0.15942	308.39	308.39	0	1-HR	ALL	1ST	19121219
585902.85	3904487.45	0.16707	309	309	0	1-HR	ALL	1ST	18011523
585942.85	3904487.45	0.16862	310	310	0	1-HR	ALL	1ST	19121118
585982.85	3904487.45	0.16048	310.39	310.39	0	1-HR	ALL	1ST	19010320
586022.85	3904487.45	0.16326	311.04	311.04	0	1-HR	ALL	1ST	18010223
586062.85	3904487.45	0.17197	312	312	0	1-HR	ALL	1ST	19122908
586102.85	3904487.45	0.17276	312.43	312.43	0	1-HR	ALL	1ST	16010323
586142.85	3904487.45	0.15811	313.04	313.04	0	1-HR	ALL	1ST	20120819
585422.85	3904527.45	0.084	300.72	300.72	0	1-HR	ALL	1ST	19011604
585462.85	3904527.45	0.08881	301.06	301.06	0	1-HR	ALL	1ST	16010123
585502.85	3904527.45	0.09692	302	302	0	1-HR	ALL	1ST	16120117
585542.85	3904527.45	0.10295	302.72	302.72	0	1-HR	ALL	1ST	19120419
585582.85	3904527.45	0.10595	303.43	303.43	0	1-HR	ALL	1ST	18020417
585622.85	3904527.45	0.10823	304.39	304.39	0	1-HR	ALL	1ST	19122023
585662.85	3904527.45	0.11645	305	305	0	1-HR	ALL	1ST	18012323
585702.85	3904527.45	0.12089	306	306	0	1-HR	ALL	1ST	19122903
585742.85	3904527.45	0.12939	306.39	306.39	0	1-HR	ALL	1ST	15020218
585782.85	3904527.45	0.13076	307	307	0	1-HR	ALL	1ST	15010903
585822.85	3904527.45	0.13976	308	308	0	1-HR	ALL	1ST	15010420
585862.85	3904527.45	0.14369	308.39	308.39	0	1-HR	ALL	1ST	19121219
585902.85	3904527.45	0.14728	309	309	0	1-HR	ALL	1ST	16020722
585942.85	3904527.45	0.14498	310	310	0	1-HR	ALL	1ST	15010118
585982.85	3904527.45	0.14132	310.39	310.39	0	1-HR	ALL	1ST	19122119
586022.85	3904527.45	0.14075	311.72	311.72	0	1-HR	ALL	1ST	16020721
586062.85	3904527.45	0.1627	312.06	312.06	0	1-HR	ALL	1ST	18010223
586102.85	3904527.45	0.15186	313	313	0	1-HR	ALL	1ST	18012324
586142.85	3904527.45	0.15083	313.72	313.72	0	1-HR	ALL	1ST	19011524
586182.85	3904527.45	0.13897	314.43	314.43	0	1-HR	ALL	1ST	16122222
586222.85	3904527.45	0.13477	315.15	315.15	0	1-HR	ALL	1ST	16122719
585725.52	3904218.43	0.32116	304.83	304.83	0	1-HR	ALL	1ST	16012202
585723.49	3904200.10	0.35803	304.74	304.74	0	1-HR	ALL	1ST	20112808
585763.55	3904203.49	0.40776	305.08	305.08	0	1-HR	ALL	1ST	19120419
585762.19	3904219.11	0.36564	305.15	305.15	0	1-HR	ALL	1ST	18020417
585916.35	3904332.52	0.33124	308.91	308.91	0	1-HR	ALL	1ST	19010320
585809.05	3904277.51	0.31456	306.6	306.6	0	1-HR	ALL	1ST	15102420
585808.37	3904259.86	0.34141	306.57	306.57	0	1-HR	ALL	1ST	15102420
585802.26	3904225.22	0.42306	306.12	306.12	0	1-HR	ALL	1ST	16122819
585837.58	3904238.81	0.48324	306.9	306.9	0	1-HR	ALL	1ST	19010903
585854.55	3904251.03	0.49994	307.11	307.11	0	1-HR	ALL	1ST	16020722
585868.81	3904260.54	0.50433	307.59	307.59	0	1-HR	ALL	1ST	19121118
585879.68	3904270.72	0.49037	307.95	307.95	0	1-HR	ALL	1ST	18120822
585898.69	3904284.98	0.46556	308	308	0	1-HR	ALL	1ST	19010320
585847.76	3904288.38	0.37948	307	307	0	1-HR	ALL	1ST	19010903
585836.22	3904276.16	0.37171	307	307	0	1-HR	ALL	1ST	19121219
585788.00	3904048.66	1.4804	305	305	0	1-HR	ALL	1ST	15012608
585793.43	3904039.15	1.152	305.08	305.08	0	1-HR	ALL	1ST	16012217
585798.87	3904035.07	1.00531	305.25	305.25	0	1-HR	ALL	1ST	16012217
585802.94	3904030.32	0.8818	305.32	305.32	0	1-HR	ALL	1ST	18010221
585808.37	3904024.21	0.78071	305.36	305.36	0	1-HR	ALL	1ST	18010221
585812.45	3904017.42	0.71042	305.28	305.28	0	1-HR	ALL	1ST	20040918
585831.46	3904011.98	0.57471	305.48	305.48	0	1-HR	ALL	1ST	18120603
585841.65	3904018.78	0.57986	305.82	305.82	0	1-HR	ALL	1ST	18120603
585851.84	3904026.92	0.59702	306	306	0	1-HR	ALL	1ST	15121808
585845.10	3904077.38	1.11098	306	306	0	1-HR	ALL	1ST	19120108
585857.45	3904084.91	1.11169	306.21	306.21	0	1-HR	ALL	1ST	19120108
585868.30	3904092.44	1.09777	306.57	306.57	0	1-HR	ALL	1ST	19120108
585875.53	3904080.99	0.88983	306.81	306.81	0	1-HR	ALL	1ST	19120108
585863.18	3904076.17	0.92111	306.4	306.4	0	1-HR	ALL	1ST	19120108

** CONCUNIT ug/ m^3
** DEPUNIT g/m^ 2

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix C:
Additional Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix C: Additional Supporting Information

Table of Contents

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Reduction Measure Energy: Exceed Energy Efficiency Standards in New Commercial Units			
Building Envelope			
Insulation	• 2019 Title 24 Requirements (walls R-16; roof/attic R-32) • Modestly Enhanced Insulation (walls R-15, roof/attic R-38) • Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) • Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher)	0 points 9 points 11 points 12 points	
Windows	• 2019 Title 24 Windows (0.57 U-factor, 0.4 SHGC) • Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) • Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) • Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 points 4 points 5 points 7 points	
Cool Roofs	• Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) • Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	8 points 10 points	
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. • Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) • Blower Door HERS Verified Envelope Leakage or equivalent	7 points 6 points	
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. • Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (80% of floor or 80% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials)	2 points 4 points 14 points	

SUBTOTAL THIS PAGE: 0

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Indoor Space Efficiencies			
Heating/Cooling Distribution System	• Modest Duct insulation (R-6 required) • Enhanced Duct Insulation (R-8) • Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 6 points 8 points	
Space Heating/ Cooling Equipment	• 2019 Title 24 Minimum HVAC Efficiency (SEER 13/75% AFUE or 7.7 HSPF) • Improved Efficiency HVAC (SEER 14/78% AFUE or 8 HSPF) • High Efficiency HVAC (SEER 15/80% AFUE or 8.5 HSPF) • Very High Efficiency HVAC (SEER 16/82% AFUE or 9 HSPF)	0 points 4 points 5 points 7 points	
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	
Water Heaters	• 2019 Title 24 Minimum Efficiency (0.57 Energy Factor) • Improved Efficiency Water Heater (0.675 Energy Factor) • High Efficiency Water Heater (0.72 Energy Factor) • Very High Efficiency Water Heater (0.92 Energy Factor) • Solar Pre-heat System (0.2 Net Solar Fraction) • Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 points 8 points 10 points 11 points 2 points 5 points	
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. • All peripheral rooms within building have at least one window or skylight • All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) • All rooms daylighted	0 points 1 point 1 point	
Artificial Lighting	• Efficient Lights (25% of in-unit fixtures considered high efficiency. High efficiency is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40 watt) • High Efficiency Lights (50% of in-unit fixtures are high efficiency) • Very High Efficiency Lights (100% of in-unit fixtures are high efficiency	5 points 7 points 8 points	8
Appliances	• Energy Star Commercial Refrigerator (new) • Energy Star Commercial Dishwasher (new) • Energy Star Commercial Clothes Washer (new)	2 points 2 points 2 points	

SUBTOTAL THIS PAGE: 8

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Miscellaneous Commercial Building Efficiencies			
Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 points	
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21st.	6 points	
Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	
Existing Commercial Buildings Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings within the County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and shall have the approval from the County of San Bernardino Planning Department. The decision to allow applicants to participate in this program will be evaluated based upon, but not limited to the following: • Will the energy efficiency retrofit project benefit low income or disadvantaged communities? • Does the energy efficiency retrofit project provide co-benefits important to the County? • Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure Energy-3: All Electric Buildings			
All-Electric Buildings	All electric buildings reduce GHG emissions, as the grid electricity they use is generated using less carbon over time. Grid electricity in California will be 60 percent renewable energy by 2030 and 100 percent renewable energy by 2040.	15 points	15
Reduction Measure Energy-7: Clean Energy			
Commercial/Industrial Renewable Energy Generation			
Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	

SUBTOTAL THIS PAGE: 15

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Wind Turbines	Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	
Off-site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing residential or existing commercial/industrial. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	
Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed would be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure Water 1-3: Exceed Water Efficiency Standards			
Commercial Irrigation and Landscaping			
Water Efficient Landscaping	• Eliminate conventional turf from landscaping • Only moderate water using plants • Only low water using plants • Only California Native landscape that requires no or only supplemental irrigation	0 point 2 points 3 points 5 points	
Water Efficient Irrigation Systems	• Low precipitation spray heads< 0.75”/hr or drip irrigation • Weather based irrigation control systems combined with drip irrigation (demonstrate 20% reduced water use)	1 point 3 points	
Storm Water Reuse Systems	Innovative on-site storm water collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
Commercial Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	2 points	2
Toilets	• Water Efficient Toilets/Urinals (1.5 gpm) • Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 3 points	3
Faucets	Water Efficient faucets (1.28 gpm)	2 points	2

SUBTOTAL THIS PAGE: 7

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	2 points	
Commercial Laundry Washers	• Water Efficient laundry (15% water savings) • High Efficiency laundry equipment that captures and reuses rinse water (30% water savings)	2 points 4 points	
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
Increase Commercial/Industrial Reclaimed Water Use			
Recycled Water	Graywater (purple pipe) irrigation system on site	5 points	
Reduction Measure On Road: Alternative Transportation Options			
Mixed-Use Development			
Mixed-Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	
Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	
Preferential Parking			
Parking	• Provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles. • Provide larger parking spaces that can accommodate vans used for ride-sharing programs and reserve them for vanpools and include adequate passenger waiting/loading areas.	1 point 1 point	
Signal Synchronization and Intelligent Traffic Systems			
Signal Improvements	Techniques for improving traffic flow include: traffic signal coordination to reduce delay, incident management to increase response time to breakdowns and collisions, Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions, and speed management to reduce high free-flow speeds. • Synchronize signals along arterials used by project. • Connect signals along arterials to existing ITS.	1 point/signal 3 points/signal	
Increase Public Transit			
Public Transit	The point value of a project's ability to increase public transit use will be determined based upon a Transportation Impact Analysis (TIA) demonstrating decreased use of private vehicles and increased use of public transportation. Increased transit accessibility (1–15 points)	TBD	

SUBTOTAL THIS PAGE: 0

Table 2: Screening Table for Implementing GHG Performance Standards for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Reduction Measure: Install Electric Vehicle Chargers			
Worker and Customer Based Electric Vehicle Chargers	Installation of Electric Vehicle (EV) Chargers for passenger EVs: Level 2 240 volt AC Fast Chargers Level 3 480 volt DC Rapid Chargers	 5 points/charger 8 points/charger x8	64
Electric Commercial Truck Chargers	Installation of electric chargers for medium duty and heavy duty trucks: Level 1 AC Chargers for EV Medium Duty Trucks Level 1 AC Chargers for EV Class 8 (Heavy Duty) Trucks Level 2 AC Chargers for EV Medium Duty Trucks Level 2 AC Chargers for EV Class 8 (Heavy Duty) Trucks Level 3 DC Fast Chargers for EV Class 8 (Heavy Duty) Trucks	 3 points/charger 5 points/charger 8 points/charger 12 points/charger 16 points/charger	
Reduction Measure: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County			
Sidewalks	• Provide sidewalks on both sides of the street (required) • Provide pedestrian linkage between commercial and residential land uses within 1 mile	0 points 3 points	3
Bicycle Paths	• Provide bicycle paths within project boundaries • Provide bicycle path linkages between commercial and other land uses • Provide bicycle path linkages between commercial and transit	1 point 2 points 5 points	
Reduction Measure: Reduce Waste to Landfills			
Recycling	County initiated recycling program diverting 80% of waste requires coordination with commercial development to realize this goal. The following recycling features will help the County fulfill this goal: • Provide separated recycling bins within each commercial building/floor and provide large external recycling collection bins at central location for collection truck pick-up	2 points	2
	• Provide commercial/industrial recycling programs that fulfills an on-site goal of 80% diversion of solid waste • Recycle construction waste	5 points 4 points	4
Other GHG Reduction Feature Implementation			
Other GHG Emissions Reduction Features	This allows innovation by the applicant to provide commercial design features that the GHG emissions from construction and/or operation of the project not provided in the table. Note that engineering data will be required documenting the GHG reduction amount and point values given based upon emission reductions calculations using approved models, methods, and protocols.	TBD	
Total Points Earned by Commercial/Industrial Project:			103

SUBTOTAL THIS PAGE: 73

GRAND TOTAL: 103

THIS PAGE INTENTIONALLY LEFT BLANK