

APPENDIX 3.2

Air Quality and Greenhouse Gas Impact Study

Bakersfield Temple

Air Quality and Greenhouse Gas Impact Study

City of Bakersfield, CA

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Date: 12/23/2025



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GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
MTCO ₂ e	Metric tons of carbon dioxide equivalent
MMTCO ₂ e	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxides
NO ₂	Nitrogen dioxide
N ₂ O	Nitrous oxide
O ₃	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO _x	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This air quality and greenhouse gas (GHG) analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by San Joaquin Valley Air Pollution Control District (SJVAPCD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The project site is located at located at 12310 Stockdale Highway in the City of Bakersfield, CA, as shown in Exhibit A. The land use designation of the site is commercial. Land uses surrounding the project site include single-family residential to the north, a community park to the east, a mini storage facility to the southeast, a specialty care center to the west, and a church to the south. Jewetta Avenue is to the east of the project site, and Stockdale Highway is to the south.

1.2.2 Project Description

The project will develop a 13.07-acre religious campus at the southwest corner of Stockdale Highway and Jewetta Ave, for the purpose of the construction of a place of worship for the Church of Jesus Christ Of Latter Day Saints, a contemplated meetinghouse to be designed and built in future, and ancillary uses such as parking, park-like and garden areas, site maintenance facilities, and other ancillary support structures. The campus shall include a cross-lot easement to the north and site access from the north, west, and south.

Phase 1 is to include construction of a 30,000-sf temple, parking, site utilities, landscaping, trash enclosure, service building, and an ancillary building, with phase 1 construction anticipated to begin in late 2025 or early 2026. The main floor of the temple has a primary parapet height of 24' – 6", for the majority of the building, with accent walls at the building quadrants which have a parapet height of 36' – 0". The mechanical penthouse, which is inset from the exterior walls, and central to the building, has a maximum parapet height of 45' at the base of the steeple. The steeple consists of an unoccupied tower, cupola, and finial ending at 123' – 6".

The Temple is where members can come individually or in groups to receive religious instruction, participate in marriage ceremonies, ordinances, baptisms, and other ceremonies, and pray and reflect. Site improvements include paved walking paths, plazas, and gardens which will be open to the public during daytime hours. Phase 2 will include the design and construction of a 16,500-sf meetinghouse, parking, service building, pavilion structure, and trash enclosure. Temples differ from meetinghouses in their function. The future meetinghouse on site will be used primarily for Sunday worship services and

will have membership activities during the week, mostly in the evenings. Phase 2 schedule is unknown at this time.

Construction is estimated to occur over approximately 13 months beginning in mid-2025. Construction activities within the Project area will consist of demolition, site preparation, on-site grading, building, paving, and architectural coating. For a conservative analysis, construction was analyzed as occurring in one phase. Table 1 summarizes the land use description for the Project Site.

Table 1: Land Use Summary

Land Use	Unit Amount	Size Metric
Place of Worship	50.10	Thousand Square Feet
Parking Lot	10.60	Acre

1.2.3 Sensitive Receptors

Per SJVAPCD, sensitive receptors are “people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s).”¹

The closest existing sensitive receptors (to the site area) are the residential land uses adjacent to the north, the church 210 feet to the south, the pediatric care center 290 feet to the west, and the high school 1,050 feet to the southwest.

1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the SJVAPCD.

As discussed herein, the project will comply with all applicable SJVAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

¹ San Joaquin Valley Unified Air Pollution Control District (SJVAPCD). Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2015. <https://www.valleyair.org/media/g4nl3p0g/gamaqi.pdf>.

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions

The project's emissions meet SJVAPCD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than-significant.

Project-related GHG emissions meet the goals of the City of Bakersfield Priority Climate Action Plan (PCAP) and are also considered to be less than significant. The project also complies with the goals of the CARB Scoping Plan, AB-32, and SB-32.

Mitigation Measures

A. Construction Measures

The project applicant shall ensure that all applicable SJVAPCD Rules and Regulations are complied with during construction.

Mitigation Measure 1: All construction equipment shall have an engine rating of Tier 4 Final.

B. Operational Measures to Reduce GHG Emissions

No operational measures are required.

Exhibit A Location Map





2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

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

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan 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 State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. 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. See <http://www.arb.ca.gov/research/aaqs/aaqs.htm> for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

Table 2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentrations ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O3)	1-Hour	0.09 ppm	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m³)		
Respirable Particulate Matter (PM10) ⁸	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µ/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		--		
Fine Particulate Matter (PM2.5) ⁸	24-Hour	--	--	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m³)	--	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m³)		9 ppm (10 µg/m³)	--	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m³)		--	--	
Nitrogen Dioxide (NO ₂) ⁹	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹⁰	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	--		--	0.5 ppm (1300 mg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas) ¹⁰	--	
	Annual Arithmetic Mean	--		0.130ppm (for certain areas) ¹⁰	--	
Lead ^{11,12}	30 Day Average	1.5 µg/m³	Atomic Absorption	--	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Calendar Qtr	--		1.5 µg/m³ (for certain areas) ¹²		
	Rolling 3-Month Average	--		0.15 µg/m³		
Visibility Reducing Particles ¹³	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹¹	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Notes:

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
10. On June 2, 2010, a new 1-hour SO₂ 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 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

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

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
13. 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.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 San Joaquin Valley Air Pollution Control District

The SJVAPCD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SJVAB. The SJVAPCD jurisdiction includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings, and Tulare Counties, and the San Joaquin Valley portion of Kern County.

Air Quality Plans

The SJVAPCD has prepared several air quality attainment plans to achieve the O₃ and PM standards, the most recent of which include the 2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard (SJVAPCD 2020a); 2016 Plan for the 2008 8-Hour Ozone Standard (SJVAPCD 2016a); 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (SJVAPCD 2014a); 2013 Plan for the Revoked 1-Hour Ozone Standard (SJVAPCD 2013); 2007 PM₁₀ Maintenance Plan and Request for Redesignation (SJVAPCD 2007a); 2012 PM_{2.5} Plan

(SJVAPCD 2012); 2015 Plan for the 1997 PM_{2.5} Standard (SJVAPCD 2015b); 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard (SJVAPCD 2016b); and the 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards (SJVAPCD 2020b). The following sections summarize key elements of these and other recent air quality attainment plans.

Extreme 1-Hour Ozone Attainment Demonstration Plan

The Extreme 1-Hour Ozone Attainment Demonstration Plan, adopted by the SJVAPCD Governing Board October 8, 2004, sets forth measures and emission-reduction strategies designed to attain the federal 1-hour O₃ standard by November 15, 2010, as well as an emissions inventory, outreach, and rate of progress demonstration. This plan was approved by the EPA on March 8, 2010; however, the EPA's approval was subsequently withdrawn effective November 26, 2012, in response to a decision issued by the U.S. Court of Appeals for the Ninth Circuit (*Sierra Club v. EPA*, 671 F.3d 955) remanding EPA's approval of these SIP revisions. Concurrent with the EPA's final rule, CARB withdrew the 2004 plan. The SJVAPCD developed a new plan for the 1-hour O₃ standard, the 2013 Plan for the Revoked 1-Hour Ozone Standard, which it adopted in September 2013.

2007 8-Hour Ozone Plan

The 2007 8-Hour Ozone Plan, adopted by the Governing Board on April 30, 2007, sets forth measures and a "dual path" strategy to attain the federal 1997 8-hour O₃ standard by 2023 for the SJVAB by reducing emissions of O₃ and PM precursors (SJVAPCD 2007b). The plan also includes provisions for improved pollution control technologies for mobile and stationary sources, as well as an increase in state and federal funding for incentive-based measures to reduce emissions. All local measures would have been adopted by the SJVAPCD before 2012. This plan was approved by the EPA on April 30, 2012. On November 26, 2012, however, the EPA withdrew its determination that the plan satisfied the federal Clean Air Act requirements regarding emissions growth caused by growth in vehicle miles traveled. All other determinations in the EPA's March 1, 2012, rule approving the plan remain unchanged and in effect. The SJVAPCD is currently in the process of developing an O₃ plan to address EPA's 2008 8-hour O₃ standard, with attainment required by 2032.

2009 Reasonably Available Control Technology State Implementation Plan

On April 16, 2009, the Governing Board adopted the Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans (2009 RACT SIP) (SJVAPCD 2009). In part, the 2009 RACT SIP satisfied the commitment by the SJVAPCD for a new RACT analysis for the 1-hour O₃ plan (see discussion of the EPA withdrawal of approval in the Extreme 1-Hour Ozone Attainment Demonstration Plan summary above) and was intended to prevent all sanctions that could be imposed by the EPA for failure to submit a required SIP revision for the 1-hour O₃ standard. With respect to the 8-hour standard, the plan also assesses the SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB's designation as an extreme O₃ nonattainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews additional rules and rule amendments that had been adopted by the Governing Board since August 17, 2006, for RACT consistency.

2013 Plan for the Revoked 1-Hour Ozone Standard

The SJVAPCD developed a plan for EPA's revoked 1-hour O₃ standard after the EPA withdrew its approval of the 2004 Extreme 1-Hour Ozone Attainment Demonstration Plan as a result of litigation. As a result of the litigation, the EPA reinstated previously revoked requirements for 1-hour O₃ attainment plans. The 2013 plan addresses those requirements, including a demonstration of implementation of reasonably available control measures and a demonstration of a rate of progress averaging 3% annual reductions of ROG or NO_x emissions every 3 years. The 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013).

2014 RACT SIP

On June 19, 2014, the Governing Board adopted the 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (2014 RACT SIP) (SJVAPCD 2014a). The 2014 RACT SIP includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NO_x reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance SJVAB's O₃ attainment. Each ROG (i.e., VOC) rule evaluated in the 2009 RACT SIP, however, has been subsequently approved by the EPA as meeting RACT within the last 2 years. The O₃ attainment strategy, therefore, focuses on further NO_x reductions.

SJVAPCD 2016 Plan for the 2008 8-Hour Ozone Standard

The SJVAPCD adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016. This plan demonstrates the practicable and expeditious attainment of the 75 parts per billion 8-hour O₃ standard (SJVAPCD 2016a).

SJVAPCD 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard

The SJVAPCD adopted the 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard on September 15, 2016. This plan addresses the EPA federal annual PM_{2.5} standard of 12 micrograms per cubic meter (µg/m³), established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the SJVAB from Moderate nonattainment to Serious nonattainment (SJVAPCD 2016b).

SJVAPCD 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards on November 15, 2018. This plan addresses the EPA federal 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³, the 2006 24-hour PM_{2.5} standard of 35 µg/m³, and the 2012 annual PM_{2.5} standard of 12 µg/m³. This plan demonstrates attainment of the federal PM_{2.5} standards as expeditiously as practicable (SJVAPCD 2018a).

2020 RACT Demonstration

The SJVAPCD adopted the 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard on June 18, 2020. San Joaquin Valley is classified as an Extreme nonattainment area for the 2015 O₃ standard. The 2020 RACT Demonstration includes a comprehensive evaluation of all NO_x and ROG SJVAPCD rules to ensure that each rule meets or exceeds RACT. The 2020 RACT Demonstration fulfills Clean Air Act requirements and demonstrates that all federal RACT requirements continue to be satisfied in San Joaquin Valley (SJVAPCD 2020a).

Particulate Matter Attainment Plans

2007 PM₁₀ Maintenance Plan and Request for Redesignation

On September 20, 2007, the Governing Board approved the 2007 PM₁₀ Maintenance Plan and Request for Redesignation (SJVAPCD 2007a). After achieving compliance with the annual and 24-hour NAAQS for PM₁₀ during the period from 2003 to 2006,² the SJVAPCD prepared the 2007 PM₁₀ Maintenance Plan and Request for Redesignation. The plan includes future emission estimates through 2020 and, based on modeling, projects that SJVAB will continue to attain the PM₁₀ NAAQS through 2020. The plan does not call for adoption of new control measures. Measures called for in the 2007 8-Hour Ozone Plan and 2008 PM_{2.5} Plan (discussed below) will also produce PM₁₀ benefits; however, the plan does include a contingency plan if future PM₁₀ levels were to exceed the NAAQS. It also includes a request that the EPA redesignate the SJVAB to attainment status for the PM₁₀ NAAQS. On October 25, 2007, CARB approved the SJVAPCD's plan with modifications to the transportation conformity budgets. On September 25, 2008, the EPA redesignated the SJVAB to attainment for the PM₁₀ NAAQS and approved the PM₁₀ maintenance plan.

2008 PM_{2.5} Plan

The SJVAPCD Governing Board adopted the 2008 PM_{2.5} Plan on April 30, 2008 (SJVAPCD 2008). This plan is designed to assist the SJVAB in attaining all PM_{2.5} standards, including the 1997 federal standards, the 2006 federal standards, and the state standard, as soon as possible. On July 13, 2011, the EPA issued a proposed rule partially approving and disapproving the 2008 PM_{2.5} Plan. Subsequently, on November 9, 2011, the EPA issued a final rule approving most of the plan with an effective date of January 9, 2012. However, the EPA disapproved the plan's contingency measures because they would not provide sufficient emissions reductions.

2012 PM_{2.5} Plan

Approved by the Governing Board on December 20, 2012, the 2012 PM_{2.5} Plan addresses attainment of EPA's 24-hour PM_{2.5} standard of 35 µg/m³ established in 2006. In addition to reducing direct emissions of PM_{2.5}, this plan focuses on reducing emissions of NO_x, which is a predominant pollutant in the

² Attainment is achieved if the 3-year annual average PM₁₀ concentration is less than or equal to 50 µg/m³ and the expected 24-hour exceedance days is less than or equal to 1.

formation of PM_{2.5} in the SJVAB. The plan relies on a multilevel approach to reducing emissions through SJVAPCD efforts (industry, the general public, employers, and small businesses) and state/federal efforts (passenger vehicles, heavy-duty trucks, and off-road sources), as well as SJVAPCD and state/federal incentive programs to accelerate replacement of on- and off-road vehicles and equipment (SJVAPCD 2012).

2015 Plan for the 1997 PM_{2.5} Standard

The Governing Board adopted the 2015 Plan for the 1997 PM_{2.5} Standard on April 16, 2015 (SJVAPCD 2015b). This plan addresses the EPA's annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³ established in 1997. Although nearly achieving the 1997 standards, the SJVAB experienced higher PM_{2.5} levels in winter 2013–2014 due to the extreme drought, stagnation, strong inversions, and historically dry conditions; thus, the SJVAPCD was unable to meet the attainment date of December 31, 2015. Accordingly, this plan also contains a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 and the annual standard to 2020. The plan builds on past development and implementation of effective control strategies. Consistent with EPA regulations for PM_{2.5} plans to achieve the 1997 standards, the plan contains Most Stringent Measures, Best Available Control Measures, and additional enforceable commitments for further reductions in emissions, and ensures expeditious attainment of the 1997 standard.

2016 Moderate Area Plan for the 2012 PM_{2.5} Standard

On September 15, 2016, the Governing Board adopted the 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard (SJVAPCD 2016b). This plan addresses the federal mandates for areas classified as “moderate nonattainment” for the 2012 PM_{2.5} NAAQS of 12 µg/m³. Consistent with EPA's PM_{2.5} Implementation Rule, the plan satisfies the mandate to submit a moderate nonattainment plan to EPA by October 2016, demonstrates impracticability of attaining the 2012 PM_{2.5} standard by the moderate nonattainment deadline of 2021, includes a request to reclassify San Joaquin Valley to a “serious nonattainment” area for the 2012 PM_{2.5} standard, satisfies all federal Clean Air Act requirements for moderate nonattainment areas, and demonstrates that emissions are continuing to be reduced in San Joaquin Valley.

2017 Particulate Matter Plans

The SJVAPCD is in the process of developing an attainment strategy to address the 1997, 2006, and 2012 PM_{2.5} standards and a plan to demonstrate maintenance of the 1987 PM₁₀ standard, as required under the federal Clean Air Act.

Senate Bill 656 Particulate Matter Control Measure Implementation Schedule

Senate Bill (SB) 656 was enacted in 2003 and codified as California Health and Safety Code Section 39614. SB 656 seeks to reduce exposure to PM₁₀ and PM_{2.5} and to make further progress toward attainment of the NAAQS and CAAQS for PM₁₀ and PM_{2.5}. SB 656 required CARB, in consultation with local air districts, to develop and adopt lists of “the most readily available, feasible, and cost-effective” PM control measures. Subsequently, the air districts were required to adopt implementation schedules for

the relevant control measures in their districts. In June 2005, the SJVAPCD adopted its SB 656 Particulate Matter Control Measure Implementation Schedule. The SJVAPCD analysis of the CARB list concluded that all but one of the measures that apply to SJVAPCD sources had been implemented or were in one of the SJVAPCD's attainment plans for adoption within the next 2 years. The remaining measure pertains to a future amendment of a rule for gasoline transfer into stationary storage containers, delivery vessels, and bulk plants.

Applicable Rules

The SJVAPCD's primary means of implementing air quality plans is by adopting and enforcing rules and regulations. Stationary sources within the jurisdiction are regulated by the SJVAPCD's permit authority over such sources and through its review and planning activities. Unlike stationary source projects, which encompass very specific types of equipment, process parameters, throughputs, and controls, air emissions sources from land use development projects are mainly mobile sources (traffic) and area sources (small dispersed stationary and other non-mobile sources), including exempt (i.e., no permit required) sources such as consumer products, landscaping equipment, furnaces, and water heaters. Mixed-use land development projects may include nonexempt sources, including devices such as small to large boilers, stationary internal combustion engines, gas stations, and asphalt batch plants. Notwithstanding nonexempt stationary sources, which would be permitted on a case-by-case basis, SJVAPCD Regulations VIII and IX generally apply to land use development projects and are described below.

Regulation IV – Prohibitions

- Rule 4102: Nuisance – Prohibits discharge of air contaminants or other materials from any source which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- Rule 4601: Architectural Coatings – The purpose of the rule is to limit VOC emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements.
- Rule 4641: Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations – The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations.

Regulation VIII – Fugitive PM₁₀ Prohibition

- Rule 8021: Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. The rule outlines Dust Control Plan requirements for certain applicable construction activities.

- Rule 8031: Bulk Materials – The purpose of the rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials.
- Rule 8041: Carryout and Trackout – The purpose of this rule is to prevent or limit fugitive dust emissions from carryout and trackout.
- Rule 8051: Open Areas – The purpose of this rule is to limit fugitive dust emissions from open areas.
- Rule 8061: Paved and Unpaved Roads – The purpose of this rule is to limit fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria.
- Rule 8071: Unpaved Vehicle/Equipment Traffic Areas – The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas.

Regulation IX – Mobile and Indirect Sources

- Rule 9110: General Conformity – The rule specifies the criteria and procedures for determining the conformity of federal actions with the San Joaquin Valley Unified Air Pollution Control District’s air quality implementation plan.
- Rule 9120: Transportation Conformity – The rule sets forth the principles for determining conformity of transportation plans, programs, and projects which are developed, funded, or approved by the United States Department of Transportation (DOT), and by metropolitan planning organizations (MPOs) or other recipients of funds under Title 23 U.S.C. or the Federal Transit Act. The rule sets forth policy, criteria, and procedures for demonstrating and assuring conformity of such activities to an applicable implementation plan developed pursuant to the Clean Air Act.
- Rule 9410: Employer Based Trip Reduction – The purpose of this rule is to reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites to reduce emissions of oxides of nitrogen, volatile organic compounds, and particulate matter.
- Rule 9510: Indirect Source Review (ISR) – The purpose of this rule is to fulfill the District’s emission reduction commitments in the PM10 and Ozone Attainment Plans, achieve emission reductions from the construction and use of development projects through design features and on-site measures, and provide a mechanism for reducing emissions from the construction of and use of development projects through off- site measures.
- Rule 9610: State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs – The purpose of this rule is to provide an administrative mechanism for the District to achieve credit towards State Implementation Plan requirements for emission reductions achieved in the San Joaquin Valley Air Basin through incentive programs administered by the District, United States Department of Agriculture Natural Resources Conservation Service, or CARB.

Rule 9510: Indirect Source Review

The ISR rule, which was adopted December 15, 2005, and went into effect March 1, 2006, requires developers of new residential, commercial, and some industrial projects to reduce NO_x and PM₁₀ emissions generated by their projects. Pursuant to Rule 9510, the purpose of the ISR rule is to reduce emissions of NO_x and PM₁₀ from new land development projects. In general, development contributes to air pollution in the SJVAB by increasing the number of vehicles and vehicle miles traveled. ISR applies to development projects that require discretionary approval from the lead agency. The ISR rule also applies to transportation and transit projects with construction exhaust emissions that equal or exceed 2 tons per year of NO_x or PM₁₀. The ISR rule requires submittal of an air impact assessment application no later than the date on which the application is made for a final discretionary approval from the public agency. The air impact assessment contains the information necessary to calculate construction and operational emissions of a development project.

Section 6.0 of the ISR rule outlines general mitigation requirements for developments that include reduction in construction emissions of 20% of the total construction NO_x emissions, and 45% of the total construction PM₁₀ exhaust emissions. The rule also requires the Project to reduce operational NO_x emissions by 33.3% and operational PM₁₀ emissions by 50% compared to the unmitigated baseline. Section 7.0 of the ISR rule includes fee schedules for construction or operational excess emissions of NO_x or PM₁₀—those emissions above the goals identified in Section 6.0 of the rule. Monies collected from this fee are used by the SJVAPCD to fund emissions reduction projects in the SJVAB on behalf of that project.

Currently, the SJVAPCD is proposing revisions to Rule 9510 that may affect the applicability mechanism of the ISR rule to ensure that the rule applies consistently throughout San Joaquin Valley, as well as clarification and enhancement of several other aspects of the rule.

Rule 9610: State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs

Rule 9610 provides an administrative mechanism for the SJVAPCD to receive credit toward SIP requirements for emissions reductions achieved in the SJVAB through incentive programs administered by the SJVAPCD, United States Department of Agriculture Natural Resources Conservation Service, or CARB. On April 9, 2015, the EPA finalized a limited approval and limited disapproval (for a minor administrative error) of Rule 9610 as a revision to the California SIP. Additional documentation regarding the effectiveness of SJVAPCD's incentive programs can be found in 2015 Annual Demonstration Report SIP Credit for Emission Reductions Generated Through Incentive Programs (SJVAPCD 2015c).

2.1.3 City of Bakersfield

City of Bakersfield General Plan

Goals:

1. Promote air quality that is compatible with health, well being, and enjoyment of life by controlling point sources and minimizing vehicular trips to reduce air pollutants.
2. Continue working toward attainment of Federal, State and Local standards as enforced by the San Joaquin Valley Unified Air Pollution Control District.

3. Reduce the amount of vehicular emissions in the planning area.
4. Reduce air pollution associated with agricultural activities.

Policies

1. Comply with and promote San Joaquin Valley Unified Air Pollution Control District (SJVUAPCO) control measures regarding Reactive Organic Gases (ROG). Such measures are focused on: (a) steam driven well vents, (b) Pseudo-cyclic wells, (c) natural gas processing plant fugitives, (d) heavy oil test stations, (e) light oil production fugitives, (f) refinery pumps and compressors, and (g) vehicle inspection and maintenance (1-1).
2. Encourage land uses and land use practices which do not contribute significantly to air quality degradation (I-1).
3. Require dust abatement measures during significant grading and construction operations (1-1).
4. Consider air pollution impacts when evaluating discretionary permits for land use proposals. Considerations should include (1-1):
 - a) Alternative access routes to reduce traffic congestion.
 - b) Development phasing to match road capacities.
 - c) Buffers including increase vegetation to increase emission dispersion and reduce impacts of gaseous or particulate matter on sensitive uses.
5. Consider the location of sensitive receptors such as schools, hospitals, and housing developments when locating industrial uses to minimize the impact of industrial sources of air pollution (1-1).
6. Participate in alternative fuel programs (1-2).
7. Participate in regional air quality studies and comprehensive programs for air pollution reduction (I-3).
8. Promote and assist in the development and implementation of the San Joaquin Valleywide Air Quality Study (1-3).
9. Promote public education regarding air quality issues and alternative transportation (1-4).
10. Implement the Transportation System Management Program (July 1984) for Metropolitan Bakersfield to improve traffic flow, reduce vehicle trips, and increase street capacity (I-1).
11. Improve the capacity of the existing road system through improved signalization, more right turn lanes and traffic control systems (1-1).
12. Encourage the use of mass transit, carpooling and other transportation options to reduce vehicle miles traveled (1-4).
13. Consider establishing priority parking areas for carpoolers in projects with relatively large numbers of employees to reduce vehicle miles traveled and improve air quality (1-1).
14. Establish park and ride facilities to encourage carpooling and the use of mass transit (1-1).
15. Promote the use of bicycles by providing attractive bicycle paths and requiring provision of storage facilities in commercial and industrial projects (1-1).

16. Cooperate with Golden Empire Transit and Kern Regional Transit to provide a comprehensive mass transit system for Bakersfield; require large-scale new development to provide related improvements, such as bus stop shelters and turnouts (1-1).
17. Continue to participate with the vehicle smog-check and maintenance programs (1-1).
18. Encourage walking for short distance trips through the creation of pedestrian friendly sidewalks and street crossings (1-1).
19. Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services to minimize vehicular travel (1-1).
20. Provide the opportunity for the development of residential units in concert with commercial uses (1-1).
21. Disperse urban service centers (libraries, post offices, social services, etc.) to minimize vehicle trips and trip miles traveled and concomitant air pollutants (1-1).
22. Require the provision of secure, convenient bike storage racks at shopping centers, office buildings, and other places of employment in the Bakersfield Metropolitan area (1-1).
23. Encourage the provision of shower and locker facilities by employers, for employees who bicycle or jog to work (1-1).
24. Encourage employers to implement programs for staggered work hours, compressed work weeks, or other measures which relieve vehicle congestion during commute periods and reduce total work trips (1-1).
25. Require design of parking structures and ramps to provide adequate offstreet storage for entering vehicles to minimize on-street congestion and avoid internal back-up and idling of vehicles (1-1).
26. Consider restriction or elimination of on-street parking for the purpose of providing increased road or intersection capacity during peak traffic hours (1-1).
27. Local governments should work with local transit authorities to increase the attractiveness of passenger staging areas through the provision of waiting shelters, landscaping and drinking fountains (1-1).
28. Encourage the use of "teleconferencing" and other state-of-the-art technology as a means of reducing daily business related traffic (1-4).
29. Encourage the use of alternative fuel and low or zero emission vehicles (1-5, 1-6).
30. Encourage local officials to advocate safe incentives for biomass plants to divert agricultural waste and reduce agricultural burns (1-1).
31. Encourage agricultural burn alternatives (1-1).

2.2 Greenhouse Gas Regulatory Setting

2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific,

technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

Kyoto Protocol. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

The Paris Agreement. The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

2.2.2 National

Greenhouse Gas Endangerment. On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

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 greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide 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 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 agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 grams of CO₂ per mile for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO₂- equivalent emission

improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.³

Mandatory Reporting of Greenhouse Gases. On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

Climate Adaption Plan. The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: <https://www.epa.gov/arc-x/planning-climate-change-adaptation>

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.
- Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.⁴

Executive Order 13432

³ National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: <https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf>.

⁴ A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)⁵ and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.⁶ In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 grams of CO₂ per mile for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO₂-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.⁷

⁵ The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S. Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

⁶ United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF>.

⁷ National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at <https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf>.

2.2.3 California

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

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 and 2016 standards have been approved and became effective July 1, 2014 and January 1, 2016, respectively. 2019 standards were published July 1, 2019 and became effective January 1, 2020.

California Code of Regulations (CCR) Title 24, Part 11. All buildings for which an application for a building permit is submitted on or after January 1, 2023 must follow the 2022 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11:

<https://www.dgs.ca.gov/BSC/Codes>

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2022-2023 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2023 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The CEC estimates that over 30 years the 2022 Energy Code will provide \$1.5 billion in consumer benefits and reduce 10 million metric tons of GHG. Changes compared to the 2019 Energy Code include increases to on-site renewable energy generation from solar, increases to electric load flexibility to support grid reliability, reduction of emissions from newly constructed buildings, reduction of air pollution for improved public health, and increased adoption of environmentally beneficial efficient electric technologies.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:

<http://www.bsc.ca.gov/Home/CALGreen.aspx>

Executive Order S-3-05. California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-01-07. Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved

the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are “back-loaded”, with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today’s fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

SB 97. Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor’s Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors

that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that “to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation.”
- OPR’s emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO₂e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” scenario are estimated to be 596 MMTCO₂e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44

recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- 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 greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- 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. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount 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 greenhouse gas emission reductions.⁴

Senate Bill 100. Senate Bill 100 (SB 100) requires 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. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33

percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350. Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

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

The proposed project is located within the Southern California Association of Governments (SCAG), which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements.

On September 3, 2020, SCAG's Regional Council approved and fully adopted the Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than \$638 billion in transportation system investments through 2045. Connect SoCal is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently. By integrating the Forecasted Development Pattern with a suite of financially constrained transportation investments, Connect SoCal can reach the regional target of reducing greenhouse gases, or GHGs, from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels).

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

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

Assembly Bill 939, Assembly Bill 341, and Senate Bill 1374. Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. AB 341 requires at least 75 percent of generated waste be source reduced, recycled, or composted by the year 2020. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Executive Order S-13-08. Executive Order S-13-08 indicates 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 (California Natural Resource Agency 2009) was adopted, which is the “... first statewide, multi-sector, region-specific, and information-based 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. Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

Executive Order B-29-15. Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

Executive Order B-37-16. Executive Order B-37-16, continuing the State’s adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

Executive Order N-79-20. Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

SBX1 2. Signed into law in April 2011, SBX1 2, requires one-third of the State’s electricity to come from renewable sources. The legislation increases California’s current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

2.2.4 San Joaquin Valley Air Pollution Control District

The project is within the SJVAB, which is under the jurisdiction of the SJVAPCD.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) does not regulate GHG emissions directly through its permitting responsibilities for stationary sources. Thus, there are no SJVAPCD rules or regulations related to GHGs. The SJVAPCD, however, influences reductions of GHGs from new and modified stationary sources when acting as a lead agency for CEQA. The SJVAPCD implements its GHG policies and reviews whether new or modified stationary sources will implement best performance standards (BPSs).

In 2009, the SJVAPCD developed an internal policy and guidance for local land use agencies to use in evaluating GHG impacts under CEQA. In the Final Staff Report – Addressing GHG Emissions Impacts under the California Environmental Quality Act (SJVAPCD 2009a), the SJVAPCD reviewed potential GHG significance thresholds and approaches suggested by or adopted by entities, including a zero threshold, quantification of a project’s GHG impacts without a recommended significance threshold, and specific significance thresholds for different kinds of projects (e.g., residential, mixed use, industrial, plans).⁸ The following discussion summarizes the SJVAPCD’s conclusions about various categories of GHG significance thresholds.

Zero Threshold. The SJVAPCD concluded that “although a zero threshold is appealing in its simplicity; execution of a zero threshold would be difficult or impossible” (SJVAPCD 2009a). Furthermore, the SJVAPCD found that projects that could not reduce their emissions to zero would require preparation of an environmental impact report and adoption of a statement of overriding consideration by the lead agency. Potentially, projects could choose to relocate to a region with a less-stringent threshold, so-called “leakage,” which would still result in GHG emissions outside the SJVAPCD. Finally, the SJVAPCD

⁸ These documents encompassed the primary approaches for establishing significance thresholds prior to the March 18, 2010, effective date of revisions of the CEQA Guidelines in accordance with SB 97. Additional guidance regarding assessment of GHG impacts were provided in the revised CEQA Guidelines and accompanying Final Statement of Reasons for Regulatory Action – Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (CNRA 2009a). In addition, the California appellate courts and Supreme Court have more recently considered CEQA cases and, in some cases, issued published decisions that provide additional direction regarding the appropriateness of certain GHG assessment methodologies and significance thresholds.

noted that CARB concluded that zero thresholds are not mandated because some level of GHG emissions is still consistent with climate stabilization, and other regulatory programs will result in GHG reductions. For these reasons, the SJVAPCD did not support a zero threshold. Accordingly, a zero threshold was not selected as an appropriate GHG/climate change threshold for this assessment.

Non-Zero Quantitative Thresholds. The SJVAPCD reviewed numerous quantitative thresholds adopted or proposed by other air districts and organizations, including “mass of GHG emissions generate per unit of activity, GHG emissions per capita per unit basis, and percent reduction compared to business-as-usual” (SJVAPCD 2009a). Although a tiered approach was evaluated, with the final tier incorporating a quantitative threshold, the SJVAPCD concluded that “without supporting scientific information, establishment of tier trigger levels could be argued to be arbitrary, and District staff does not believe the available science supports establishing a bright-line threshold, above which emissions are significant and below which they are not” (SJVAPCD 2009a).

Best Performance Standards. The SJVAPCD evaluated performance-based standards that would state “in quantifiable terms the level and extent of the attribute necessary to reach a goal or objective” (SJVAPCD 2009a). The SJVAPCD considered a project achieving the performance-based standard or mitigating GHG emissions to an equivalent emissions reduction level would be considered to have a less-than-significant cumulative impact on climate change. In conclusion, the SJVAPCD found that the state’s GHG emissions reduction target would be accomplished by achieving a 29% reduction from business-as-usual (BAU), and that achieving this reduction would be a “de facto” performance-based standard for GHG emissions reductions.

On December 17, 2009, the SJVAPCD Governing Board adopted Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009b). The guidance recommends the following hierarchy for evaluating a project’s impact with respect to its GHG emissions:

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the Project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing BPSs would not require quantification of project-specific GHG emissions.⁹ Consistent with the CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.
- Projects not implementing BPSs would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29%

⁹ The guidance recommends, “projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions” (SJVAPCD 2009c). This assessment for the project does include quantification of the project’s construction and operational GHG emissions.

compared to BAU, including GHG emission reductions achieved since the 2002–2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG (SJVAPCD 2009b).

- For development projects, BPSs would include project design elements, land use decisions, and technologies that reduce GHG emissions. Although the SJVAPCD has adopted BPSs for several types of stationary sources (e.g., boilers), it has not developed BPSs for land development projects. Projects implementing any combination of BPSs and/or demonstrating a total 29% reduction in GHG emissions from BAU would be determined to have a less-than-significant individual and cumulative impact on global climate change (SJVAPCD 2015).

2.2.5 City of Bakersfield

City of Bakersfield Priority Climate Action Plan (PCAP)

The City of Bakersfield PCAP was adopted in March 2024. The City’s 2024 PCAP meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with State CEQA Guidelines Section 15183.5.

The PCAP outlines the City’s near-term climate action strategy and includes measures in areas including building energy, infrastructure, land use and mobility, natural and urban landscapes, and materials and waste. This analysis evaluates the proposed project’s consistency with the City’s PCAP.

3.0 Setting

3.1 Existing Physical Setting

The project site is located in the City of Bakersfield within the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi mountains to the south.

3.1.1 Local Climate and Meteorology

The SJVAB has an inland Mediterranean climate with warm, dry summers, relatively cool nights, and cooler winters with limited rainfall. Winters are mild with light rains and frequent heavy fog from December to January. In the SJVAB, the surrounding mountains restrict air movement and impede the dispersion of pollutants out of the basin. The SJVAB also experiences temperature inversions frequently throughout the year, which restrict vertical dispersion of air pollutants; an inversion occurs when a mass of warm dry air sits over cooler air near the ground, essentially trapping the air mass below. In addition, the Valley's long, hot summers, and stagnant, foggy winters, provide ideal conditions for the formation of photochemical oxidants and reduce dispersion, respectively.

Wind speed and direction determine the dispersion of air pollutants. Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the SJVAB. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the broader Sacramento air basin during these times. However, the winds are relatively light, limiting the dispersion of CO and other pollutants.

In the late fall and winter, when there is little interchange of air between the valley and the coast, humidity is high following winter rains, and temperature inversions at ground level persist over the entire valley for several weeks, air movement is virtually absent and radiation fog, known as tule fog, forms. This is typically when peak concentrations of carbon monoxide (CO), oxides of nitrogen (NOX), and particulate matter (PM) occur.

The temperature and precipitation levels for Bakersfield are in Table 3. Table 3 shows that July is typically the warmest month and January is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 3: Meteorological Summary

Month	Temperature (°F)		Average Precipitation (inches)
	Average High	Average Low	
January	57.4	38.5	1.04
February	63.6	42.1	1.16
March	69.0	45.4	1.12
April	75.7	49.7	0.67
May	84.2	56.6	0.21
June	92.1	63.3	0.07
July	98.6	69.2	0.01
August	96.7	67.7	0.04
September	91.0	63.1	0.10
October	80.5	54.0	0.30
November	67.3	44.1	0.59
December	57.8	38.5	0.85
Annual Average	77.8	52.7	6.20
Notes: ¹ Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0442			

3.1.2 Local Air Quality

The SJVAPCD maintains an air-monitoring network that measures levels of several air pollutants throughout the air basin. Since not all air monitoring stations measure all of the tracked pollutants, the data from the following two monitoring stations, listed in the order of proximity to the project site have been used. The nearest air monitoring stations to the project site with available data is the Bakersfield – California Avenue Station monitoring station (California Avenue Station) located approximately 9 miles west of the project site at 5558 California Avenue. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

<Table 4, next page>

Table 4: Local Area Air Quality Levels

Pollutant (Standard) ²	Year		
	2021	2022	2023
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.090	0.093	0.088
Days > CAAQS (0.09 ppm)	0	0	0
Maximum 8-Hour Concentration (ppm)	0.080	0.076	0.079
Days > NAAQS (0.07 ppm)	11	4	7
Days > CAAQS (0.070 ppm)	11	7	7
Carbon Monoxide:			
Maximum 8-Hour Concentration (ppm)	*	*	*
Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppm)	0.067	0.065	0.058
Days > NAAQS (0.25 ppm)	0	0	0
Inhalable Particulates (PM10):			
Maximum 24-Hour Concentration (µg/m ³)	437.5	134.7	181.3
Days > NAAQS (150 µg /m ³)	3	0	1
Days > CAAQS (50 µg /m ³)	124	135	106
Annual Average (ug/m ³)	-	46.8	39.8
Annual > NAAQS (50 µg /m ³)	-	No	No
Annual > CAAQS (20 µg /m ³)	-	Yes	Yes
Ultra-Fine Particulates (PM2.5):			
Maximum 24-Hour Concentration (µg /m ³)	72.3	58.1	63.7
Days > NAAQS (35 µg /m ³)	43.2	35	10
Annual Average (µg /m ³)	16.6	-	12.0
Annual > NAAQS (15 µg /m ³)	Yes	-	No
Annual > CAAQS (12 µg /m ³)	Yes	-	Yes
¹ Source: obtained from https://www.arb.ca.gov/adam/topfour/topfour1.php ² CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million; µg/m ³ = micrograms/cubic meter ³ No data available.			

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10) are the air pollutants of primary concern in the project area, which are detailed below.

Ozone

During the 2021 to 2023 monitoring period, the State 1-hour concentration standard for ozone was not exceeded at the California Avenue Station. The State 8-hour ozone standard has been exceeded between 7 and 11 days each year over the past three years at the California Avenue Station. The Federal 8-hour ozone standard has been exceeded between 4 and 11 days each year of the past three years at the California Avenue Station.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The California Avenue Station did not record an exceedance of the state or federal 8-hour CO standards for the last three years.

Nitrogen Dioxide

The California Avenue Station did not record an exceedance of the State or Federal NO₂ standards for the last three years.

Particulate Matter

During the 2021 to 2023 monitoring period, the State 24-hour concentration standard for PM₁₀ was exceeded between 106 and 135 days each, while the Federal 24-hour standard was exceeded three days in 2021 and one day in 2023 at the California Avenue Station. Over the same time period the Federal annual standard for PM₁₀ was not exceeded at the California Avenue Station and the State annual standard was exceeded the last two years.

The Federal 24-hour standard for PM_{2.5} has been exceeded between 10 and 43 days each year over the last three years at the California Avenue Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM₁₀ and PM_{2.5}). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM₁₀ and PM_{2.5}. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

3.1.3 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 three-year average of the annual average PM_{2.5} concentration is less than or equal to the standard. Table 5 lists the attainment status for the criteria pollutants in the basin.

As indicated below in Table 5, the SJVAPCD has been designated by the EPA as a non-attainment area for ozone (O₃) and suspended particulates (PM_{2.5}). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and particulate matter (PM_{2.5}).

Table 5: Attainment Status of SJVAPCD^{1,2}

Pollutant	Federal Designation	State Designation
1-Hour Ozone	Revoked	Nonattainment/Severe
8-Hour Ozone	Nonattainment/Extreme	Nonattainment
CO	Unclassified/Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Lead	Unclassified/Attainment	Attainment
SO2	Unclassified/Attainment	Attainment
NO2	Unclassified/Attainment	Attainment
Notes:		
¹ SJVAPCD = San Joaquin Valley Air Pollution Control District		
² Source: https://ww2.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainment-status/ .		

3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO₂), methane (CH₄), ozone, water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO₂ and nitrous oxide (NO₂) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO₂, where CO₂ is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 6 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: <https://www.arb.ca.gov/cc/inventory/data/data.htm>

<Table 6 on next page>

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N ₂ O), also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N ₂ O.
Methane	Methane (CH ₄) 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.	A natural source of CH ₄ is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural greenhouse gas. Carbon dioxide'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.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (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 manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
Notes: 1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html		

4.0 Modeling Parameters and Assumptions

4.1 Construction

Emissions are estimated using the CalEEMod (Version 2022.1.1.29) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.

The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the Bakersfield region of the SJVAPCD for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak annual air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. Per the site plan, the overall area to be disturbed during construction of the proposed project was estimated to be approximately 13.07 acres. Construction is estimated to occur over approximately 13 months beginning in mid-2025. The phases of the construction activities which have been analyzed below are: 1) demolition, 2) site preparation, 3) grading, 4) building, 5) paving, and 6) architectural coating. 20,000 cubic yards of soil export have been included in the grading phase. For details on construction modeling and construction equipment for each phase, please see Appendix A.

4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The project will generate approximately 48 trips per event. It was conservatively assumed there would be a maximum of 4 events per day for a total of 192 trips per day. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular

traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SJVAPCD Rule 4601, the architectural coatings that would be applied after January 1, 2022 will be limited to an average of 50 grams per liter or less.

Energy Usage

2022.1.1.29 CalEEMod defaults were utilized.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

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

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides that the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SJVAPCD in their CEQA Guidelines.

5.1.2 Regional Significance Thresholds

According to the SJVAPCD, 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 SJVAPCD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and it is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan).

Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations. The SJVAPCD currently recommends that projects with construction-related and/or operational emissions that exceed any of the following emissions thresholds listed in Table 7 should be considered significant:

Table 7: SJVAPCD Air Quality Significance Thresholds

Pollutant	Annual Thresholds (tons/year)
NOx	10
VOC	10
PM10	15
PM2.5	15
SOx	27
CO	100

For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SJVAPCD significance thresholds identified above in Table 7.

5.2 Greenhouse Gas Thresholds of Significance

5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas 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 project would:

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

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines that prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with many environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. As previously discussed (see Section 2.2.5 of this report), the *City of Bakersfield PCAP* has developed measures to reduce the City’s GHG impacts. The City’s PCAP was used in this analysis.

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Regulation VIII. Regulation VIII (fugitive dust) is not considered a mitigation measure as the project by default is required to incorporate this rule during construction.

6.1.1 Regional Construction Emissions

The construction emissions for the project would not exceed SJVAPCD annual emissions thresholds as demonstrated in Table 8, and therefore would be considered less than significant. The emissions discussion includes **Mitigation Measure 1**, which requires all construction equipment to have an engine rating of Tier 4 Final and is required per the health risk assessment in Section 8.

Table 8: Regional Significance - Construction Emissions (tons/year)

Activity	Pollutant Emissions (tons/year)					
	VOC	NOx	CO	SO ₂	PM10	PM2.5
2026	0.06	0.51	2.30	0.00	0.16	0.07
2027	0.22	0.19	0.94	0.00	0.02	0.01
Total	0.28	0.70	3.24	0.00	0.18	0.08
SJVAPCD Thresholds	10	10	100	27	15	15
Exceeds Thresholds	No	No	No	No	No	No
Notes: ¹ Source: CalEEMod Version 2022.1.1.29 ² On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SJVAPCD Regulation VIII. ³ Off-site emissions from equipment operated on public roads. ⁴ Construction, architectural coatings and paving phases may overlap.						

6.1.2 Construction-Related Odors

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

6.1.3 Valley Fever

Coccidioidomycosis, more commonly known as “valley fever,” is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of

exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. Statewide incidences in 2018 were 18.8 per 100,000 people (CDPH 2021), occurring largely in Central California. The project would be required to comply with SJVAPCD Rule 8021, which would require fugitive dust mitigation, which would control the release of the *Coccidioides immitis* fungus during construction activities. Therefore, the project would have a less-than-significant impact with respect to valley fever exposure for sensitive receptors.

6.2 Operational Air Quality Emissions Impact

6.2.1 Regional Operational Emissions

The operations-related criteria air quality impacts from the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2027, which is a conservative estimate of the opening year for the project. The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 9.

Table 9: Regional Significance - Operational Emissions (tons/year)

Activity	Pollutant Emissions (tons/year) ¹					
	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources ²	0.25	0.00	0.20	0.00	0.00	0.00
Energy Usage ³	0.01	0.10	0.08	0.00	0.01	0.01
Mobile Sources ⁴	0.50	0.86	4.71	0.02	1.32	0.34
Total Emissions	0.76	0.96	4.99	0.02	1.33	0.35
SJVAPCD Annual Thresholds	25	25	100	25	15	12
Exceeds Threshold?	No	No	No	No	No	No
Notes: ¹ Source: CalEEMod Version 2022.1.1.29 ² Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment. ³ Energy usage consists of emissions from on-site natural gas usage. ⁴ Mobile sources consist of emissions from vehicles and road dust.						

Table 9 provides the project's unmitigated operational emissions. Table 9 shows that the project does not exceed the SJVAPCD regional emissions thresholds. Therefore, operational emissions are considered to be less than significant.

6.2.2 Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from vehicular emissions, trash storage areas, and cultivation operations. As the project will have a religious assembly use, no significant impact related to odors would occur during the on-going operations of the proposed project.

6.3 Operational Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty truck trips during operation of the project (up to four delivery trucks per week), the proposed project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, operational-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant long-term toxic air contaminant impacts would occur during operation of the proposed project.

6.4 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature.

The area that encompasses the project is out of attainment for both ozone and particulate matter. Construction and operation of cumulative projects will further degrade the air quality of the SJVAB. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SJVAPCD methodology, projects that do not exceed the SJVAPCD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact.

Project operations would generate emissions of NO_x, ROG, CO, SO₂, PM₁₀, and PM_{2.5}, which would not exceed the SJVAPCD regional thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

6.5 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). According to the SJVAPCD, 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 District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area all in excess of the applicable land use plan).

The project site is located in the City of Bakersfield. The proposed project will be a temple. Per the City's Land Use Zoning map, the current land use zoning is commercial, which allows for the Project's religious assembly uses. As shown by the results of this air analysis, the project's emissions do not exceed any SJVAPCD thresholds during either short-term construction or long-term operation of the project. Therefore, as the project would be a religious assembly use that conforms to the City's zoning classification, the proposed project is not anticipated to exceed the Attainment Plan assumptions for the project site.

Based on the above, the proposed project would not conflict with implementation of the SJVAPCD Attainment Plans, and its anticipated impacts are thus considered to be less than significant.

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7.0 Greenhouse Gas Impact Analysis

7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 10. The emissions are from all phases of construction. The total construction emissions amortized over a period of 30 years are estimated at 20.6 metric tons of CO₂e per year. Annual CalEEMod output calculations are provided in Appendix A.

Table 10: Construction Greenhouse Gas Emissions

Year	Metric Tons Per Year					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT)
2026	0.00	457.00	457.00	0.01	0.02	464.00
2027	0.00	153.00	153.00	0.01	0.00	154.00
Total	0.00	610.00	610.00	0.02	0.02	618.00
Annualized Construction Emissions						20.60
Notes: ¹ MTCO ₂ e=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide). ² The emissions are averaged over 30 years. * CalEEMod output (Appendix A)						

7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. Table 11 below shows that the subtotal for the proposed project would result in annual emissions of 1,592.65 MT CO₂e per year (without the addition of amortized construction emissions which would add an additional 10.27 MT CO₂e per year; see Appendix A CalEEMod Annual Output for details). The total emissions would be 1,613.25 MTCO₂e/year.

<Table 11, next>

Table 11: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year) ¹					
	Bio-CO ₂	NonBio-CO ₂	CO ₂	CH ₄	N ₂ O	CO ₂ e
Area Sources ²	0.00	0.73	0.73	0.00	0.00	0.73
Energy Usage ³	0.00	201.00	201.00	0.00	0.00	12.90
Mobile Sources ⁴	0.00	1,460.00	1,460.00	0.04	0.08	1,487.00
Solid Waste ⁵	25.50	0.00	25.50	2.55	0.00	89.20
Water ⁶	0.50	0.64	1.14	0.05	0.00	2.79
Refrigerants	0.00	0.00	0.00	0.00	0.00	0.03
Total Emissions	26.00	1,662.37	1,688.37	2.64	0.08	1,592.65
Construction ⁷	0.00	20.33	20.33	0.00	0.00	20.60
Combined Emissions	26.00	1,682.70	1,708.70	2.64	0.08	1,613.25
Notes: ¹ Source: CalEEMod Version 2020.4.0 ² Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment. ³ Energy usage consist of GHG emissions from electricity and natural gas usage. ⁴ Mobile sources consist of GHG emissions from vehicles. ⁵ Solid waste includes the CO ₂ and CH ₄ emissions created from the solid waste placed in landfills. ⁶ Water includes GHG emissions from electricity used for transport of water and processing of wastewater. ⁷ Construction GHG emissions based on a 30-year amortization rate.						

7.3 Greenhouse Gas Plan Consistency

Consistency with the City of Bakersfield Priority Climate Action Plan

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The applicable plan for the proposed project is the City of Bakersfield PCAP, adopted by the City in 2024. The City's 2024 PCAP meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with State CEQA Guidelines Section 15183.5.¹⁰

Project consistency with all of the applicable targets within the PCAP are assessed in Table 12. As shown in Table 12, the project is consistent with the applicable targets within the PCAP.

<Table 12, next page>

¹⁰ City of Bakersfield. Priority Climate Action Plan. March 2024. <https://www.epa.gov/system/files/documents/2024-03/city-of-bakersfield-pcap.pdf>.

Table 12: Project Consistency with the City of Bakersfield Priority Climate Action Plan¹

Strategies	Description	Consistency Analysis
Building Energy	Address residential and nonresidential building energy efficiency and energy use.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
Infrastructure	Increase production and use of clean electricity.	Consistent. The project will be consistent with all California Green Building Standards and will use clean electricity sources provided by the City.
	Increase EV charging infrastructure	Consistent. The project will be consistent with all California Green Building Standards regarding EV charging infrastructure and will comply with City requirements to include EV charging infrastructure.
	Increase use of electricity and alternative fuels in construction equipment.	Consistent. The project will be consistent with all California Green Building Standards regarding construction equipment and will comply with the EPA engine efficiency requirements for all equipment.
Land Use and Mobility	Improve pedestrian and biking infrastructure, prioritizing investments in disadvantaged communities.	Consistent. The project would be a community meeting place in close proximity to an existing residential community and would provide a community service to disadvantaged and other communities.
	Increase residential density near transit, prioritizing affordable housing development.	Consistent. The project is a place of worship on land zoned commercial and would not impede efforts to increase housing density near transit.
Natural and Urban Landscapes	Increase urban tree canopy and green spaces to reduce the heat island effect and improve air quality.	Consistent. The project will comply with all City regulations regarding tree planting and green spaces, and will have a robust landscaping plan.

Strategies	Description	Consistency Analysis
Material and Waste	Increase organic waste diversion citywide	Consistent. The proposed project would be required to have recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).
Notes: ¹ Source: City of Bakersfield Priority Climate Action Plan. https://www.epa.gov/system/files/documents/2024-03/city-of-bakersfield-pcap.pdf .		

Additional relevant plans and policies that govern climate change include:
Executive Orders S-305 and B-30-15;
AB 32 Scoping Plan;

Consistency with AB32 Scoping Plan

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. In May 2014, the CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California’s leadership on climate change. In November 2017, the CARB released the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State’s climate goals, and includes a description of a suite of specific actions to meet the State’s 2030 GHG limit. The 2022 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets.

As the latest, 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of the 2008, 2017, and 2020 Plan are assessed in Table 13. As shown in Table 13, the project is consistent with the applicable strategies within the Scoping Plan.

Table 13: Project Consistency with CARB Scoping Plan Policies and Measures¹

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.

Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards which conform to the Scoping Plan’s energy efficiency standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards which will accomplish this Plan’s Green Building Strategy.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with this strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements relating to cleaner energy sources to move and treat water.
2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.

Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3-7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with this strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards which will enable the Project to achieve these energy efficiency savings.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
2022 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Deploy ZEVs and reduce driving demand	Consistent. The project will be compliant with the current Title 24 standards that advance this goal.
Coordinate supply of liquid fossil fuels with declining California fuel demand	Consistent. The project will be compliant with the current Title 24 standards that advance this goal.
Generate clean electricity	Consistent. The project will be compliant with the current Title 24 standards that advance this goal and would not interfere with clean energy generation.
Decarbonize industrial energy supply	Consistent. The project will be compliant with the current Title 24 standards that advance this goal.
Decarbonize buildings	Consistent. The project will be compliant with the current Title 24 standards that advance this goal.
Reduce non-combustion emissions	Consistent. The project will be compliant with the current Title 24 standards that advance this goal.
Notes: ¹ Source: CARB Scoping Plan (2008, 2017, and 2022)	

7.4 Cumulative Greenhouse Gas Impacts

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative

impact because climate change is a global condition. According to CAPCOA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.”¹¹ The resultant consequences of that climate change can cause adverse environmental effects. A project’s GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. As discussed in Section 7.3 above, the project is consistent with the goals and objectives of the City of Bakersfield PCAP. Therefore, consistent with CEQA Guidelines Section 15064h(3),¹² the City, as lead agency, has determined that the project’s contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

Therefore, the project’s incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

¹¹ Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

¹² The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project’s incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions.”

8.0 Health Risk Assessment

Health Risk Significance Thresholds

The SJVAQMD has defined several health risk significance thresholds that it recommends Lead Agencies use in assessing a project's health risk impacts. The following SJVAPCD thresholds are used for this analysis:¹³

- Maximum Incremental Cancer Risk: ≥ 100 in 1 million, with public notice required ≥ 10 in 1 million and quadrennial updated summary required ≥ 1 in 1 million
- Hazard Index (project increment) ≥ 1.0 .

A significant impact would occur if a project's impacts exceeded any of these thresholds. Projects that exceed the project-specific significance thresholds are considered by the SJVAPCD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Air Toxics

DPM

Studies indicate that DPM poses the greatest health risk among airborne TACs. The California Air Resources Board (CARB) conducted a 10-year research program that demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic long-term health risk.

For purposes of this study, DPM exhaust emissions are represented as particulate matter that is 10 micrometers in diameter and smaller (PM₁₀).

Model Selection and Parameters

An air dispersion model is a mathematical formulation used to estimate the air quality impacts at specific locations (receptors) surrounding a source of emissions given the rate of emissions and prevailing meteorological conditions. The air dispersion model applied in this assessment was the United States Environmental Protection Agency (EPA) AERMOD (version 12) air dispersion model. Specifically, the AERMOD model was used to estimate levels of air emissions at sensitive receptor locations from potential sources of project-generated TACs. The use of the AERMOD model provides a refined

¹³ SJVAPCD. APR – 1906. Framework for Performing Health Risk Assessments. February 12, 2020.
<https://ww2.valleyair.org/media/0shM0mIk/apr-1906.pdf>.

methodology for estimating construction impacts by utilizing long-term, measured representative meteorological data for the project site and a representative construction schedule.

The modeling analysis also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. Direction-dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each source location. Terrain elevations were obtained for the project site using the AERMAP model, the AERMOD terrain data pre-processor. Specifically, National Elevation dataset (NED) data for the area were obtained and included in the model runs to account for complex terrain. The air dispersion model assessment used meteorological data from the Bakersfield station. The meteorological data used was preprocessed for use with AERMOD by the SJVAPCD and included data for the years 2018 to 2022; all years were used in the assessment. To evaluate the proposed project's localized impacts at the point of maximum impact, all receptors were placed within the breathing zone at zero meters above ground level.

Construction-related activities would result in temporary, short-term project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment for site grading; soil hauling truck traffic; vertical building construction; paving; application of architectural coatings; and other miscellaneous activities. For construction activity, DPM is the primary air toxic of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a toxic air contaminant (TAC) by the California Air Resources Board (CARB) in 1998.

The construction HRA evaluated DPM (represent as exhaust PM10 from CalEEMod) emissions generated during construction of the proposed project and the related health risk impacts for sensitive receptors located within 1,000 feet of the project boundary. Exhaust PM10 emissions from construction of the project were calculated in CalEEMod (see Appendix A).

Each emission source to be evaluated requires geometrical and emission release specifications for use in the air dispersion model. The emission source configurations applied in this assessment of construction DPM emissions are shown in Table 14.

Table 14: Summary of Emission Source Configurations

Emission Source Type	Relevant Assumptions
On-site Construction Emissions	<ul style="list-style-type: none"> • Configuration: area sources • Release height: 3.3 feet (1 meter) • Emission factors: On-site PM10 Exhaust emissions per CalEEMod 2022.1.1.29 (Appendix A)
Off-site Construction Truck Traffic	<ul style="list-style-type: none"> • Configuration: line volume sources • Release height: 12 feet (3.7 meters) • Emission factors: Mobile PM10 Exhaust emissions per CalEEMod 2022.1.1.29 (Appendix A) for diesel truck trips for vendor and hauling trips, proportional for 0.65-mile path surrounding site based on minimum default trip length of 10.2 miles
Source: Appendix B	

A graphic representation of the modeling inputs from project-generated DPM emissions during the construction period is shown below in Figure 1, with anticipated truck travel shown in blue. Modeled sensitive receptors are labeled by number. Receptor 1 is a school, receptor 2 is a church, receptors 3 through 9 are residences, and receptor 10 is a medical facility.

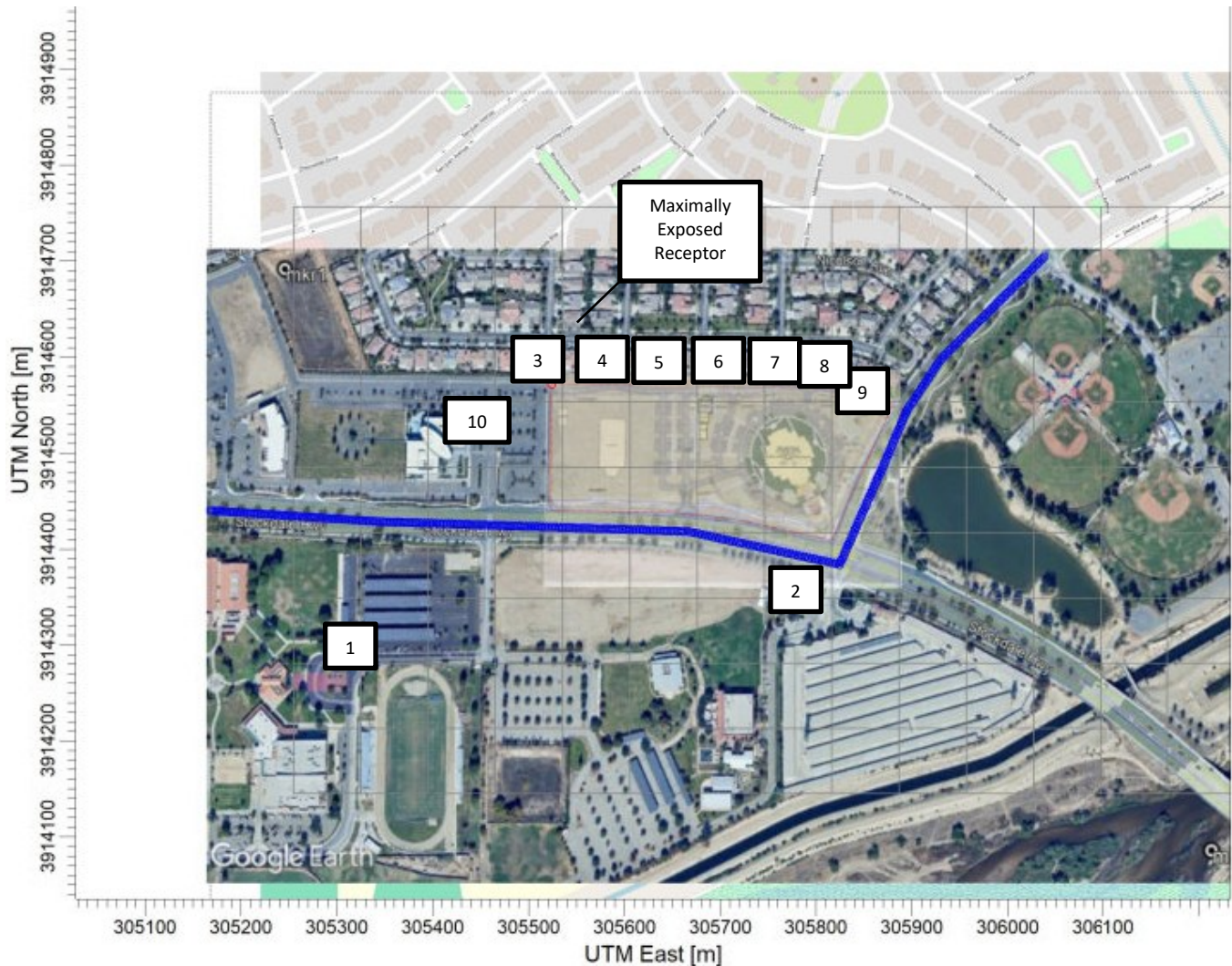


Figure 1 – Modeling Parameters (Construction DPM Sources)

Cancer Risk

The model was run to obtain annual average concentration in micrograms per cubic meter [$\mu\text{g}/\text{m}^3$] at existing off-site sensitive residential receptors. Locations of residential uses within approximately 1,000 feet of the project site were determined. Health risk computations were performed to determine the risk of developing an excess cancer risk calculated for a one-year exposure scenario. The chronic and carcinogenic health risk calculations are based on the standardized equations contained in the U.S. EPA Human Health Evaluation Manual (1991) and the Office of Environmental Health Hazard Assessment (OEHA) Guidance Manual.

Based on the OEHHA methodology, the residential inhalation cancer risk from the annual average DPM concentrations are calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor (ASF), the frequency of time spent at home (for residents only), and the exposure duration divided by averaging time, to yield the excess cancer risk. These factors are discussed in more detail below. Cancer risk must be separately calculated for specified age groups, because of age differences in sensitivity to carcinogens and age differences in intake rates (per kg body weight). Separate risk estimates for these age groups provide a health-protective estimate of cancer risk by accounting for greater susceptibility in early life, including both age-related sensitivity and amount of exposure.

Exposure through inhalation (Dose-air) is a function the breathing rate, the exposure frequency, and the concentration of a substance in the air. For residential exposure, the breathing rates are determined for specific age groups, so Dose-air is calculated for each of these age groups, 3rd trimester, 0<2, 2<16, and 16<30 years. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\text{Dose-air} = (C_{\text{air}} * \{BR/BW\} * A * EF * 10^{-6})$$

Where:

Dose-air	=	dose through inhalation (mg/kg/day)
C _{air}	=	air concentration (µg/m ³) from air dispersion model
{BR/BW}	=	daily breathing rate normalized to body weight (L/kg body weight – day) (OEHHA Derived rate per HARP2, see Appendix C for details)
A	=	Inhalation absorption factor (unitless [1])
EF	=	exposure frequency (unitless), days/365 days (0.96 [approximately 350 days per year])
10 ⁻⁶	=	conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to take into account the increased sensitivity to carcinogens during early-in-life exposure. In the absence of chemical-specific data, OEHHA recommends a default ASF of 10 for the third trimester to age 2 years, an ASF of 3 for ages 2 through 15 years to account for potential increased sensitivity to carcinogens during childhood and an ASF of 1 for ages 16 through 30 years.

Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to the facility's emissions are not occurring away from home. The following FAH values were used in this assessment:

- From the third trimester to age <2 years: 85 percent (the OEHHA-recommended value is 85 percent of time is spent at home);
- From age 2 through <16 years: 72 percent (the OEHHA-recommended value is 72 percent of time is spent at home); and
- From age 16 years and greater: 73 percent (the OEHHA-recommended value is 73 percent of time is spent at home).

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$\text{Risk}_{\text{inh-res}} = (\text{Dose}_{\text{air}} * \text{CPH} * \text{ASF} * \text{ED/AT} * \text{FAH})$$

Where:

$\text{Risk}_{\text{inh-res}}$	=	residential inhalation cancer risk (potential chances per million)
Dose_{air}	=	daily dose through inhalation (mg/kg-day)
CPF	=	inhalation cancer potency factor (mg/kg-day ⁻¹)
ASF	=	age sensitivity factor for a specified age group (unitless)
ED	=	exposure duration (in years) for a specified age group
AT	=	averaging time of lifetime cancer risk (years)
FAH	=	fraction of time spent at home (unitless)

Chronic Non-Cancer Hazard

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the Reference Exposure Level (REL) for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The following equation was used to determine the non-cancer risk:

$$\text{Hazard Quotient} = \text{Ci}/\text{RELi}$$

Where:

Ci	=	Concentration in the air of substance i (annual average concentration in $\mu\text{g}/\text{m}^3$)
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RELi = Chronic noncancer Reference Exposure Level for substance i ($\mu\text{g}/\text{m}^3$)

Impact Assessment

For reasons previously discussed, an analysis of TACs (including DPM) was performed using the EPA-approved AERMOD model. AERMOD version 12 was used to model the scenarios and HARP2 was used to calculate the risk (see Appendix C for details).

Carcinogenic Risk

Results of the health risk analysis are summarized in Table 15. As shown, unmitigated construction emissions would exceed the 10 in one million threshold (maximum risk of 48.97 in a million at receptor 4). Therefore, construction emissions have been modeled to include **Mitigation Measure 1**, which requires all construction equipment to have an engine rating of Tier 4 Final (maximum risk of 8.46 at receptor 4).

Table 15: Summary of the Health Impacts from Construction of the Proposed Project

Receptor	Construction			
	Unmitigated		Mitigated	
	Average Annual Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Cancer Risk – 1 Year (Risk per Million)	Average Annual Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Cancer Risk – 1 Year (Risk per Million)
1	2.28E-02	4.05	3.92E-03	0.71
2	1.94E-01	34.44	3.34E-02	6.03
3	2.66E-01	47.29	4.60E-02	8.19
4	2.75E-01	48.98	4.76E-02	8.48
5	2.49E-01	44.22	4.30E-02	7.66
6	2.49E-01	44.25	4.30E-02	7.66
7	2.14E-01	38.06	3.70E-02	6.60
8	1.50E-01	26.68	2.59E-02	4.63
9	6.24E-02	11.10	1.07E-02	1.98
10	1.58E-01	28.02	2.72E-02	4.86
Highest Value at Any Receptor Analyzed	2.75E-01	48.98	4.76E-02	8.48
Applicable Threshold of Significance	-	10	-	10
Threshold Exceeded at Any Receptor?	-	Yes	-	No

The maximum cancer risks at the maximally exposed sensitive receptor over the construction period would be less than 10 in one million, and the maximum hazard index for chronic HI would be less than 0.1. As noted in Table 15, the estimated health risks and hazard indices are below the SJVAPCD's thresholds of significance. Therefore, construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations in the form of airborne TACs, and impacts to human health would thus be less than significant.

Notes Related to Assumptions Used in this Assessment

It should be noted that several assumptions were made in this analysis that support the statement that the results from this HRA represent a conservative estimate of health impacts. A few notable assumptions are listed below.

Exposure Assumptions. The estimated risks in this HRA are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. Specifically, no time away from home is included in analyzing the risk under 16 years of age and the maximum length of onsite travel was assumed for all truck trips (see Figure 1).

Although it would be speculative to attempt to quantify the uncertainties associated with the assumptions made in this HRA, the use of conservative assumptions results in higher estimates of exposure and associated health risks.

9.0 References

The following references were used in the preparing this analysis.

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2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board

2008 Resolution 08-43

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Appendix A:

CalEEMod Emissions Output

Bakersfield Temple Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Bakersfield Temple
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	18.0
Location	12310 Stockdale Hwy, Bakersfield, CA 93314, USA
County	Kern-San Joaquin
City	Bakersfield
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2830
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Place of Worship	50.1	1000sqft	1.15	50,122	0.00	—	—	—

Parking Lot	10.6	Acre	10.6	0.00	20,000	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.2	10.2	14.5	0.03	0.38	0.33	0.71	0.35	0.08	0.43	—	2,939	2,939	0.10	0.07	1.60	2,963
Mit.	18.1	3.19	16.4	0.03	0.08	0.33	0.41	0.08	0.08	0.16	—	2,939	2,939	0.10	0.07	1.60	2,963
% Reduced	1%	69%	-13%	—	79%	—	43%	78%	—	64%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.22	34.3	30.0	0.10	1.24	7.88	9.12	1.14	3.99	5.13	—	12,475	12,475	0.32	0.97	0.37	12,772
Mit.	0.81	11.5	37.8	0.10	0.23	7.88	8.01	0.23	3.99	4.12	—	12,475	12,475	0.32	0.97	0.37	12,772
% Reduced	75%	66%	-26%	—	81%	—	12%	80%	—	20%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	9.19	11.0	0.02	0.34	0.84	1.18	0.32	0.31	0.63	—	2,763	2,763	0.09	0.12	0.89	2,801
Mit.	1.20	2.78	12.6	0.02	0.07	0.84	0.90	0.06	0.31	0.37	—	2,763	2,763	0.09	0.12	0.89	2,801

% Reduced	16%	70%	-15%	—	81%	—	24%	80%	—	40%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	1.68	2.00	< 0.005	0.06	0.15	0.22	0.06	0.06	0.11	—	457	457	0.01	0.02	0.15	464
Mit.	0.22	0.51	2.30	< 0.005	0.01	0.15	0.16	0.01	0.06	0.07	—	457	457	0.01	0.02	0.15	464
% Reduced	16%	70%	-15%	—	81%	—	24%	80%	—	40%	—	—	—	—	—	—	—

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.17	10.2	14.5	0.03	0.38	0.33	0.71	0.35	0.08	0.43	—	2,939	2,939	0.10	0.07	1.60	2,963
2027	18.2	9.74	14.4	0.03	0.34	0.33	0.67	0.31	0.08	0.39	—	2,928	2,928	0.10	0.07	1.44	2,952
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.22	34.3	30.0	0.10	1.24	7.88	9.12	1.14	3.99	5.13	—	12,475	12,475	0.32	0.97	0.37	12,772
2027	1.11	9.78	13.9	0.03	0.34	0.33	0.67	0.31	0.08	0.39	—	2,895	2,895	0.10	0.07	0.04	2,917
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.98	9.19	11.0	0.02	0.34	0.84	1.18	0.32	0.31	0.63	—	2,763	2,763	0.09	0.12	0.89	2,801
2027	1.43	3.17	4.59	0.01	0.11	0.11	0.22	0.10	0.03	0.13	—	924	924	0.03	0.02	0.20	931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.18	1.68	2.00	< 0.005	0.06	0.15	0.22	0.06	0.06	0.11	—	457	457	0.01	0.02	0.15	464
2027	0.26	0.58	0.84	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	153	153	0.01	< 0.005	0.03	154

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.43	3.19	16.4	0.03	0.08	0.33	0.41	0.08	0.08	0.16	—	2,939	2,939	0.10	0.07	1.60	2,963
2027	18.1	3.17	16.3	0.03	0.08	0.33	0.41	0.08	0.08	0.16	—	2,928	2,928	0.10	0.07	1.44	2,952
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.81	11.5	37.8	0.10	0.23	7.88	8.01	0.23	3.99	4.12	—	12,475	12,475	0.32	0.97	0.37	12,772
2027	0.41	3.21	15.8	0.03	0.08	0.33	0.41	0.08	0.08	0.16	—	2,895	2,895	0.10	0.07	0.04	2,917
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.31	2.78	12.6	0.02	0.07	0.84	0.90	0.06	0.31	0.37	—	2,763	2,763	0.09	0.12	0.89	2,801
2027	1.20	1.05	5.14	0.01	0.02	0.11	0.13	0.02	0.03	0.05	—	924	924	0.03	0.02	0.20	931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.06	0.51	2.30	< 0.005	0.01	0.15	0.16	0.01	0.06	0.07	—	457	457	0.01	0.02	0.15	464
2027	0.22	0.19	0.94	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	153	153	0.01	< 0.005	0.03	154

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.61	4.95	34.4	0.09	0.12	7.22	7.35	0.12	1.84	1.95	157	10,601	10,758	16.1	0.50	28.6	11,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.92	5.50	25.2	0.09	0.12	7.22	7.34	0.11	1.84	1.95	157	9,826	9,983	16.1	0.53	0.93	10,544
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.13	5.26	27.3	0.09	0.12	7.14	7.26	0.12	1.82	1.93	157	10,043	10,200	16.1	0.51	12.5	10,768
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.75	0.96	4.99	0.02	0.02	1.30	1.33	0.02	0.33	0.35	26.0	1,663	1,689	2.67	0.08	2.06	1,783

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
Area	1.57	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	4.61	4.95	34.4	0.09	0.12	7.22	7.35	0.12	1.84	1.95	157	10,601	10,758	16.1	0.50	28.6	11,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
Area	1.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19

Total	3.92	5.50	25.2	0.09	0.12	7.22	7.34	0.11	1.84	1.95	157	9,826	9,983	16.1	0.53	0.93	10,544
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.72	4.69	25.8	0.09	0.08	7.14	7.22	0.07	1.82	1.89	—	8,818	8,818	0.27	0.49	12.3	8,984
Area	1.38	0.01	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.42	4.42	< 0.005	< 0.005	—	4.44
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	4.13	5.26	27.3	0.09	0.12	7.14	7.26	0.12	1.82	1.93	157	10,043	10,200	16.1	0.51	12.5	10,768
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487
Area	0.25	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Energy	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	201	201	0.02	< 0.005	—	203
Water	—	—	—	—	—	—	—	—	—	—	0.50	0.64	1.14	0.05	< 0.005	—	2.79
Waste	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.75	0.96	4.99	0.02	0.02	1.30	1.33	0.02	0.33	0.35	26.0	1,663	1,689	2.67	0.08	2.06	1,783

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
Area	1.57	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8

Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	4.61	4.95	34.4	0.09	0.12	7.22	7.35	0.12	1.84	1.95	157	10,601	10,758	16.1	0.50	28.6	11,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
Area	1.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	3.92	5.50	25.2	0.09	0.12	7.22	7.34	0.11	1.84	1.95	157	9,826	9,983	16.1	0.53	0.93	10,544
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.72	4.69	25.8	0.09	0.08	7.14	7.22	0.07	1.82	1.89	—	8,818	8,818	0.27	0.49	12.3	8,984
Area	1.38	0.01	1.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.42	4.42	< 0.005	< 0.005	—	4.44
Energy	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	1,217	1,217	0.15	0.01	—	1,224
Water	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Waste	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	4.13	5.26	27.3	0.09	0.12	7.14	7.26	0.12	1.82	1.93	157	10,043	10,200	16.1	0.51	12.5	10,768
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487
Area	0.25	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Energy	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	201	201	0.02	< 0.005	—	203
Water	—	—	—	—	—	—	—	—	—	—	0.50	0.64	1.14	0.05	< 0.005	—	2.79
Waste	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

Total	0.75	0.96	4.99	0.02	0.02	1.30	1.33	0.02	0.33	0.35	26.0	1,663	1,689	2.67	0.08	2.06	1,783
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3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

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

Location	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	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.80	0.79	< 0.005	0.03	—	0.03	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.15	0.14	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.83	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.02	205
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.77	5.77	< 0.005	< 0.005	0.01	5.85
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
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
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

3.2. Site Preparation (2026) - Mitigated

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

Location	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	0.57	3.48	28.2	0.05	0.13	—	0.13	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.10	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.83	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.02	205
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.77	5.77	< 0.005	< 0.005	0.01	5.85
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
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
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

3.3. Grading (2026) - Unmitigated

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

Location	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	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	2.24	2.27	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.41	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	0.95	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	< 0.005	0.01	0.02	235
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
Hauling	0.10	7.02	1.48	0.04	0.11	1.54	1.66	0.11	0.42	0.53	—	5,645	5,645	0.05	0.91	0.35	5,917
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	0.03	20.0
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

Hauling	0.01	0.56	0.12	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	464	464	< 0.005	0.07	0.48	487
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.27	3.27	< 0.005	< 0.005	0.01	3.32
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
Hauling	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.8	76.8	< 0.005	0.01	0.08	80.6

3.4. Grading (2026) - Mitigated

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

Location	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	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.36	2.91	0.01	0.01	—	0.01	0.01	—	0.01	—	542	542	0.02	< 0.005	—	544
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	0.95	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	< 0.005	0.01	0.02	235
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
Hauling	0.10	7.02	1.48	0.04	0.11	1.54	1.66	0.11	0.42	0.53	—	5,645	5,645	0.05	0.91	0.35	5,917
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	0.03	20.0
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
Hauling	0.01	0.56	0.12	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	464	464	< 0.005	0.07	0.48	487
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.27	3.27	< 0.005	< 0.005	0.01	3.32
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
Hauling	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.8	76.8	< 0.005	0.01	0.08	80.6

3.5. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.36	7.05	0.01	0.21	—	0.21	0.19	—	0.19	—	1,304	1,304	0.05	0.01	—	1,309
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.98	1.29	< 0.005	0.04	—	0.04	0.03	—	0.03	—	216	216	0.01	< 0.005	—	217
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.46	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	278	278	< 0.005	0.01	0.92	282
Vendor	0.01	0.29	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	264	264	< 0.005	0.04	0.69	276
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	244	244	< 0.005	0.01	0.02	247
Vendor	0.01	0.31	0.10	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	264	264	< 0.005	0.04	0.02	276
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	138	138	< 0.005	0.01	0.22	140
Vendor	< 0.005	0.17	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.16	150
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	22.8	22.8	< 0.005	< 0.005	0.04	23.1
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.8	23.8	< 0.005	< 0.005	0.03	24.9
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

3.6. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405

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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.53	8.06	0.01	0.04	—	0.04	0.04	—	0.04	—	1,304	1,304	0.05	0.01	—	1,309
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	1.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	216	216	0.01	< 0.005	—	217
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.46	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	278	278	< 0.005	0.01	0.92	282
Vendor	0.01	0.29	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	264	264	< 0.005	0.04	0.69	276
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	244	244	< 0.005	0.01	0.02	247
Vendor	0.01	0.31	0.10	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	264	264	< 0.005	0.04	0.02	276
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	138	138	< 0.005	0.01	0.22	140
Vendor	< 0.005	0.17	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.16	150
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	22.8	22.8	< 0.005	< 0.005	0.04	23.1
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.8	23.8	< 0.005	< 0.005	0.03	24.9
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

3.7. Building Construction (2027) - Unmitigated

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

Location	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	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.63	3.62	0.01	0.09	—	0.09	0.09	—	0.09	—	671	671	0.03	0.01	—	673
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.48	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	111	111	< 0.005	< 0.005	—	111
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.35	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	272	272	< 0.005	0.01	0.82	276
Vendor	0.01	0.28	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	258	258	< 0.005	0.04	0.61	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	0.92	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	239	239	< 0.005	0.01	0.02	242
Vendor	0.01	0.30	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	259	259	< 0.005	0.04	0.02	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	69.4	69.4	< 0.005	< 0.005	0.10	70.4
Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.3	72.3	< 0.005	0.01	0.07	75.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.6
Vendor	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

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

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

Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.79	4.15	0.01	0.02	—	0.02	0.02	—	0.02	—	671	671	0.03	0.01	—	673
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.14	0.76	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	111	111	< 0.005	< 0.005	—	111
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.35	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	272	272	< 0.005	0.01	0.82	276
Vendor	0.01	0.28	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	258	258	< 0.005	0.04	0.61	270
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	0.92	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	239	239	< 0.005	0.01	0.02	242
Vendor	0.01	0.30	0.09	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	259	259	< 0.005	0.04	0.02	270

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	69.4	69.4	< 0.005	< 0.005	0.10	70.4
Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.3	72.3	< 0.005	0.01	0.07	75.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.6
Vendor	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.96	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	194	194	< 0.005	0.01	0.59	197
Vendor	0.01	0.17	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	157	157	< 0.005	0.02	0.37	165
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.69	9.69	< 0.005	< 0.005	0.01	9.82
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.62	8.62	< 0.005	< 0.005	0.01	9.01
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.63
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.49
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

3.10. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.8	82.8	< 0.005	< 0.005	—	83.1
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.96	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	194	194	< 0.005	0.01	0.59	197
Vendor	0.01	0.17	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	157	157	< 0.005	0.02	0.37	165
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.69	9.69	< 0.005	< 0.005	0.01	9.82
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.62	8.62	< 0.005	< 0.005	0.01	9.01
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.63
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.49
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

3.11. Architectural Coating (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	18.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.27	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.4	54.4	< 0.005	< 0.005	0.16	55.2
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.72	2.72	< 0.005	< 0.005	< 0.005	2.76
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.46
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

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
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3.12. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	18.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architect ural Coatings	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architect ural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.27	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.4	54.4	< 0.005	< 0.005	0.16	55.2
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.72	2.72	< 0.005	< 0.005	< 0.005	2.76
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.46
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
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

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
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
Total	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
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
Total	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487
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
Total	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
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

Total	3.01	4.38	31.8	0.09	0.08	7.22	7.30	0.07	1.84	1.91	—	9,372	9,372	0.26	0.48	28.4	9,550
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
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
Total	2.68	4.95	24.8	0.08	0.08	7.22	7.30	0.07	1.84	1.91	—	8,605	8,605	0.28	0.51	0.74	8,764
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487
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
Total	0.50	0.86	4.71	0.02	0.01	1.30	1.32	0.01	0.33	0.34	—	1,460	1,460	0.04	0.08	2.03	1,487

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	332	332	0.05	0.01	—	336
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	226	226	0.04	< 0.005	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	559	559	0.09	0.01	—	564
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	332	332	0.05	0.01	—	336
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	226	226	0.04	< 0.005	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	559	559	0.09	0.01	—	564
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	55.0	55.0	0.01	< 0.005	—	55.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	37.5	37.5	0.01	< 0.005	—	37.8
Total	—	—	—	—	—	—	—	—	—	—	—	92.5	92.5	0.01	< 0.005	—	93.4

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	332	332	0.05	0.01	—	336
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	226	226	0.04	< 0.005	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	559	559	0.09	0.01	—	564
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	332	332	0.05	0.01	—	336
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	226	226	0.04	< 0.005	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	559	559	0.09	0.01	—	564
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	55.0	55.0	0.01	< 0.005	—	55.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	37.5	37.5	0.01	< 0.005	—	37.8
Total	—	—	—	—	—	—	—	—	—	—	—	92.5	92.5	0.01	< 0.005	—	93.4

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
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
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
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
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
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
Total	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
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
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
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
Total	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	658	658	0.06	< 0.005	—	660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
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
Total	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
--------	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.36	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Total	1.57	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Total	0.25	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.36	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Total	1.57	0.02	2.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.96	8.96	< 0.005	< 0.005	—	9.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.03	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Total	0.25	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	3.01	3.45	6.46	0.31	0.01	—	16.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	3.01	3.45	6.46	0.31	0.01	—	16.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	0.50	0.57	1.07	0.05	< 0.005	—	2.71
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	—	—	—	—	—	—	—	—	—	—	0.50	0.64	1.14	0.05	< 0.005	—	2.79

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	3.01	3.45	6.46	0.31	0.01	—	16.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	3.01	3.45	6.46	0.31	0.01	—	16.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	3.01	3.89	6.90	0.31	0.01	—	16.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	0.50	0.57	1.07	0.05	< 0.005	—	2.71
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	—	—	—	—	—	—	—	—	—	—	0.50	0.64	1.14	0.05	< 0.005	—	2.79

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539

Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	25.5	0.00	25.5	2.55	0.00	—	89.2

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2026	2/13/2026	5.00	10.0	—
Grading	Grading	2/14/2026	3/28/2026	5.00	30.0	—
Building Construction	Building Construction	3/29/2026	5/23/2027	5.00	300	—
Paving	Paving	5/24/2027	6/21/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	6/22/2027	7/20/2027	5.00	20.0	—

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/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
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	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	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	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48

Grading	Tractors/Loaders/Back	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	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	17.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.6	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	17.3	LDA,LDT1,LDT2
Grading	Vendor	—	10.6	HHDT,MHDT
Grading	Hauling	83.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	21.1	17.3	LDA,LDT1,LDT2
Building Construction	Vendor	8.21	10.6	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	17.3	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.6	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.21	17.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.6	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	17.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.6	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	17.3	LDA,LDT1,LDT2
Grading	Vendor	—	10.6	HHDT,MHDT
Grading	Hauling	83.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	21.1	17.3	LDA,LDT1,LDT2
Building Construction	Vendor	8.21	10.6	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	17.3	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.6	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.21	17.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.6	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	75,183	25,061	27,730

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	—	20,000	90.0	0.00	—

Paving	0.00	0.00	0.00	0.00	10.6
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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
Place of Worship	0.00	0%
Parking Lot	10.6	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	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
Place of Worship	740	740	740	270,100	10,142	10,142	10,142	3,701,787
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMt/Weekday	VMt/Saturday	VMt/Sunday	VMt/Year
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Place of Worship	740	740	740	270,100	10,142	10,142	10,142	3,701,787
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
0	0.00	75,183	25,061	27,730

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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)
Place of Worship	594,654	204	0.0330	0.0040	2,053,615
Parking Lot	404,862	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Place of Worship	594,654	204	0.0330	0.0040	2,053,615
Parking Lot	404,862	204	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)
Place of Worship	1,568,263	0.00
Parking Lot	0.00	326,193

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Place of Worship	1,568,263	0.00
Parking Lot	0.00	326,193

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Place of Worship	286	—

Parking Lot	0.00	—
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5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Place of Worship	286	—
Parking Lot	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
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

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
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
----------------	-----------

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1.2. Mitigated

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
--------------------	---------------	-------------

5.18.1.2. Mitigated

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)
-----------	--------	------------------------------	------------------------------

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	22.8	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	91.1
AQ-PM	98.9
AQ-DPM	30.7
Drinking Water	73.8
Lead Risk Housing	0.48

Pesticides	0.00
Toxic Releases	41.4
Traffic	35.9
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	0.00
Solid Waste	52.9
Sensitive Population	—
Asthma	13.6
Cardio-vascular	43.4
Low Birth Weights	37.0
Socioeconomic Factor Indicators	—
Education	27.2
Housing	8.04
Linguistic	5.64
Poverty	8.07
Unemployment	66.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	92.05697421
Employed	69.52393173
Median HI	91.86449378
Education	—

Bachelor's or higher	70.21686129
High school enrollment	100
Preschool enrollment	42.87180803
Transportation	—
Auto Access	96.70216861
Active commuting	21.45515206
Social	—
2-parent households	98.67830104
Voting	85.79494418
Neighborhood	—
Alcohol availability	77.00500449
Park access	30.92518927
Retail density	11.49749775
Supermarket access	33.11946619
Tree canopy	8.802771718
Housing	—
Homeownership	96.29154369
Housing habitability	90.85076351
Low-inc homeowner severe housing cost burden	95.23931734
Low-inc renter severe housing cost burden	42.10188631
Uncrowded housing	72.73193892
Health Outcomes	—
Insured adults	73.18105993
Arthritis	51.7
Asthma ER Admissions	80.2
High Blood Pressure	44.4
Cancer (excluding skin)	27.6
Asthma	65.7

Coronary Heart Disease	74.7
Chronic Obstructive Pulmonary Disease	71.2
Diagnosed Diabetes	83.3
Life Expectancy at Birth	29.2
Cognitively Disabled	74.6
Physically Disabled	91.7
Heart Attack ER Admissions	41.6
Mental Health Not Good	73.6
Chronic Kidney Disease	79.8
Obesity	51.2
Pedestrian Injuries	19.6
Physical Health Not Good	81.0
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	8.3
Current Smoker	65.4
No Leisure Time for Physical Activity	75.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	67.6
English Speaking	84.5
Foreign-born	11.8
Outdoor Workers	62.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	58.2
Traffic Density	27.4

Traffic Access	0.0
Other Indices	—
Hardship	11.8
Other Decision Support	—
2016 Voting	75.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	20.0
Healthy Places Index Score for Project Location (b)	82.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition required
Operations: Vehicle Data	Per traffic analysis

Appendix B:

Emission Configuration Calculations and AERMOD Output

Construction Emission Configuration

Onsite Emissions

Phase	Year	Onsite Emissions	
		Unmitigated Onsite PM10 Exhaust Emissions (tons)	Mitigated Onsite PM10 Exhaust Emissions (tons)
Site Preparation	2026	0.0168	0.0006
Grading	2026	0.0062	0.0019
Building Construction	2026	0.0376	0.0074
Building Construction	2027	0.0172	0.0038
Paving	2027	0.003	0.0003
Architectural Coating	2027	0.0002	0
Total (tons)		0.081	0.014
Total (pounds)		162	28
Lbs/day		0.443836	0.076712
Lbs/hr		0.018493	0.003196

Source: CalEEMod 2022.1.1.29 output Section 3 - onsite PM10 Exhaust construction emissions. (see Appendix A)

Offsite Emissions

Phase	Year	Offsite Emissions	
		Unmitigated Onsite PM10 Exhaust Emissions (tons)	
Site Preparation	2026	0	
Grading	2026	0.0017	
Building Construction	2026	0.0004	
Building Construction	2027	0.0002	
Paving	2027	0	
Architectural Coating	2027	0	
Total (tons)		0.0023	
Total (pounds)		4.6	
Lbs/day		0.012603	
Lbs/hr		5.2511E-04	
Lbs/hr adjusted for trip length ¹		3.3463E-05	

Source: CalEEMod 2022.1.1.29 output Section 3 - offsite PM10 Exhaust construction emissions. (see Appendix A)

¹ Trip length of 0.65 miles based on estimated truck route near sensitive receptors

```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 12.0.0
** Lakes Environmental Software Inc.
** Date: 11/20/2025
** File: C:\Lakes\AERMOD View\Projects\Temple Bakersfield\Temple Bakersfield.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Projects\Temple Bakersfield\Temple Bakersfield.
  MODELOPT DFAULT CONC
  AVERTIME 1 PERIOD
  POLLUTID DPM
  RUNORNOT RUN
  ERRORFIL "Temple Bakersfield.err"
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION PAREA1      AREAPOLY   305523.613   3914571.946      111.260
** DESCRSRC Onsite Construction Emissions

```

```

** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Truck Trips
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 4.2163E-06
** Vertical Dimension = 3.66
** SZINIT = 1.70
** Nodes = 8
** 305168.308, 3914439.904, 110.69, 0.00, 1.70
** 305344.485, 3914428.414, 110.87, 0.00, 1.70
** 305666.199, 3914418.201, 111.63, 0.00, 1.70
** 305824.502, 3914383.732, 111.92, 0.00, 1.70
** 305869.185, 3914484.586, 111.24, 0.00, 1.70
** 305894.718, 3914544.589, 112.06, 0.00, 1.70
** 305930.464, 3914598.207, 111.86, 0.00, 1.70
** 306040.255, 3914706.722, 111.64, 0.00, 1.70
** -----
LOCATION L0000001    VOLUME    305170.133 3914439.785 110.68
LOCATION L0000002    VOLUME    305173.783 3914439.547 110.68
LOCATION L0000003    VOLUME    305177.433 3914439.309 110.68
LOCATION L0000004    VOLUME    305181.083 3914439.071 110.68
LOCATION L0000005    VOLUME    305184.733 3914438.833 110.68
LOCATION L0000006    VOLUME    305188.382 3914438.595 110.68
LOCATION L0000007    VOLUME    305192.032 3914438.357 110.68
LOCATION L0000008    VOLUME    305195.682 3914438.119 110.68
LOCATION L0000009    VOLUME    305199.332 3914437.881 110.68
LOCATION L0000010    VOLUME    305202.982 3914437.643 110.69
LOCATION L0000011    VOLUME    305206.632 3914437.405 110.69
LOCATION L0000012    VOLUME    305210.281 3914437.166 110.69
LOCATION L0000013    VOLUME    305213.931 3914436.928 110.70
LOCATION L0000014    VOLUME    305217.581 3914436.690 110.71
LOCATION L0000015    VOLUME    305221.231 3914436.452 110.73
LOCATION L0000016    VOLUME    305224.881 3914436.214 110.74

```

LOCATION	L0000017	VOLUME	305228.531	3914435.976	110.75
LOCATION	L0000018	VOLUME	305232.181	3914435.738	110.77
LOCATION	L0000019	VOLUME	305235.830	3914435.500	110.78
LOCATION	L0000020	VOLUME	305239.480	3914435.262	110.79
LOCATION	L0000021	VOLUME	305243.130	3914435.024	110.79
LOCATION	L0000022	VOLUME	305246.780	3914434.786	110.80
LOCATION	L0000023	VOLUME	305250.430	3914434.548	110.80
LOCATION	L0000024	VOLUME	305254.080	3914434.310	110.81
LOCATION	L0000025	VOLUME	305257.729	3914434.072	110.82
LOCATION	L0000026	VOLUME	305261.379	3914433.834	110.82
LOCATION	L0000027	VOLUME	305265.029	3914433.596	110.82
LOCATION	L0000028	VOLUME	305268.679	3914433.358	110.82
LOCATION	L0000029	VOLUME	305272.329	3914433.120	110.82
LOCATION	L0000030	VOLUME	305275.979	3914432.882	110.81
LOCATION	L0000031	VOLUME	305279.629	3914432.644	110.81
LOCATION	L0000032	VOLUME	305283.278	3914432.406	110.81
LOCATION	L0000033	VOLUME	305286.928	3914432.168	110.81
LOCATION	L0000034	VOLUME	305290.578	3914431.930	110.81
LOCATION	L0000035	VOLUME	305294.228	3914431.692	110.82
LOCATION	L0000036	VOLUME	305297.878	3914431.454	110.83
LOCATION	L0000037	VOLUME	305301.528	3914431.216	110.83
LOCATION	L0000038	VOLUME	305305.177	3914430.978	110.84
LOCATION	L0000039	VOLUME	305308.827	3914430.740	110.84
LOCATION	L0000040	VOLUME	305312.477	3914430.502	110.85
LOCATION	L0000041	VOLUME	305316.127	3914430.263	110.86
LOCATION	L0000042	VOLUME	305319.777	3914430.025	110.86
LOCATION	L0000043	VOLUME	305323.427	3914429.787	110.87
LOCATION	L0000044	VOLUME	305327.077	3914429.549	110.88
LOCATION	L0000045	VOLUME	305330.726	3914429.311	110.89
LOCATION	L0000046	VOLUME	305334.376	3914429.073	110.89
LOCATION	L0000047	VOLUME	305338.026	3914428.835	110.90
LOCATION	L0000048	VOLUME	305341.676	3914428.597	110.91
LOCATION	L0000049	VOLUME	305345.327	3914428.387	110.91
LOCATION	L0000050	VOLUME	305348.983	3914428.271	110.92
LOCATION	L0000051	VOLUME	305352.639	3914428.155	110.92
LOCATION	L0000052	VOLUME	305356.294	3914428.039	110.93

LOCATION	L0000053	VOLUME	305359.950	3914427.923	110.93
LOCATION	L0000054	VOLUME	305363.606	3914427.807	110.94
LOCATION	L0000055	VOLUME	305367.262	3914427.691	110.95
LOCATION	L0000056	VOLUME	305370.917	3914427.575	110.96
LOCATION	L0000057	VOLUME	305374.573	3914427.459	110.96
LOCATION	L0000058	VOLUME	305378.229	3914427.343	110.97
LOCATION	L0000059	VOLUME	305381.885	3914427.227	110.98
LOCATION	L0000060	VOLUME	305385.540	3914427.111	110.99
LOCATION	L0000061	VOLUME	305389.196	3914426.995	111.00
LOCATION	L0000062	VOLUME	305392.852	3914426.879	111.00
LOCATION	L0000063	VOLUME	305396.508	3914426.763	111.01
LOCATION	L0000064	VOLUME	305400.163	3914426.646	111.02
LOCATION	L0000065	VOLUME	305403.819	3914426.530	111.03
LOCATION	L0000066	VOLUME	305407.475	3914426.414	111.04
LOCATION	L0000067	VOLUME	305411.131	3914426.298	111.05
LOCATION	L0000068	VOLUME	305414.787	3914426.182	111.06
LOCATION	L0000069	VOLUME	305418.442	3914426.066	111.06
LOCATION	L0000070	VOLUME	305422.098	3914425.950	111.07
LOCATION	L0000071	VOLUME	305425.754	3914425.834	111.08
LOCATION	L0000072	VOLUME	305429.410	3914425.718	111.09
LOCATION	L0000073	VOLUME	305433.065	3914425.602	111.09
LOCATION	L0000074	VOLUME	305436.721	3914425.486	111.10
LOCATION	L0000075	VOLUME	305440.377	3914425.370	111.11
LOCATION	L0000076	VOLUME	305444.033	3914425.254	111.12
LOCATION	L0000077	VOLUME	305447.688	3914425.138	111.13
LOCATION	L0000078	VOLUME	305451.344	3914425.022	111.15
LOCATION	L0000079	VOLUME	305455.000	3914424.906	111.16
LOCATION	L0000080	VOLUME	305458.656	3914424.790	111.17
LOCATION	L0000081	VOLUME	305462.311	3914424.674	111.18
LOCATION	L0000082	VOLUME	305465.967	3914424.557	111.19
LOCATION	L0000083	VOLUME	305469.623	3914424.441	111.19
LOCATION	L0000084	VOLUME	305473.279	3914424.325	111.19
LOCATION	L0000085	VOLUME	305476.934	3914424.209	111.19
LOCATION	L0000086	VOLUME	305480.590	3914424.093	111.20
LOCATION	L0000087	VOLUME	305484.246	3914423.977	111.20
LOCATION	L0000088	VOLUME	305487.902	3914423.861	111.20

LOCATION	L0000089	VOLUME	305491.557	3914423.745	111.21
LOCATION	L0000090	VOLUME	305495.213	3914423.629	111.21
LOCATION	L0000091	VOLUME	305498.869	3914423.513	111.22
LOCATION	L0000092	VOLUME	305502.525	3914423.397	111.22
LOCATION	L0000093	VOLUME	305506.180	3914423.281	111.23
LOCATION	L0000094	VOLUME	305509.836	3914423.165	111.23
LOCATION	L0000095	VOLUME	305513.492	3914423.049	111.24
LOCATION	L0000096	VOLUME	305517.148	3914422.933	111.26
LOCATION	L0000097	VOLUME	305520.804	3914422.817	111.29
LOCATION	L0000098	VOLUME	305524.459	3914422.701	111.31
LOCATION	L0000099	VOLUME	305528.115	3914422.585	111.34
LOCATION	L0000100	VOLUME	305531.771	3914422.468	111.36
LOCATION	L0000101	VOLUME	305535.427	3914422.352	111.38
LOCATION	L0000102	VOLUME	305539.082	3914422.236	111.41
LOCATION	L0000103	VOLUME	305542.738	3914422.120	111.42
LOCATION	L0000104	VOLUME	305546.394	3914422.004	111.43
LOCATION	L0000105	VOLUME	305550.050	3914421.888	111.45
LOCATION	L0000106	VOLUME	305553.705	3914421.772	111.46
LOCATION	L0000107	VOLUME	305557.361	3914421.656	111.47
LOCATION	L0000108	VOLUME	305561.017	3914421.540	111.48
LOCATION	L0000109	VOLUME	305564.673	3914421.424	111.50
LOCATION	L0000110	VOLUME	305568.328	3914421.308	111.50
LOCATION	L0000111	VOLUME	305571.984	3914421.192	111.50
LOCATION	L0000112	VOLUME	305575.640	3914421.076	111.51
LOCATION	L0000113	VOLUME	305579.296	3914420.960	111.51
LOCATION	L0000114	VOLUME	305582.951	3914420.844	111.51
LOCATION	L0000115	VOLUME	305586.607	3914420.728	111.52
LOCATION	L0000116	VOLUME	305590.263	3914420.612	111.52
LOCATION	L0000117	VOLUME	305593.919	3914420.496	111.53
LOCATION	L0000118	VOLUME	305597.574	3914420.379	111.53
LOCATION	L0000119	VOLUME	305601.230	3914420.263	111.54
LOCATION	L0000120	VOLUME	305604.886	3914420.147	111.55
LOCATION	L0000121	VOLUME	305608.542	3914420.031	111.55
LOCATION	L0000122	VOLUME	305612.197	3914419.915	111.56
LOCATION	L0000123	VOLUME	305615.853	3914419.799	111.56
LOCATION	L0000124	VOLUME	305619.509	3914419.683	111.57

LOCATION	L0000125	VOLUME	305623.165	3914419.567	111.57
LOCATION	L0000126	VOLUME	305626.821	3914419.451	111.58
LOCATION	L0000127	VOLUME	305630.476	3914419.335	111.58
LOCATION	L0000128	VOLUME	305634.132	3914419.219	111.58
LOCATION	L0000129	VOLUME	305637.788	3914419.103	111.59
LOCATION	L0000130	VOLUME	305641.444	3914418.987	111.59
LOCATION	L0000131	VOLUME	305645.099	3914418.871	111.59
LOCATION	L0000132	VOLUME	305648.755	3914418.755	111.59
LOCATION	L0000133	VOLUME	305652.411	3914418.639	111.59
LOCATION	L0000134	VOLUME	305656.067	3914418.523	111.60
LOCATION	L0000135	VOLUME	305659.722	3914418.407	111.60
LOCATION	L0000136	VOLUME	305663.378	3914418.290	111.60
LOCATION	L0000137	VOLUME	305667.015	3914418.023	111.60
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LOCATION	L0000140	VOLUME	305677.737	3914415.689	111.61
LOCATION	L0000141	VOLUME	305681.311	3914414.910	111.61
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LOCATION	L0000143	VOLUME	305688.458	3914413.354	111.62
LOCATION	L0000144	VOLUME	305692.032	3914412.576	111.63
LOCATION	L0000145	VOLUME	305695.606	3914411.798	111.65
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LOCATION	L0000147	VOLUME	305702.754	3914410.241	111.68
LOCATION	L0000148	VOLUME	305706.328	3914409.463	111.69
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LOCATION	L0000150	VOLUME	305713.475	3914407.907	111.72
LOCATION	L0000151	VOLUME	305717.049	3914407.129	111.73
LOCATION	L0000152	VOLUME	305720.623	3914406.350	111.74
LOCATION	L0000153	VOLUME	305724.197	3914405.572	111.75
LOCATION	L0000154	VOLUME	305727.771	3914404.794	111.76
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LOCATION	L0000158	VOLUME	305742.066	3914401.681	111.79
LOCATION	L0000159	VOLUME	305745.640	3914400.903	111.79
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LOCATION	L0000167	VOLUME	305774.231	3914394.678	111.84
LOCATION	L0000168	VOLUME	305777.805	3914393.900	111.85
LOCATION	L0000169	VOLUME	305781.379	3914393.121	111.86
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LOCATION	L0000180	VOLUME	305820.691	3914384.561	111.93
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LOCATION	L0000197	VOLUME	305848.109	3914437.015	111.31
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LOCATION	L0000206	VOLUME	305861.443	3914467.112	111.12
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LOCATION	L0000231	VOLUME	305898.666	3914550.512	112.08
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LOCATION	L0000243	VOLUME	305923.013	3914587.031	111.93
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LOCATION	L0000247	VOLUME	305931.316	3914599.050	111.99
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LOCATION	L0000268	VOLUME	305985.945	3914653.044	112.06

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LOCATION	L0000272	VOLUME	305996.351	3914663.329	111.92
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LOCATION	L0000284	VOLUME	306027.567	3914694.182	111.83
LOCATION	L0000285	VOLUME	306030.169	3914696.753	111.82
LOCATION	L0000286	VOLUME	306032.770	3914699.325	111.79
LOCATION	L0000287	VOLUME	306035.372	3914701.896	111.77
LOCATION	L0000288	VOLUME	306037.973	3914704.467	111.73

** End of LINE VOLUME Source ID = SLINE1

** Source Parameters **

SRCPARAM	PAREA1	8.7793E-09	1.000	7	
AREAVERT	PAREA1	305523.613	3914571.946	305822.986	3914569.487
AREAVERT	PAREA1	305878.926	3914549.816	305816.224	3914409.043
AREAVERT	PAREA1	305711.105	3914431.788	305650.247	3914437.936
AREAVERT	PAREA1	305522.998	3914440.395		

** LINE VOLUME Source ID = SLINE1

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SRCPARAM	L0000261	0.00000001464	0.00	1.70	1.70
SRCPARAM	L0000262	0.00000001464	0.00	1.70	1.70
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SRCPARAM	L0000268	0.00000001464	0.00	1.70	1.70
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SRCPARAM	L0000281	0.00000001464	0.00	1.70	1.70
SRCPARAM	L0000282	0.00000001464	0.00	1.70	1.70
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SRCPARAM	L0000285	0.00000001464	0.00	1.70	1.70
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SRCPARAM	L0000287	0.00000001464	0.00	1.70	1.70
SRCPARAM	L0000288	0.00000001464	0.00	1.70	1.70

**

SRCGROUP ALL

SO FINISHED

**

** AERMOD Receptor Pathway

**

```

**
RE STARTING
  INCLUDED "Temple Bakersfield.rou"
RE FINISHED
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
  SURFFILE "..\\..\\Met Data\\bakersfield-23155\\Bakersfield_18-22.SFC"
  PROFFILE "..\\..\\Met Data\\bakersfield-23155\\Bakersfield_18-22.PFL"
  SURFDATA 23155 2018
  UAIRDATA 23230 2018 OAKLAND/WSO_AP
  PROFBASE 0.0 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST "Temple Bakersfield.AD\\01H1GALL.PLT" 31
  PLOTFILE PERIOD ALL "Temple Bakersfield.AD\\PE00GALL.PLT" 32
  SUMMFILE "Temple Bakersfield.sum"
OU FINISHED

```

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 0 Informational Message(s)

***** FATAL ERROR MESSAGES *****
 *** NONE ***

***** WARNING MESSAGES *****
ME W186 665 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 665 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

*** SETUP Finishes Successfully ***

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 11/20/25
*** AERMET - VERSION 21112 *** ***
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*** MODELOPTs: RegDFault CONC ELEV RURAL ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

- - - - -
- - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F

**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Other Options Specified:

ADJ_U* - Use ADJ_U* option for SBL in AERMET
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: DPM

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 289 Source(s); 1 Source Group(s); and 160 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 288 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

**Model Set To Continue RUNNING After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 21112

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 0.00 ; Decay Coef. = 0.000 ; Rot. Angle
= 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor =
0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.7 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Temple Bakersfield.err

**File for Summary of Results: Temple Bakersfield.sum

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.14640E-07	305170.1	3914439.8	110.7	0.00	1.70	1.70	NO	
L0000002	0	0.14640E-07	305173.8	3914439.5	110.7	0.00	1.70	1.70	NO	
L0000003	0	0.14640E-07	305177.4	3914439.3	110.7	0.00	1.70	1.70	NO	
L0000004	0	0.14640E-07	305181.1	3914439.1	110.7	0.00	1.70	1.70	NO	
L0000005	0	0.14640E-07	305184.7	3914438.8	110.7	0.00	1.70	1.70	NO	
L0000006	0	0.14640E-07	305188.4	3914438.6	110.7	0.00	1.70	1.70	NO	
L0000007	0	0.14640E-07	305192.0	3914438.4	110.7	0.00	1.70	1.70	NO	
L0000008	0	0.14640E-07	305195.7	3914438.1	110.7	0.00	1.70	1.70	NO	
L0000009	0	0.14640E-07	305199.3	3914437.9	110.7	0.00	1.70	1.70	NO	
L0000010	0	0.14640E-07	305203.0	3914437.6	110.7	0.00	1.70	1.70	NO	
L0000011	0	0.14640E-07	305206.6	3914437.4	110.7	0.00	1.70	1.70	NO	
L0000012	0	0.14640E-07	305210.3	3914437.2	110.7	0.00	1.70	1.70	NO	
L0000013	0	0.14640E-07	305213.9	3914436.9	110.7	0.00	1.70	1.70	NO	
L0000014	0	0.14640E-07	305217.6	3914436.7	110.7	0.00	1.70	1.70	NO	
L0000015	0	0.14640E-07	305221.2	3914436.5	110.7	0.00	1.70	1.70	NO	
L0000016	0	0.14640E-07	305224.9	3914436.2	110.7	0.00	1.70	1.70	NO	
L0000017	0	0.14640E-07	305228.5	3914436.0	110.8	0.00	1.70	1.70	NO	
L0000018	0	0.14640E-07	305232.2	3914435.7	110.8	0.00	1.70	1.70	NO	
L0000019	0	0.14640E-07	305235.8	3914435.5	110.8	0.00	1.70	1.70	NO	
L0000020	0	0.14640E-07	305239.5	3914435.3	110.8	0.00	1.70	1.70	NO	
L0000021	0	0.14640E-07	305243.1	3914435.0	110.8	0.00	1.70	1.70	NO	
L0000022	0	0.14640E-07	305246.8	3914434.8	110.8	0.00	1.70	1.70	NO	
L0000023	0	0.14640E-07	305250.4	3914434.5	110.8	0.00	1.70	1.70	NO	
L0000024	0	0.14640E-07	305254.1	3914434.3	110.8	0.00	1.70	1.70	NO	
L0000025	0	0.14640E-07	305257.7	3914434.1	110.8	0.00	1.70	1.70	NO	

L0000026	0	0.14640E-07	305261.4	3914433.8	110.8	0.00	1.70	1.70	NO
L0000027	0	0.14640E-07	305265.0	3914433.6	110.8	0.00	1.70	1.70	NO
L0000028	0	0.14640E-07	305268.7	3914433.4	110.8	0.00	1.70	1.70	NO
L0000029	0	0.14640E-07	305272.3	3914433.1	110.8	0.00	1.70	1.70	NO
L0000030	0	0.14640E-07	305276.0	3914432.9	110.8	0.00	1.70	1.70	NO
L0000031	0	0.14640E-07	305279.6	3914432.6	110.8	0.00	1.70	1.70	NO
L0000032	0	0.14640E-07	305283.3	3914432.4	110.8	0.00	1.70	1.70	NO
L0000033	0	0.14640E-07	305286.9	3914432.2	110.8	0.00	1.70	1.70	NO
L0000034	0	0.14640E-07	305290.6	3914431.9	110.8	0.00	1.70	1.70	NO
L0000035	0	0.14640E-07	305294.2	3914431.7	110.8	0.00	1.70	1.70	NO
L0000036	0	0.14640E-07	305297.9	3914431.5	110.8	0.00	1.70	1.70	NO
L0000037	0	0.14640E-07	305301.5	3914431.2	110.8	0.00	1.70	1.70	NO
L0000038	0	0.14640E-07	305305.2	3914431.0	110.8	0.00	1.70	1.70	NO
L0000039	0	0.14640E-07	305308.8	3914430.7	110.8	0.00	1.70	1.70	NO
L0000040	0	0.14640E-07	305312.5	3914430.5	110.8	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000041	0	0.14640E-07	305316.1	3914430.3	110.9	0.00	1.70	1.70	NO	
L0000042	0	0.14640E-07	305319.8	3914430.0	110.9	0.00	1.70	1.70	NO	
L0000043	0	0.14640E-07	305323.4	3914429.8	110.9	0.00	1.70	1.70	NO	
L0000044	0	0.14640E-07	305327.1	3914429.5	110.9	0.00	1.70	1.70	NO	

L0000045	0	0.14640E-07	305330.7	3914429.3	110.9	0.00	1.70	1.70	NO
L0000046	0	0.14640E-07	305334.4	3914429.1	110.9	0.00	1.70	1.70	NO
L0000047	0	0.14640E-07	305338.0	3914428.8	110.9	0.00	1.70	1.70	NO
L0000048	0	0.14640E-07	305341.7	3914428.6	110.9	0.00	1.70	1.70	NO
L0000049	0	0.14640E-07	305345.3	3914428.4	110.9	0.00	1.70	1.70	NO
L0000050	0	0.14640E-07	305349.0	3914428.3	110.9	0.00	1.70	1.70	NO
L0000051	0	0.14640E-07	305352.6	3914428.2	110.9	0.00	1.70	1.70	NO
L0000052	0	0.14640E-07	305356.3	3914428.0	110.9	0.00	1.70	1.70	NO
L0000053	0	0.14640E-07	305360.0	3914427.9	110.9	0.00	1.70	1.70	NO
L0000054	0	0.14640E-07	305363.6	3914427.8	110.9	0.00	1.70	1.70	NO
L0000055	0	0.14640E-07	305367.3	3914427.7	111.0	0.00	1.70	1.70	NO
L0000056	0	0.14640E-07	305370.9	3914427.6	111.0	0.00	1.70	1.70	NO
L0000057	0	0.14640E-07	305374.6	3914427.5	111.0	0.00	1.70	1.70	NO
L0000058	0	0.14640E-07	305378.2	3914427.3	111.0	0.00	1.70	1.70	NO
L0000059	0	0.14640E-07	305381.9	3914427.2	111.0	0.00	1.70	1.70	NO
L0000060	0	0.14640E-07	305385.5	3914427.1	111.0	0.00	1.70	1.70	NO
L0000061	0	0.14640E-07	305389.2	3914427.0	111.0	0.00	1.70	1.70	NO
L0000062	0	0.14640E-07	305392.9	3914426.9	111.0	0.00	1.70	1.70	NO
L0000063	0	0.14640E-07	305396.5	3914426.8	111.0	0.00	1.70	1.70	NO
L0000064	0	0.14640E-07	305400.2	3914426.6	111.0	0.00	1.70	1.70	NO
L0000065	0	0.14640E-07	305403.8	3914426.5	111.0	0.00	1.70	1.70	NO
L0000066	0	0.14640E-07	305407.5	3914426.4	111.0	0.00	1.70	1.70	NO
L0000067	0	0.14640E-07	305411.1	3914426.3	111.0	0.00	1.70	1.70	NO
L0000068	0	0.14640E-07	305414.8	3914426.2	111.1	0.00	1.70	1.70	NO
L0000069	0	0.14640E-07	305418.4	3914426.1	111.1	0.00	1.70	1.70	NO
L0000070	0	0.14640E-07	305422.1	3914425.9	111.1	0.00	1.70	1.70	NO
L0000071	0	0.14640E-07	305425.8	3914425.8	111.1	0.00	1.70	1.70	NO
L0000072	0	0.14640E-07	305429.4	3914425.7	111.1	0.00	1.70	1.70	NO
L0000073	0	0.14640E-07	305433.1	3914425.6	111.1	0.00	1.70	1.70	NO
L0000074	0	0.14640E-07	305436.7	3914425.5	111.1	0.00	1.70	1.70	NO
L0000075	0	0.14640E-07	305440.4	3914425.4	111.1	0.00	1.70	1.70	NO
L0000076	0	0.14640E-07	305444.0	3914425.3	111.1	0.00	1.70	1.70	NO
L0000077	0	0.14640E-07	305447.7	3914425.1	111.1	0.00	1.70	1.70	NO
L0000078	0	0.14640E-07	305451.3	3914425.0	111.1	0.00	1.70	1.70	NO
L0000079	0	0.14640E-07	305455.0	3914424.9	111.2	0.00	1.70	1.70	NO
L0000080	0	0.14640E-07	305458.7	3914424.8	111.2	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000081	0	0.14640E-07	305462.3	3914424.7	111.2	0.00	1.70	1.70	NO	
L0000082	0	0.14640E-07	305466.0	3914424.6	111.2	0.00	1.70	1.70	NO	
L0000083	0	0.14640E-07	305469.6	3914424.4	111.2	0.00	1.70	1.70	NO	
L0000084	0	0.14640E-07	305473.3	3914424.3	111.2	0.00	1.70	1.70	NO	
L0000085	0	0.14640E-07	305476.9	3914424.2	111.2	0.00	1.70	1.70	NO	
L0000086	0	0.14640E-07	305480.6	3914424.1	111.2	0.00	1.70	1.70	NO	
L0000087	0	0.14640E-07	305484.2	3914424.0	111.2	0.00	1.70	1.70	NO	
L0000088	0	0.14640E-07	305487.9	3914423.9	111.2	0.00	1.70	1.70	NO	
L0000089	0	0.14640E-07	305491.6	3914423.7	111.2	0.00	1.70	1.70	NO	
L0000090	0	0.14640E-07	305495.2	3914423.6	111.2	0.00	1.70	1.70	NO	
L0000091	0	0.14640E-07	305498.9	3914423.5	111.2	0.00	1.70	1.70	NO	
L0000092	0	0.14640E-07	305502.5	3914423.4	111.2	0.00	1.70	1.70	NO	
L0000093	0	0.14640E-07	305506.2	3914423.3	111.2	0.00	1.70	1.70	NO	
L0000094	0	0.14640E-07	305509.8	3914423.2	111.2	0.00	1.70	1.70	NO	
L0000095	0	0.14640E-07	305513.5	3914423.0	111.2	0.00	1.70	1.70	NO	
L0000096	0	0.14640E-07	305517.1	3914422.9	111.3	0.00	1.70	1.70	NO	
L0000097	0	0.14640E-07	305520.8	3914422.8	111.3	0.00	1.70	1.70	NO	
L0000098	0	0.14640E-07	305524.5	3914422.7	111.3	0.00	1.70	1.70	NO	
L0000099	0	0.14640E-07	305528.1	3914422.6	111.3	0.00	1.70	1.70	NO	

L0000100	0	0.14640E-07	305531.8	3914422.5	111.4	0.00	1.70	1.70	NO
L0000101	0	0.14640E-07	305535.4	3914422.4	111.4	0.00	1.70	1.70	NO
L0000102	0	0.14640E-07	305539.1	3914422.2	111.4	0.00	1.70	1.70	NO
L0000103	0	0.14640E-07	305542.7	3914422.1	111.4	0.00	1.70	1.70	NO
L0000104	0	0.14640E-07	305546.4	3914422.0	111.4	0.00	1.70	1.70	NO
L0000105	0	0.14640E-07	305550.0	3914421.9	111.5	0.00	1.70	1.70	NO
L0000106	0	0.14640E-07	305553.7	3914421.8	111.5	0.00	1.70	1.70	NO
L0000107	0	0.14640E-07	305557.4	3914421.7	111.5	0.00	1.70	1.70	NO
L0000108	0	0.14640E-07	305561.0	3914421.5	111.5	0.00	1.70	1.70	NO
L0000109	0	0.14640E-07	305564.7	3914421.4	111.5	0.00	1.70	1.70	NO
L0000110	0	0.14640E-07	305568.3	3914421.3	111.5	0.00	1.70	1.70	NO
L0000111	0	0.14640E-07	305572.0	3914421.2	111.5	0.00	1.70	1.70	NO
L0000112	0	0.14640E-07	305575.6	3914421.1	111.5	0.00	1.70	1.70	NO
L0000113	0	0.14640E-07	305579.3	3914421.0	111.5	0.00	1.70	1.70	NO
L0000114	0	0.14640E-07	305583.0	3914420.8	111.5	0.00	1.70	1.70	NO
L0000115	0	0.14640E-07	305586.6	3914420.7	111.5	0.00	1.70	1.70	NO
L0000116	0	0.14640E-07	305590.3	3914420.6	111.5	0.00	1.70	1.70	NO
L0000117	0	0.14640E-07	305593.9	3914420.5	111.5	0.00	1.70	1.70	NO
L0000118	0	0.14640E-07	305597.6	3914420.4	111.5	0.00	1.70	1.70	NO
L0000119	0	0.14640E-07	305601.2	3914420.3	111.5	0.00	1.70	1.70	NO
L0000120	0	0.14640E-07	305604.9	3914420.1	111.5	0.00	1.70	1.70	NO

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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

- - - -

L0000121	0	0.14640E-07	305608.5	3914420.0	111.5	0.00	1.70	1.70	NO
L0000122	0	0.14640E-07	305612.2	3914419.9	111.6	0.00	1.70	1.70	NO
L0000123	0	0.14640E-07	305615.9	3914419.8	111.6	0.00	1.70	1.70	NO
L0000124	0	0.14640E-07	305619.5	3914419.7	111.6	0.00	1.70	1.70	NO
L0000125	0	0.14640E-07	305623.2	3914419.6	111.6	0.00	1.70	1.70	NO
L0000126	0	0.14640E-07	305626.8	3914419.5	111.6	0.00	1.70	1.70	NO
L0000127	0	0.14640E-07	305630.5	3914419.3	111.6	0.00	1.70	1.70	NO
L0000128	0	0.14640E-07	305634.1	3914419.2	111.6	0.00	1.70	1.70	NO
L0000129	0	0.14640E-07	305637.8	3914419.1	111.6	0.00	1.70	1.70	NO
L0000130	0	0.14640E-07	305641.4	3914419.0	111.6	0.00	1.70	1.70	NO
L0000131	0	0.14640E-07	305645.1	3914418.9	111.6	0.00	1.70	1.70	NO
L0000132	0	0.14640E-07	305648.8	3914418.8	111.6	0.00	1.70	1.70	NO
L0000133	0	0.14640E-07	305652.4	3914418.6	111.6	0.00	1.70	1.70	NO
L0000134	0	0.14640E-07	305656.1	3914418.5	111.6	0.00	1.70	1.70	NO
L0000135	0	0.14640E-07	305659.7	3914418.4	111.6	0.00	1.70	1.70	NO
L0000136	0	0.14640E-07	305663.4	3914418.3	111.6	0.00	1.70	1.70	NO
L0000137	0	0.14640E-07	305667.0	3914418.0	111.6	0.00	1.70	1.70	NO
L0000138	0	0.14640E-07	305670.6	3914417.2	111.6	0.00	1.70	1.70	NO
L0000139	0	0.14640E-07	305674.2	3914416.5	111.6	0.00	1.70	1.70	NO
L0000140	0	0.14640E-07	305677.7	3914415.7	111.6	0.00	1.70	1.70	NO
L0000141	0	0.14640E-07	305681.3	3914414.9	111.6	0.00	1.70	1.70	NO
L0000142	0	0.14640E-07	305684.9	3914414.1	111.6	0.00	1.70	1.70	NO
L0000143	0	0.14640E-07	305688.5	3914413.4	111.6	0.00	1.70	1.70	NO
L0000144	0	0.14640E-07	305692.0	3914412.6	111.6	0.00	1.70	1.70	NO
L0000145	0	0.14640E-07	305695.6	3914411.8	111.6	0.00	1.70	1.70	NO
L0000146	0	0.14640E-07	305699.2	3914411.0	111.7	0.00	1.70	1.70	NO
L0000147	0	0.14640E-07	305702.8	3914410.2	111.7	0.00	1.70	1.70	NO
L0000148	0	0.14640E-07	305706.3	3914409.5	111.7	0.00	1.70	1.70	NO
L0000149	0	0.14640E-07	305709.9	3914408.7	111.7	0.00	1.70	1.70	NO
L0000150	0	0.14640E-07	305713.5	3914407.9	111.7	0.00	1.70	1.70	NO
L0000151	0	0.14640E-07	305717.0	3914407.1	111.7	0.00	1.70	1.70	NO
L0000152	0	0.14640E-07	305720.6	3914406.3	111.7	0.00	1.70	1.70	NO
L0000153	0	0.14640E-07	305724.2	3914405.6	111.8	0.00	1.70	1.70	NO
L0000154	0	0.14640E-07	305727.8	3914404.8	111.8	0.00	1.70	1.70	NO

L0000155	0	0.14640E-07	305731.3	3914404.0	111.8	0.00	1.70	1.70	NO
L0000156	0	0.14640E-07	305734.9	3914403.2	111.8	0.00	1.70	1.70	NO
L0000157	0	0.14640E-07	305738.5	3914402.5	111.8	0.00	1.70	1.70	NO
L0000158	0	0.14640E-07	305742.1	3914401.7	111.8	0.00	1.70	1.70	NO
L0000159	0	0.14640E-07	305745.6	3914400.9	111.8	0.00	1.70	1.70	NO
L0000160	0	0.14640E-07	305749.2	3914400.1	111.8	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000161	0	0.14640E-07	305752.8	3914399.3	111.8	0.00	1.70	1.70	NO	
L0000162	0	0.14640E-07	305756.4	3914398.6	111.8	0.00	1.70	1.70	NO	
L0000163	0	0.14640E-07	305759.9	3914397.8	111.8	0.00	1.70	1.70	NO	
L0000164	0	0.14640E-07	305763.5	3914397.0	111.8	0.00	1.70	1.70	NO	
L0000165	0	0.14640E-07	305767.1	3914396.2	111.8	0.00	1.70	1.70	NO	
L0000166	0	0.14640E-07	305770.7	3914395.5	111.8	0.00	1.70	1.70	NO	
L0000167	0	0.14640E-07	305774.2	3914394.7	111.8	0.00	1.70	1.70	NO	
L0000168	0	0.14640E-07	305777.8	3914393.9	111.8	0.00	1.70	1.70	NO	
L0000169	0	0.14640E-07	305781.4	3914393.1	111.9	0.00	1.70	1.70	NO	
L0000170	0	0.14640E-07	305785.0	3914392.3	111.9	0.00	1.70	1.70	NO	
L0000171	0	0.14640E-07	305788.5	3914391.6	111.9	0.00	1.70	1.70	NO	
L0000172	0	0.14640E-07	305792.1	3914390.8	111.9	0.00	1.70	1.70	NO	
L0000173	0	0.14640E-07	305795.7	3914390.0	111.9	0.00	1.70	1.70	NO	

L0000174	0	0.14640E-07	305799.2	3914389.2	111.9	0.00	1.70	1.70	NO
L0000175	0	0.14640E-07	305802.8	3914388.5	111.9	0.00	1.70	1.70	NO
L0000176	0	0.14640E-07	305806.4	3914387.7	111.9	0.00	1.70	1.70	NO
L0000177	0	0.14640E-07	305810.0	3914386.9	111.9	0.00	1.70	1.70	NO
L0000178	0	0.14640E-07	305813.5	3914386.1	111.9	0.00	1.70	1.70	NO
L0000179	0	0.14640E-07	305817.1	3914385.3	111.9	0.00	1.70	1.70	NO
L0000180	0	0.14640E-07	305820.7	3914384.6	111.9	0.00	1.70	1.70	NO
L0000181	0	0.14640E-07	305824.3	3914383.8	111.9	0.00	1.70	1.70	NO
L0000182	0	0.14640E-07	305825.9	3914386.9	111.9	0.00	1.70	1.70	NO
L0000183	0	0.14640E-07	305827.4	3914390.2	111.9	0.00	1.70	1.70	NO
L0000184	0	0.14640E-07	305828.8	3914393.5	111.9	0.00	1.70	1.70	NO
L0000185	0	0.14640E-07	305830.3	3914396.9	111.8	0.00	1.70	1.70	NO
L0000186	0	0.14640E-07	305831.8	3914400.2	111.8	0.00	1.70	1.70	NO
L0000187	0	0.14640E-07	305833.3	3914403.6	111.7	0.00	1.70	1.70	NO
L0000188	0	0.14640E-07	305834.8	3914406.9	111.7	0.00	1.70	1.70	NO
L0000189	0	0.14640E-07	305836.3	3914410.3	111.6	0.00	1.70	1.70	NO
L0000190	0	0.14640E-07	305837.7	3914413.6	111.6	0.00	1.70	1.70	NO
L0000191	0	0.14640E-07	305839.2	3914417.0	111.6	0.00	1.70	1.70	NO
L0000192	0	0.14640E-07	305840.7	3914420.3	111.5	0.00	1.70	1.70	NO
L0000193	0	0.14640E-07	305842.2	3914423.6	111.5	0.00	1.70	1.70	NO
L0000194	0	0.14640E-07	305843.7	3914427.0	111.4	0.00	1.70	1.70	NO
L0000195	0	0.14640E-07	305845.1	3914430.3	111.4	0.00	1.70	1.70	NO
L0000196	0	0.14640E-07	305846.6	3914433.7	111.3	0.00	1.70	1.70	NO
L0000197	0	0.14640E-07	305848.1	3914437.0	111.3	0.00	1.70	1.70	NO
L0000198	0	0.14640E-07	305849.6	3914440.4	111.3	0.00	1.70	1.70	NO
L0000199	0	0.14640E-07	305851.1	3914443.7	111.2	0.00	1.70	1.70	NO
L0000200	0	0.14640E-07	305852.6	3914447.0	111.2	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

L0000201	0	0.14640E-07	305854.0	3914450.4	111.2	0.00	1.70	1.70	NO	
L0000202	0	0.14640E-07	305855.5	3914453.7	111.2	0.00	1.70	1.70	NO	
L0000203	0	0.14640E-07	305857.0	3914457.1	111.1	0.00	1.70	1.70	NO	
L0000204	0	0.14640E-07	305858.5	3914460.4	111.1	0.00	1.70	1.70	NO	
L0000205	0	0.14640E-07	305860.0	3914463.8	111.1	0.00	1.70	1.70	NO	
L0000206	0	0.14640E-07	305861.4	3914467.1	111.1	0.00	1.70	1.70	NO	
L0000207	0	0.14640E-07	305862.9	3914470.5	111.1	0.00	1.70	1.70	NO	
L0000208	0	0.14640E-07	305864.4	3914473.8	111.1	0.00	1.70	1.70	NO	
L0000209	0	0.14640E-07	305865.9	3914477.1	111.2	0.00	1.70	1.70	NO	
L0000210	0	0.14640E-07	305867.4	3914480.5	111.2	0.00	1.70	1.70	NO	
L0000211	0	0.14640E-07	305868.9	3914483.8	111.2	0.00	1.70	1.70	NO	
L0000212	0	0.14640E-07	305870.3	3914487.2	111.2	0.00	1.70	1.70	NO	
L0000213	0	0.14640E-07	305871.7	3914490.6	111.2	0.00	1.70	1.70	NO	
L0000214	0	0.14640E-07	305873.2	3914493.9	111.3	0.00	1.70	1.70	NO	
L0000215	0	0.14640E-07	305874.6	3914497.3	111.3	0.00	1.70	1.70	NO	
L0000216	0	0.14640E-07	305876.0	3914500.7	111.3	0.00	1.70	1.70	NO	
L0000217	0	0.14640E-07	305877.5	3914504.0	111.3	0.00	1.70	1.70	NO	
L0000218	0	0.14640E-07	305878.9	3914507.4	111.4	0.00	1.70	1.70	NO	
L0000219	0	0.14640E-07	305880.3	3914510.8	111.4	0.00	1.70	1.70	NO	
L0000220	0	0.14640E-07	305881.8	3914514.1	111.5	0.00	1.70	1.70	NO	
L0000221	0	0.14640E-07	305883.2	3914517.5	111.5	0.00	1.70	1.70	NO	
L0000222	0	0.14640E-07	305884.6	3914520.8	111.6	0.00	1.70	1.70	NO	
L0000223	0	0.14640E-07	305886.0	3914524.2	111.6	0.00	1.70	1.70	NO	
L0000224	0	0.14640E-07	305887.5	3914527.6	111.7	0.00	1.70	1.70	NO	
L0000225	0	0.14640E-07	305888.9	3914530.9	111.7	0.00	1.70	1.70	NO	
L0000226	0	0.14640E-07	305890.3	3914534.3	111.8	0.00	1.70	1.70	NO	
L0000227	0	0.14640E-07	305891.8	3914537.7	111.9	0.00	1.70	1.70	NO	
L0000228	0	0.14640E-07	305893.2	3914541.0	111.9	0.00	1.70	1.70	NO	

L0000229	0	0.14640E-07	305894.6	3914544.4	112.0	0.00	1.70	1.70	NO
L0000230	0	0.14640E-07	305896.6	3914547.5	112.0	0.00	1.70	1.70	NO
L0000231	0	0.14640E-07	305898.7	3914550.5	112.1	0.00	1.70	1.70	NO
L0000232	0	0.14640E-07	305900.7	3914553.6	112.1	0.00	1.70	1.70	NO
L0000233	0	0.14640E-07	305902.7	3914556.6	112.0	0.00	1.70	1.70	NO
L0000234	0	0.14640E-07	305904.8	3914559.6	112.0	0.00	1.70	1.70	NO
L0000235	0	0.14640E-07	305906.8	3914562.7	112.0	0.00	1.70	1.70	NO
L0000236	0	0.14640E-07	305908.8	3914565.7	111.9	0.00	1.70	1.70	NO
L0000237	0	0.14640E-07	305910.8	3914568.8	111.9	0.00	1.70	1.70	NO
L0000238	0	0.14640E-07	305912.9	3914571.8	111.9	0.00	1.70	1.70	NO
L0000239	0	0.14640E-07	305914.9	3914574.9	111.9	0.00	1.70	1.70	NO
L0000240	0	0.14640E-07	305916.9	3914577.9	111.9	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000241	0	0.14640E-07	305919.0	3914580.9	111.9	0.00	1.70	1.70	NO	
L0000242	0	0.14640E-07	305921.0	3914584.0	111.9	0.00	1.70	1.70	NO	
L0000243	0	0.14640E-07	305923.0	3914587.0	111.9	0.00	1.70	1.70	NO	
L0000244	0	0.14640E-07	305925.0	3914590.1	111.9	0.00	1.70	1.70	NO	
L0000245	0	0.14640E-07	305927.1	3914593.1	112.0	0.00	1.70	1.70	NO	
L0000246	0	0.14640E-07	305929.1	3914596.2	112.0	0.00	1.70	1.70	NO	
L0000247	0	0.14640E-07	305931.3	3914599.0	112.0	0.00	1.70	1.70	NO	

L0000248	0	0.14640E-07	305933.9	3914601.6	112.0	0.00	1.70	1.70	NO
L0000249	0	0.14640E-07	305936.5	3914604.2	112.0	0.00	1.70	1.70	NO
L0000250	0	0.14640E-07	305939.1	3914606.8	112.1	0.00	1.70	1.70	NO
L0000251	0	0.14640E-07	305941.7	3914609.3	112.1	0.00	1.70	1.70	NO
L0000252	0	0.14640E-07	305944.3	3914611.9	112.2	0.00	1.70	1.70	NO
L0000253	0	0.14640E-07	305946.9	3914614.5	112.2	0.00	1.70	1.70	NO
L0000254	0	0.14640E-07	305949.5	3914617.0	112.2	0.00	1.70	1.70	NO
L0000255	0	0.14640E-07	305952.1	3914619.6	112.2	0.00	1.70	1.70	NO
L0000256	0	0.14640E-07	305954.7	3914622.2	112.1	0.00	1.70	1.70	NO
L0000257	0	0.14640E-07	305957.3	3914624.8	112.1	0.00	1.70	1.70	NO
L0000258	0	0.14640E-07	305959.9	3914627.3	112.1	0.00	1.70	1.70	NO
L0000259	0	0.14640E-07	305962.5	3914629.9	112.1	0.00	1.70	1.70	NO
L0000260	0	0.14640E-07	305965.1	3914632.5	112.1	0.00	1.70	1.70	NO
L0000261	0	0.14640E-07	305967.7	3914635.0	112.1	0.00	1.70	1.70	NO
L0000262	0	0.14640E-07	305970.3	3914637.6	112.2	0.00	1.70	1.70	NO
L0000263	0	0.14640E-07	305972.9	3914640.2	112.2	0.00	1.70	1.70	NO
L0000264	0	0.14640E-07	305975.5	3914642.8	112.2	0.00	1.70	1.70	NO
L0000265	0	0.14640E-07	305978.1	3914645.3	112.1	0.00	1.70	1.70	NO
L0000266	0	0.14640E-07	305980.7	3914647.9	112.1	0.00	1.70	1.70	NO
L0000267	0	0.14640E-07	305983.3	3914650.5	112.1	0.00	1.70	1.70	NO
L0000268	0	0.14640E-07	305985.9	3914653.0	112.1	0.00	1.70	1.70	NO
L0000269	0	0.14640E-07	305988.5	3914655.6	112.0	0.00	1.70	1.70	NO
L0000270	0	0.14640E-07	305991.1	3914658.2	112.0	0.00	1.70	1.70	NO
L0000271	0	0.14640E-07	305993.7	3914660.8	112.0	0.00	1.70	1.70	NO
L0000272	0	0.14640E-07	305996.4	3914663.3	111.9	0.00	1.70	1.70	NO
L0000273	0	0.14640E-07	305999.0	3914665.9	111.9	0.00	1.70	1.70	NO
L0000274	0	0.14640E-07	306001.6	3914668.5	111.8	0.00	1.70	1.70	NO
L0000275	0	0.14640E-07	306004.2	3914671.0	111.8	0.00	1.70	1.70	NO
L0000276	0	0.14640E-07	306006.8	3914673.6	111.8	0.00	1.70	1.70	NO
L0000277	0	0.14640E-07	306009.4	3914676.2	111.8	0.00	1.70	1.70	NO
L0000278	0	0.14640E-07	306012.0	3914678.8	111.8	0.00	1.70	1.70	NO
L0000279	0	0.14640E-07	306014.6	3914681.3	111.8	0.00	1.70	1.70	NO
L0000280	0	0.14640E-07	306017.2	3914683.9	111.8	0.00	1.70	1.70	NO

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000281	0	0.14640E-07	306019.8	3914686.5	111.8	0.00	1.70	1.70	NO	
L0000282	0	0.14640E-07	306022.4	3914689.0	111.8	0.00	1.70	1.70	NO	
L0000283	0	0.14640E-07	306025.0	3914691.6	111.8	0.00	1.70	1.70	NO	
L0000284	0	0.14640E-07	306027.6	3914694.2	111.8	0.00	1.70	1.70	NO	
L0000285	0	0.14640E-07	306030.2	3914696.8	111.8	0.00	1.70	1.70	NO	
L0000286	0	0.14640E-07	306032.8	3914699.3	111.8	0.00	1.70	1.70	NO	
L0000287	0	0.14640E-07	306035.4	3914701.9	111.8	0.00	1.70	1.70	NO	
L0000288	0	0.14640E-07	306038.0	3914704.5	111.7	0.00	1.70	1.70	NO	

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
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- - - - -
- - - - -

PAREA1 0 0.87793E-08 305523.6 3914571.9 111.3 1.00 7 0.00 NO
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
-----	-----
ALL	PAREA1
L0000007	, L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 ,
	,
L0000015	L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 ,
	,
L0000023	L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 ,
	,
L0000031	L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 ,
	,
L0000039	L0000032 , L0000033 , L0000034 , L0000035 , L0000036 , L0000037 , L0000038 ,
	,
L0000047	L0000040 , L0000041 , L0000042 , L0000043 , L0000044 , L0000045 , L0000046 ,
	,

L0000055	L0000048	,	L0000049	,	L0000050	,	L0000051	,	L0000052	,	L0000053	,	L0000054	,
L0000063	L0000056	,	L0000057	,	L0000058	,	L0000059	,	L0000060	,	L0000061	,	L0000062	,
L0000071	L0000064	,	L0000065	,	L0000066	,	L0000067	,	L0000068	,	L0000069	,	L0000070	,
L0000079	L0000072	,	L0000073	,	L0000074	,	L0000075	,	L0000076	,	L0000077	,	L0000078	,
L0000087	L0000080	,	L0000081	,	L0000082	,	L0000083	,	L0000084	,	L0000085	,	L0000086	,
L0000095	L0000088	,	L0000089	,	L0000090	,	L0000091	,	L0000092	,	L0000093	,	L0000094	,
L0000103	L0000096	,	L0000097	,	L0000098	,	L0000099	,	L0000100	,	L0000101	,	L0000102	,
L0000111	L0000104	,	L0000105	,	L0000106	,	L0000107	,	L0000108	,	L0000109	,	L0000110	,
L0000119	L0000112	,	L0000113	,	L0000114	,	L0000115	,	L0000116	,	L0000117	,	L0000118	,
L0000127	L0000120	,	L0000121	,	L0000122	,	L0000123	,	L0000124	,	L0000125	,	L0000126	,
L0000135	L0000128	,	L0000129	,	L0000130	,	L0000131	,	L0000132	,	L0000133	,	L0000134	,
L0000143	L0000136	,	L0000137	,	L0000138	,	L0000139	,	L0000140	,	L0000141	,	L0000142	,

L0000144 , L0000145 , L0000146 , L0000147 , L0000148 , L0000149 , L0000150 ,
L0000151 ,

L0000152 , L0000153 , L0000154 , L0000155 , L0000156 , L0000157 , L0000158 ,
L0000159 ,

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID

SOURCE IDs

L0000160 , L0000161 , L0000162 , L0000163 , L0000164 , L0000165 , L0000166 ,
L0000167 ,

L0000168 , L0000169 , L0000170 , L0000171 , L0000172 , L0000173 , L0000174 ,
L0000175 ,

L0000176 , L0000177 , L0000178 , L0000179 , L0000180 , L0000181 , L0000182 ,
L0000183 ,

L0000184 , L0000185 , L0000186 , L0000187 , L0000188 , L0000189 , L0000190 ,
L0000191 ,

L0000192 , L0000193 , L0000194 , L0000195 , L0000196 , L0000197 , L0000198 ,
L0000199 ,

L0000207	L0000200	,	L0000201	,	L0000202	,	L0000203	,	L0000204	,	L0000205	,	L0000206	,
	,													
L0000215	L0000208	,	L0000209	,	L0000210	,	L0000211	,	L0000212	,	L0000213	,	L0000214	,
	,													
L0000223	L0000216	,	L0000217	,	L0000218	,	L0000219	,	L0000220	,	L0000221	,	L0000222	,
	,													
L0000231	L0000224	,	L0000225	,	L0000226	,	L0000227	,	L0000228	,	L0000229	,	L0000230	,
	,													
L0000239	L0000232	,	L0000233	,	L0000234	,	L0000235	,	L0000236	,	L0000237	,	L0000238	,
	,													
L0000247	L0000240	,	L0000241	,	L0000242	,	L0000243	,	L0000244	,	L0000245	,	L0000246	,
	,													
L0000255	L0000248	,	L0000249	,	L0000250	,	L0000251	,	L0000252	,	L0000253	,	L0000254	,
	,													
L0000263	L0000256	,	L0000257	,	L0000258	,	L0000259	,	L0000260	,	L0000261	,	L0000262	,
	,													
L0000271	L0000264	,	L0000265	,	L0000266	,	L0000267	,	L0000268	,	L0000269	,	L0000270	,
	,													
L0000279	L0000272	,	L0000273	,	L0000274	,	L0000275	,	L0000276	,	L0000277	,	L0000278	,
	,													
L0000287	L0000280	,	L0000281	,	L0000282	,	L0000283	,	L0000284	,	L0000285	,	L0000286	,
	,													
	L0000288	,												

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

305254.8, 305325.0, 305395.2, 305465.4, 305535.6, 305605.7, 305675.9, 305746.1, 305816.3,
305886.5,
305956.6, 306026.8, 306097.0, 306167.2, 306237.4,

*** Y-COORDINATES OF GRID ***
(METERS)

3914144.7, 3914212.7, 3914280.7, 3914348.7, 3914416.7, 3914484.7, 3914552.6, 3914620.6, 3914688.6,
3914756.6,

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD |

X-COORD (METERS)

(METERS)	305254.84	305325.02	305395.20	305465.38	305535.56	305605.74	305675.92
305746.10	305816.28						

- - - - -

3914756.61	110.60	110.90	111.00	111.10	111.10	111.20	111.40
111.40 111.50							
3914688.62	109.00	111.60	111.50	111.30	110.90	111.50	111.70
111.60 111.60							
3914620.63	109.70	109.30	111.00	111.20	111.10	111.50	111.70
111.70 111.70							
3914552.64	110.90	110.30	110.90	111.00	111.20	111.70	111.90
111.90 112.00							
3914484.65	111.00	111.10	111.20	111.10	111.20	111.50	111.40
111.60 111.30							
3914416.66	110.80	110.90	111.10	111.20	111.40	111.60	111.60
111.70 111.60							
3914348.67	110.50	110.40	110.30	110.50	111.00	111.50	111.60
111.60 111.80							
3914280.68	110.50	110.10	110.40	110.40	110.50	111.20	111.40
111.30 111.40							
3914212.69	110.50	110.30	111.20	110.80	110.20	111.00	111.40
111.20 111.30							
3914144.70	110.50	110.20	111.20	110.40	107.60	110.50	111.10
111.00 110.80							

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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*
 *** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***
 * ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	305886.46	305956.64	306026.82	306097.00	306167.18	306237.36
3914756.61	111.60	111.60	111.20	111.10	111.80	112.20
3914688.62	112.00	112.10	111.80	111.30	110.40	111.10
3914620.63	111.90	112.20	111.80	110.80	110.70	110.40
3914552.64	112.10	111.50	110.50	110.40	110.50	112.20
3914484.65	111.10	110.40	110.70	110.60	111.00	111.70
3914416.66	111.60	107.80	109.40	110.70	110.50	111.10
3914348.67	112.20	111.60	109.60	109.10	110.40	110.80
3914280.68	111.80	112.20	112.70	112.20	111.60	110.90
3914212.69	111.60	112.00	111.80	111.00	113.60	112.00
3914144.70	110.70	110.80	111.70	111.50	111.70	110.20

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	305254.84	305325.02	305395.20	305465.38	305535.56	305605.74	305675.92
305746.10	305816.28						
3914756.61	110.60	110.90	111.00	111.10	111.10	111.20	111.40
111.40	111.50						

3914688.62	109.00	111.60	111.50	111.30	110.90	111.50	111.70
111.60	111.60						
3914620.63	109.70	111.30	111.00	111.20	111.10	111.50	111.70
111.70	111.70						
3914552.64	110.90	110.30	110.90	111.00	111.20	111.70	111.90
111.90	112.00						
3914484.65	111.00	111.10	111.20	111.10	111.20	111.50	111.40
111.60	111.30						
3914416.66	110.80	110.90	111.10	111.20	111.40	111.60	111.60
111.70	111.60						
3914348.67	110.50	110.40	110.30	110.50	111.00	111.50	111.60
111.60	111.80						
3914280.68	110.50	110.10	110.40	110.40	110.50	111.20	111.40
111.30	111.40						
3914212.69	110.50	110.30	111.20	110.80	110.20	111.00	111.40
111.20	111.30						
3914144.70	110.50	110.20	111.20	110.40	107.60	110.50	111.10
111.00	110.80						

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)				X-COORD (METERS)		
	305886.46	305956.64	306026.82	306097.00	306167.18	306237.36
3914756.61	111.60	111.60	111.20	111.10	111.80	112.20

3914688.62	112.00	112.10	111.80	111.30	110.40	111.10
3914620.63	111.90	112.20	111.80	110.80	110.70	110.40
3914552.64	112.10	111.50	110.50	110.40	110.50	112.20
3914484.65	111.10	110.40	110.70	110.60	111.00	111.70
3914416.66	111.60	107.80	109.40	110.70	110.50	111.10
3914348.67	112.20	111.60	109.60	109.10	110.40	110.80
3914280.68	111.80	112.20	112.70	112.20	111.60	110.90
3914212.69	111.60	112.00	111.80	111.00	113.60	112.00
3914144.70	110.70	110.80	111.70	111.50	111.70	114.00

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(305255.6, 3914282.7,	110.5,	110.5,	0.0);	(305768.7, 3914371.7,	111.9,	111.9,
0.0);						
(305529.6, 3914584.8,	111.3,	111.3,	0.0);	(305584.1, 3914584.8,	111.5,	111.5,
0.0);						
(305641.2, 3914586.7,	111.6,	111.6,	0.0);	(305699.5, 3914582.9,	111.8,	111.8,
0.0);						
(305752.2, 3914582.3,	111.8,	111.8,	0.0);	(305805.4, 3914581.6,	111.8,	111.8,
0.0);						
(305878.4, 3914563.3,	112.0,	112.0,	0.0);	(305436.3, 3914528.4,	111.1,	111.1,
0.0);						

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS) YR (METERS)	DISTANCE (METERS)
L0000120	305605.7 3914416.7	-0.06
L0000121	305605.7 3914416.7	0.73
L0000139	305675.9 3914416.7	-1.89
L0000140	305675.9 3914416.7	-1.59
L0000255	305956.6 3914620.6	0.97
L0000256	305956.6 3914620.6	-1.19
L0000257	305956.6 3914620.6	0.53
L0000282	306026.8 3914688.6	0.82
L0000283	306026.8 3914688.6	-0.14

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1

1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1
1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1			

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

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*** MODELOPTs: RegDEFAULT CONC ELEV RURAL ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\..\Met Data\bakersfield-23155\Bakersfield_18-22.SFC
21112

Met Version:

Profile file: ..\..\Met Data\bakersfield-23155\Bakersfield_18-22.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 23155
Name: UNKNOWN
Year: 2018

Upper air station no.: 23230
Name: OAKLAND/WSO_AP
Year: 2018

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA
HT																					
18	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.03	0.94	1.00	0.00	0.	10.0	280.4			
2.0																					
18	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.03	0.94	1.00	0.00	0.	10.0	279.9			
2.0																					
18	01	01	1	03	-5.6	0.097	-9.000	-9.000	-999.	72.	14.5	0.03	0.94	1.00	1.59	113.	10.0	280.9			
2.0																					
18	01	01	1	04	-4.7	0.088	-9.000	-9.000	-999.	63.	13.2	0.03	0.94	1.00	1.45	116.	10.0	279.2			
2.0																					
18	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.03	0.94	1.00	0.00	0.	10.0	278.1			
2.0																					
18	01	01	1	06	-3.3	0.075	-9.000	-9.000	-999.	50.	11.6	0.03	0.94	1.00	1.20	93.	10.0	278.8			
2.0																					
18	01	01	1	07	-7.3	0.111	-9.000	-9.000	-999.	89.	16.9	0.03	0.94	1.00	1.76	137.	10.0	277.5			
2.0																					
18	01	01	1	08	-18.2	0.193	-9.000	-9.000	-999.	204.	41.1	0.03	0.94	0.60	2.93	126.	10.0	279.2			
2.0																					
18	01	01	1	09	0.3	0.172	0.033	0.006	5.	171.	-1605.1	0.03	0.94	0.34	2.52	111.	10.0	282.0			
2.0																					
18	01	01	1	10	12.3	0.156	0.270	0.006	57.	148.	-27.6	0.03	0.94	0.25	1.96	129.	10.0	283.8			
2.0																					
18	01	01	1	11	21.2	0.123	0.393	0.006	102.	103.	-7.8	0.03	0.94	0.22	1.37	145.	10.0	285.9			
2.0																					
18	01	01	1	12	26.1	0.141	0.530	0.006	204.	126.	-9.5	0.02	0.94	0.21	1.77	282.	10.0	288.1			
2.0																					
18	01	01	1	13	26.9	0.211	0.635	0.011	340.	232.	-31.2	0.02	0.94	0.21	2.93	280.	10.0	290.4			
2.0																					

18 01 01	1 14	22.9	0.232	0.647	0.014	422.	267.	-48.5	0.02	0.94	0.22	3.30	297.	10.0	290.9
2.0															
18 01 01	1 15	14.6	0.228	0.572	0.015	458.	262.	-73.1	0.03	0.94	0.25	3.22	303.	10.0	290.9
2.0															
18 01 01	1 16	2.7	0.170	0.327	0.015	461.	169.	-161.9	0.02	0.94	0.34	2.54	289.	10.0	290.4
2.0															
18 01 01	1 17	-6.1	0.106	-9.000	-9.000	-999.	84.	17.6	0.02	0.94	0.60	1.81	286.	10.0	288.8
2.0															
18 01 01	1 18	-4.2	0.084	-9.000	-9.000	-999.	58.	12.7	0.03	0.94	1.00	1.40	314.	10.0	287.5
2.0															
18 01 01	1 19	-5.3	0.093	-9.000	-9.000	-999.	68.	13.9	0.02	0.94	1.00	1.60	349.	10.0	285.9
2.0															
18 01 01	1 20	-10.6	0.136	-9.000	-9.000	-999.	121.	21.5	0.04	0.94	1.00	2.10	27.	10.0	285.4
2.0															
18 01 01	1 21	-5.6	0.097	-9.000	-9.000	-999.	73.	14.8	0.03	0.94	1.00	1.57	33.	10.0	283.8
2.0															
18 01 01	1 22	-5.2	0.093	-9.000	-9.000	-999.	68.	13.7	0.02	0.94	1.00	1.59	61.	10.0	283.1
2.0															
18 01 01	1 23	-7.9	0.116	-9.000	-9.000	-999.	95.	17.7	0.03	0.94	1.00	1.89	112.	10.0	284.2
2.0															
18 01 01	1 24	-6.4	0.104	-9.000	-9.000	-999.	80.	15.6	0.03	0.94	1.00	1.70	95.	10.0	281.4
2.0															

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
18	01	01	01	10.0	1	-999.	-99.00	280.4	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

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*** MODELOPTs: RegDFault CONC ELEV RURAL ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 ,

L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 ,

L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 ,

L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 ,

. . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)						
305746.10	305254.84	305325.02	305395.20	305465.38	305535.56	305605.74	305675.92
305816.28							

3914756.61	0.00613	0.00671	0.00700	0.00680	0.00605	0.00504	0.00387
0.00280	0.00204						
3914688.62	0.00757	0.00930	0.01080	0.01164	0.01112	0.00966	0.00752
0.00523	0.00340						
3914620.63	0.00868	0.01147	0.01596	0.02143	0.02428	0.02312	0.01971
0.01426	0.00775						
3914552.64	0.00897	0.01252	0.01941	0.03502	0.09509	0.11052	0.10996
0.10071	0.08322						
3914484.65	0.00839	0.01159	0.01769	0.03307	0.10663	0.13667	0.13738
0.13075	0.10028						
3914416.66	0.00746	0.00968	0.01300	0.01897	0.03625	0.05599	0.06398
0.07826	0.07222						
3914348.67	0.00539	0.00645	0.00780	0.00999	0.01421	0.02052	0.02428
0.02590	0.02490						

3914280.68		0.00397	0.00449	0.00527	0.00642	0.00832	0.01125	0.01370
0.01484		0.01463						
3914212.69		0.00296	0.00332	0.00385	0.00459	0.00572	0.00739	0.00887
0.00980		0.00994						
3914144.70		0.00231	0.00259	0.00301	0.00354	0.00415	0.00529	0.00625
0.00698		0.00725						

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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

 INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 ,
 L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 ,
 L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 ,
 L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 ,
 . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD							
(METERS)		305886.46	305956.64	306026.82	306097.00	306167.18	306237.36

3914756.61		0.00158	0.00124	0.00101	0.00082	0.00066	0.00053
3914688.62		0.00237	0.00186	0.00169	0.00098	0.00073	0.00057

3914620.63	0.00410	0.00281	0.00178	0.00120	0.00089	0.00072
3914552.64	0.01256	0.00425	0.00243	0.00165	0.00122	0.00095
3914484.65	0.02439	0.00684	0.00343	0.00216	0.00152	0.00114
3914416.66	0.02142	0.00828	0.00435	0.00263	0.00178	0.00129
3914348.67	0.01644	0.00905	0.00505	0.00308	0.00207	0.00148
3914280.68	0.01194	0.00818	0.00526	0.00344	0.00234	0.00167
3914212.69	0.00885	0.00694	0.00504	0.00356	0.00251	0.00183
3914144.70	0.00676	0.00575	0.00456	0.00346	0.00261	0.00196

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S):		PAREA1	L0000001	L0000002	L0000003
L0000004					
L0000012	L0000005	L0000006	L0000007	L0000008	L0000009
L0000020	L0000013	L0000014	L0000015	L0000016	L0000017
	L0000021	L0000022	L0000023	L0000024	L0000025

. . .

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM		IN MICROGRAMS/M**3		**	
X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
305255.60	3914282.74	0.00401	305768.66	3914371.73	0.03392

305529.57	3914584.82	0.04603	305584.11	3914584.82	0.04767
305641.19	3914586.72	0.04305	305699.53	3914582.91	0.04309
305752.17	3914582.28	0.03709	305805.44	3914581.65	0.02606
305878.37	3914563.26	0.01116	305436.34	3914528.37	0.02733

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 ,
L0000004 ,
L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 ,
L0000012 ,
L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 ,
L0000020 ,
L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 ,
. . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD			X-COORD (METERS)	
(METERS)	305254.84	305325.02	305395.20	305465.38
305535.56				

- - - - -
- - - - -

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*									
*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL									

INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 ,									
L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 ,									
L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 ,									

L0000020 ,
L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 ,
. . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)			X-COORD (METERS)	
305886.46	305605.74	305675.92	305746.10	305816.28

3914756.6 0.22494 (19121117)	0.23817 (19100607)	0.25266 (19100607)	0.23400 (22032118)	0.24782 (22032118)
3914688.6 0.31737 (22071906)	0.29857 (20022008)	0.31104 (19100607)	0.29943 (19100607)	0.31076 (22032118)
3914620.6 0.45456 (22071906)	0.42427 (22020408)	0.43280 (19100607)	0.44798 (19100607)	0.45889 (22071906)
3914552.6 1.14371 (20112108)	0.83598 (21020503)	0.88300 (20112108)	1.06034 (20112108)	1.20591 (20112108)
3914484.7 0.94278 (20112108)	0.93446 (19053006)	0.86914 (20112108)	1.05063 (20112108)	1.17298 (20112108)
3914416.7 0.57044 (20012817)	0.57213 (19053006)	0.57812 (21100207)	0.68521 (21100207)	0.85807 (21041505)
3914348.7 0.39990 (20021324)	0.32156 (21121219)	0.34488 (21100207)	0.36993 (21100207)	0.43364 (21100207)
3914280.7 0.28838 (21100207)	0.23557 (21120802)	0.25086 (21120802)	0.27242 (21100207)	0.30321 (21100207)
3914212.7 0.25815 (21100207)	0.20041 (21120802)	0.20229 (21010902)	0.21927 (21100207)	0.23703 (21100207)
3914144.7 0.21628 (21100207)	0.17005 (21120802)	0.16785 (21022201)	0.17596 (21100207)	0.19676 (21100207)

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): PAREA1 , L0000001 , L0000002 , L0000003 ,
L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 ,
L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 ,
L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 ,
. . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)			X-COORD (METERS)	
306237.36	305956.64	306026.82	306097.00	306167.18

3914756.6 0.19582 (20011121)	0.24839 (22071906)	0.25545 (22071906)	0.22493 (22071906)	0.21840 (21011608)
3914688.6 0.23046 (20080406)	0.32035 (22071906)	0.29024 (20011121)	0.26626 (20011121)	0.24062 (21010605)
3914620.6 0.24065 (21122007)	0.40593 (20011121)	0.37236 (20080406)	0.31413 (20080406)	0.28122 (21122007)
3914552.6 0.37214 (20112108)	0.75076 (20112108)	0.58640 (20112108)	0.49107 (20112108)	0.42386 (20112108)
3914484.7	0.63960 (20112108)	0.51358 (21111708)	0.43486 (21111708)	0.37733 (21111708)

0.33112 (21111708)				
3914416.7	0.41339 (21062704)	0.36106 (21012519)	0.31351 (20081821)	0.27313 (20081821)
0.24525 (21021107)				
3914348.7	0.38269 (19121408)	0.32698 (21020903)	0.28605 (21122108)	0.25055 (21062704)
0.22647 (21012519)				
3914280.7	0.28403 (20021324)	0.26121 (21041505)	0.26244 (19121408)	0.24232 (19121408)
0.21186 (21122108)				
3914212.7	0.22800 (20121017)	0.22376 (20021324)	0.20763 (21112108)	0.20348 (20021903)
0.20171 (19121408)				
3914144.7	0.18271 (21100207)	0.19131 (20121017)	0.18475 (20021324)	0.17579 (21021907)
0.16680 (20011120)				

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

	INCLUDING SOURCE(S):	PAREA1	, L0000001	, L0000002	, L0000003	,
L0000004	,					
	L0000005	, L0000006	, L0000007	, L0000008	, L0000009	, L0000010
L0000012	,					
	L0000013	, L0000014	, L0000015	, L0000016	, L0000017	, L0000018
L0000020	,					
	L0000021	, L0000022	, L0000023	, L0000024	, L0000025	, L0000026
. . .	,					

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

	** CONC OF DPM	IN MICROGRAMS/M**3	**
X-COORD (M) Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M) Y-COORD (M) CONC
(YYMMDDHH)			

```

- - - - -
- - - - -
      305255.60   3914282.74       0.24684 (19121608)           305768.66   3914371.73       0.45490
(21100207)
      305529.57   3914584.82       0.65937 (20101403)           305584.11   3914584.82       0.62309
(22020408)
      305641.19   3914586.72       0.59209 (22020408)           305699.53   3914582.91       0.64817
(22071906)
      305752.17   3914582.28       0.67498 (22071906)           305805.44   3914581.65       0.68262
(22071906)
      305878.37   3914563.26       0.87756 (20112108)           305436.34   3914528.37       0.57165
(22100407)
^ *** AERMOD - VERSION 21112 ***   *** C:\Lakes\AERMOD View\Projects\Temple Bakersfield\Temple Bakersfield. ***
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*** MODELOPTs:   RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD ( 43824 HRS) RESULTS ***

** CONC OF DPM           IN MICROGRAMS/M**3           **

NETWORK
GROUP ID                AVERAGE CONC                RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE
GRID-ID
- - - - -
- - -

ALL      1ST HIGHEST VALUE IS      0.13738 AT ( 305675.92, 3914484.65, 111.40, 111.40, 0.00) GC
UCART1
      2ND HIGHEST VALUE IS      0.13667 AT ( 305605.74, 3914484.65, 111.50, 111.50, 0.00) GC
UCART1

```

UCART1	3RD HIGHEST VALUE IS	0.13075 AT (	305746.10,	3914484.65,	111.60,	111.60,	0.00)	GC
UCART1	4TH HIGHEST VALUE IS	0.11052 AT (	305605.74,	3914552.64,	111.70,	111.70,	0.00)	GC
UCART1	5TH HIGHEST VALUE IS	0.10996 AT (	305675.92,	3914552.64,	111.90,	111.90,	0.00)	GC
UCART1	6TH HIGHEST VALUE IS	0.10663 AT (	305535.56,	3914484.65,	111.20,	111.20,	0.00)	GC
UCART1	7TH HIGHEST VALUE IS	0.10071 AT (	305746.10,	3914552.64,	111.90,	111.90,	0.00)	GC
UCART1	8TH HIGHEST VALUE IS	0.10028 AT (	305816.28,	3914484.65,	111.30,	111.30,	0.00)	GC
UCART1	9TH HIGHEST VALUE IS	0.09509 AT (	305535.56,	3914552.64,	111.20,	111.20,	0.00)	GC
UCART1	10TH HIGHEST VALUE IS	0.08322 AT (	305816.28,	3914552.64,	112.00,	112.00,	0.00)	GC

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

DATE

GROUP ID	NETWORK	AVERAGE CONC	(YYMMDDHH)	RECEPTOR	(XR, YR, ZELEV, ZHILL, ZFLAG)
OF TYPE	GRID-ID				

ALL HIGH 1ST HIGH VALUE IS 1.20591 ON 20112108: AT (305816.28, 3914552.64, 112.00, 112.00, 0.00) GC UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	2 Warning Message(s)
A Total of	2739 Informational Message(s)
A Total of	43824 Hours Were Processed
A Total of	1829 Calm Hours Identified
A Total of	910 Missing Hours Identified (2.08 Percent)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
ME W186 665 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 665 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

*** AERMOD Finishes Successfully ***

Appendix C:

HARP2 Output

HARP2 - HRACalc (dated 22118) 5/14/2025 1:51:14 PM - Output Log

GLCs loaded successfully

Pollutants loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: Cancer

Calculation Method: Derived

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 saved to: C:\Users\Tyler Klassen\MD Acoustics Dropbox\MD Team\Active Jobs\1293 - Terracon\2025\12932514_Temple HRA Bakersfield

HRA\Construction_CancerRisk.csv

HRA ran successfully

*HARP - HRACalc v22118 12/23/2025 3:17:55 PM - Cancer Risk - Input File: C:\Users\Tyler Klassen\MD Acoustics Dropbox\MD Team\Active Jobs\1293 - Terracon\2025\12932514_Temple HRA Bakersfield HRA\Construction_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	INH_RISK
1	1	Mitigated	9901	DieselExhPM	0.00401	7.1316E-07	1YrCancerDerived_Inh_FAH16to70	7.1316E-07
2	2	Mitigated	9901	DieselExhPM	0.03392	6.0325E-06	1YrCancerDerived_Inh_FAH16to70	6.0325E-06
3	3	Mitigated	9901	DieselExhPM	0.04603	8.1862E-06	1YrCancerDerived_Inh_FAH16to70	8.1862E-06
4	4	Mitigated	9901	DieselExhPM	0.04767	8.4779E-06	1YrCancerDerived_Inh_FAH16to70	8.4779E-06
5	5	Mitigated	9901	DieselExhPM	0.04305	7.6563E-06	1YrCancerDerived_Inh_FAH16to70	7.6563E-06
6	6	Mitigated	9901	DieselExhPM	0.04309	7.6634E-06	1YrCancerDerived_Inh_FAH16to70	7.6634E-06
7	7	Mitigated	9901	DieselExhPM	0.03709	6.5963E-06	1YrCancerDerived_Inh_FAH16to70	6.5963E-06
8	8	Mitigated	9901	DieselExhPM	0.02606	4.6347E-06	1YrCancerDerived_Inh_FAH16to70	4.6347E-06
9	9	Mitigated	9901	DieselExhPM	0.01116	1.9848E-06	1YrCancerDerived_Inh_FAH16to70	1.9848E-06
10	10	Mitigated	9901	DieselExhPM	0.02733	4.8605E-06	1YrCancerDerived_Inh_FAH16to70	4.8605E-06
11	1	Unmitigated	9901	DieselExhPM	0.02278	4.0513E-06	1YrCancerDerived_Inh_FAH16to70	4.0513E-06
12	2	Unmitigated	9901	DieselExhPM	0.19367	3.4443E-05	1YrCancerDerived_Inh_FAH16to70	3.4443E-05
13	3	Unmitigated	9901	DieselExhPM	0.26593	4.7295E-05	1YrCancerDerived_Inh_FAH16to70	4.7295E-05
14	4	Unmitigated	9901	DieselExhPM	0.27541	4.8981E-05	1YrCancerDerived_Inh_FAH16to70	4.8981E-05
15	5	Unmitigated	9901	DieselExhPM	0.24866	4.4223E-05	1YrCancerDerived_Inh_FAH16to70	4.4223E-05
16	6	Unmitigated	9901	DieselExhPM	0.24882	4.4252E-05	1YrCancerDerived_Inh_FAH16to70	4.4252E-05
17	7	Unmitigated	9901	DieselExhPM	0.21401	3.8061E-05	1YrCancerDerived_Inh_FAH16to70	3.8061E-05
18	8	Unmitigated	9901	DieselExhPM	0.14999	2.6675E-05	1YrCancerDerived_Inh_FAH16to70	2.6675E-05
19	9	Unmitigated	9901	DieselExhPM	0.06243	1.1103E-05	1YrCancerDerived_Inh_FAH16to70	1.1103E-05
20	10	Unmitigated	9901	DieselExhPM	0.15753	2.8016E-05	1YrCancerDerived_Inh_FAH16to70	2.8016E-05