

Air Quality Assessment

Ventura Springs Project

Ventura County, California

Prepared For:

A Community of Friends

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April 2021



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Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

LIST OF ACRONYMS AND ABBREVIATIONS

µg/m ³	Micrograms per cubic meter; ppm = parts per million
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
County	Ventura County
DPM	Diesel particulate matter
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen dioxide
NO _x	Nitric oxides
O ₃	Ozone
PM	Particulate matter
PM ₁₀	Coarse particulate matter
PM _{2.5}	Fine particulate matter
ppb	Parts per billion
Project	Ventura Springs Project
ROGs	Reactive organic gases
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
SO _x	Sulfur oxides
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency
VCAPCD	Ventura County Air Pollution Control District
VOCs	Volatile organic compounds

1.0 INTRODUCTION

This report documents the results of an air quality assessment completed for the Ventura Springs Project located in the City of Ventura, California. The Ventura Springs Project proposes the development of a 122-unit development that includes 120 housing units for veterans experiencing homelessness and low-incomes. The purpose of this assessment is to estimate Project-generated criteria air pollutant emissions attributable to the Project and to determine the level of impact the Project would have on the environment. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations promulgated by the Ventura County Air Pollution Control District (VCAPCD) and thresholds set by the U.S. Environmental Protection Agency (USEPA). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations.

1.1 Ventura Springs Project Description

Ventura Springs is a new construction, 122-unit development that includes 120 housing units for veterans experiencing homelessness and low-income veterans and their families plus two unrestricted managers' units. Ventura Springs will not have any market-rate units. The 122 units will be spread out around the 9.68-acre site in multiple buildings.

Fifty-four (54) units will be permanent supportive units designated for individuals experiencing homelessness. The remaining units include sixty-six (66) general affordable units that will be designated for low-income veterans and their families plus two (2) unrestricted manager units.

The site is designed to create the experience of a traditional, family-oriented neighborhood where sidewalks are activated by pedestrian pathways and residential front doors that face the street. The Project's 78 one-bedroom (~575 sq. ft.), 32 two-bedroom (~770 sq. ft.), and 12 three-bedroom (~1,225 sq. ft.) units would be dispersed throughout the site, with buildings forming clusters surrounding vibrant community courtyards with a variety of uses and activities.

Ventura Springs includes many on-site amenities for tenants. There will be a large community room with a community kitchen; a barbecue grill; tables and seating space; on-site laundry facilities; offices for case management and property management staff; 2 DIY/Workshop spaces; outdoor play areas for children, edible gardening beds; walking and bike paths; bicycle parking; computer room; private and secured entrances; and a security camera system.

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Ventura County portion of the South Central Coast Air Basin (SCCAB), which encompasses the Project site, pursuant to the regulatory authority of the VCAPCD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

2.1.1 South Central Coast Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Ventura lies in the SCCAB, which includes San Luis Obispo, Santa Barbara, and Ventura counties.

The county's climate is characterized as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, mild temperatures prevail most of the year due to the moderating influence of the Pacific Ocean. The effects of the Pacific Ocean are diminished inland by major intervening terrain features such as the coastal Santa Lucia Mountain Range. Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high-pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea.

During spring and early summer, when the Pacific High attains its greatest strength, the onshore winds pass over the cool water of the ocean, and fog and low clouds often form in the shallow marine air layer along the coast. Surface heating in the interior valleys partially dissipates this marine layer as it moves inland, although the marine layer influence is still observed inland.

In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This offshore flow, along with the diurnal alteration of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, trapping pollutants near the surface.

This effect is intensified when the Pacific High weakens or moves inland to the east and may produce a Santa Ana condition in which air, often pollutant-laden, is transported into the county from the east and southeast. This condition can occur over a period of several days until the high-pressure system returns to

its normal location, breaking the pattern. The breakup of this condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the post-Santa Ana condition lead to high ambient pollutant levels, but the pattern does play an important role in the county's air pollution meteorology.

Wintertime radiation inversions, which result from loss of surface heat to a clear, dark night sky, can severely limit vertical mixing of air pollutants emitted near the ground. In combination with smoke from open outdoor burning and the use of wood-fired stoves or fireplaces for residential heating, low wintertime radiation inversions can be a primary contributor to higher levels of particulate matter. Low inversions and burning combine to leave a smoky haze over some communities throughout much of the fall and winter.

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O₃), coarse particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects		
Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO ₂	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O ₃	Formed by a chemical reaction between volatile organic compounds (VOCs) and nitrous oxides (N ₂ O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM ₁₀ & PM _{2.5}	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO ₂	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SCCAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and

influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x , such as NO and NO_2 , attribute to the formation of O_3 and $\text{PM}_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or reactive organic gasses (ROGs) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of VOC emissions is unburned hydrocarbons in motor vehicles and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($\text{PM}_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $\text{PM}_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x , sulfur oxides (SO_x) and VOCs. $\text{PM}_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $\text{PM}_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM_{10} and $\text{PM}_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $\text{PM}_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

2.1.3 Hazardous Air Pollutants

In addition to the criteria pollutants discussed above, hazardous air pollutants (HAPs) are another group of pollutants of concern. HAPs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic HAPs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Carcinogens, such as diesel particulate matter (DPM), are considered dangerous at any level of exposure. Noncarcinogenic HAPs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of HAPs, with varying degrees of toxicity. Sources of HAPs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as DPM. Public exposure to HAPs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of HAPs include cancer, birth defects, neurological damage, and death.

2.1.4 Ambient Air Quality

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O₃, PM₁₀ and PM_{2.5} are the pollutant species most potently affecting California. As described in detail below, the Project region is designated as a nonattainment area for the federal O₃ standards (CARB 2018). The El Rio – Rio Mesa School #2 air quality monitoring station (545 Central Avenue, El Rio), located approximately 1.8 miles south of the Project site, monitors ambient concentrations of O₃, PM₁₀ and PM_{2.5}. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered “generally” representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O₃, PM₁₀ and PM_{2.5} from the El Rio – Rio Mesa School #2 monitoring station.

Table 2-2. Summary of Ambient Air Quality Data			
Pollutant Standards	2017	2018	2019
O₃- El Rio – Rio Mesa School #2			
Max 1-hour concentration (ppm)	0.084	0.072	0.078
Max 8-hour concentration (ppm) (state/federal)	0.072 / 0.071	0.062 / 0.062	0.070 / 0.070
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	1 / 1	0 / 0	0 / 0
PM₁₀- El Rio – Rio Mesa School #2			
Max 24-hour concentration (µg/m ³) (state/federal)	286.0 / 287.9	208.4 / 209.0	192.4 / 187.8
Number of days above 24-hour standard (state/federal)	29.5 / 1.0	21.0 / 2.1	* / 2.0
PM_{2.5}- El Rio – Rio Mesa School #2			
Max 24-hour concentration (µg/m ³) (state/federal)	81.3 / 81.3	41.2 / 41.2	25.5 / 25.5
Number of days above federal 24-hour standard	4.1	1.0	0.0

Source: CARB 2020a

µg/m³ = micrograms per cubic meter; ppm = parts per million

* = Insufficient data available

The USEPA designates air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O₃, PM₁₀ and PM_{2.5} and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O₃, PM₁₀, and PM_{2.5} are based on statistical calculations over one- to three-year periods, depending on the pollutant. The attainment status for the portion of the SCCAB encompassing the Project site is included in Table 2-3.

Pollutant	Federal Designation
O ₃ (1-Hour)	Nonattainment - Severe
O ₃ (8-Hour)	Nonattainment - Serious
PM ₁₀	Unclassified
PM _{2.5}	Unclassified/Attainment
CO	Unclassified/Attainment
NO ₂	Unclassified/Attainment
SO ₂	Unclassified/Attainment

Source: CARB 2018

The determination of whether an area meets the federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. The region is designated as nonattainment area for the federal O₃ standards (CARB 2018).

2.1.5 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptor to the Project site is existing Veterans Home of California immediately adjacent to the northern boundary of the Project site. There are also existing residential neighborhoods to the west and south of the Project site.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO₂) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO₂.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SCCAB for the criteria pollutants.

2.2.2 State

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. Local air districts, such as the VCAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The VCAPCD adopted the 2016 Ventura County Air Quality Management Plan (AQMP) on February 14, 2017. The 2016 AQMP presents Ventura County’s strategy (including related mandated elements) to attain the federal 8-hour O₃ standard, as required by the federal Clean Air Act Amendments of 1990 and applicable USEPA clean air regulations. Photochemical air quality modeling and related analyses indicate that Ventura County will attain the federal 8-hour O₃ standard by the early 2020’s using local, state, and federal clean air programs. Similarly, the required Reasonable Further Progress (RFP) demonstration shows that Ventura County will achieve the required annual incremental emissions reductions for the purpose of ensuring attainment. The 2016 AQMP was prepared to satisfy federal CAA planning requirements for areas designated as serious federal 8-hour O₃ nonattainment areas, including, but not limited to, updated air quality information, an updated emissions inventory, local and state air pollutant control measures, new emission forecasts and projections, a new federal conformity budget for transportation projects, a reasonable further progress demonstration for precursors of O₃ (reactive organic gases and nitrogen

oxides), a demonstration that Ventura County will attain the 2008 federal 8-hour O₃ standard, and contingency measures.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on thresholds set by the USEPA Conformity Determination Analysis. The General Conformity process begins with an “applicability analysis,” whereby it must be determined how and to what degree the Conformity Rules apply. According to USEPA’s General Conformity Guidance: Questions and Answers (1994), before any approval is given for a Federal Action to go forward, the federal agency must apply the applicability requirements found at 40 CFR § 93.153 to the Federal Action and/or determine on a pollutant-by-pollutant basis, whether a determination of General Conformity is required. During the applicability analysis, the federal agency determines the following:

- Whether the action will occur in a nonattainment or maintenance area;
- Whether one or more of the specific exemptions apply to the action;
- Whether the federal agency has included the action on its list of presumed-to-conform actions;
- Whether the total direct and indirect emissions are below or above the de minimis levels; and/or
- Where a facility has an emissions budget approved by the State or Tribe as part of the SIP or TIP, the federal agency determines that the emissions from the proposed action are within the budget.

The General Conformity Rule allows for exemptions for emissions that are not reasonably foreseeable, will not result in an increase in emissions, are below de minimis limits, are the result of emergency actions, are included in stationary source air permits, are for routine maintenance and repair of existing structures, or are included in a transportation conformity determination undertaken by the Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) (40 CFR 93.153(c)).

A conformity determination would be required if the annual emissions of non-attainment pollutants generated by the proposed Project were to exceed the General Conformity de minimis thresholds. The de minimis limits represent a level of emissions that the USEPA has determined will have only de minimis impacts to the air quality of an area and are thus exempted from the General Conformity Rule. If the overall predicted increase in emissions of a criteria pollutant due to a federal action in a nonattainment area (NAA) exceeds the de minimis limits as shown in Table 2-4, the lead federal agency is required to make a conformity determination.

Table 2-4. Federal General Conformity *De Minimis* Emissions Levels

Pollutant	Area Type	Tons/Year
Ozone (VOC or NO _x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside of ozone transport region	100
Ozone (NO _x)	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
CO, SO ₂ and NO ₂	All nonattainment and maintenance	100
PM ₁₀	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
PM _{2.5}	All nonattainment and maintenance	100
Lead	All nonattainment and maintenance	25

Source: USEPA 2020

2.3.2 Methodology

The air quality impacts were assessed in accordance with the thresholds set by the USEPA Conformity Determination Analysis. General Conformity ensures that the actions taken by federal agencies do not interfere with a state’s plans to attain and maintain national standards for air quality. Established under the CAA (section 176(c)(4)), the General Conformity rule plays an important role in helping states improve air quality in those areas that do not meet the NAAQS. Under the General Conformity rule, federal agencies must work with state and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The overall purpose of the General Conformity rule is to ensure that:

- federal activities do not cause or contribute to new violations of NAAQS;
- actions do not worsen existing violations of the NAAQS; and
- attainment of the NAAQS is not delayed.

The proposed Project region is designated as attainment or unclassified for all federal criteria pollutants except O₃, for which the region is in severe nonattainment for the one-hour O₃ standard and serious nonattainment for the eight-hour O₃ standard.

Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. CalEEMod provides the ability to analyze a project based on both California and federal air quality standards. Project construction-generated and operational air pollutant emissions were primarily calculated using CalEEMod model defaults for Ventura County.

2.3.3 Impact Analysis

Project Construction

Construction associated with the proposed Project would generate short-term emissions of criteria air pollutants, including VOC, CO, NO_x, PM₁₀, and PM_{2.5}. Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the Project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact.

As previously stated, construction-generated emissions associated with the proposed Project were calculated using the CalEEMod computer program. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Conformity Determination thresholds.

Table 2-5. Construction-Related Emissions (USEPA Conformity Determination Analysis)						
Implementation Year	Maximum Pollutants (tons per year)					
	VOC	NO_x	CO	SO₂	PM₁₀	PM_{2.5}
Construction First Year	0.16	1.48	1.46	0.02	0.28	0.16
Construction Second Year	0.84	0.91	1.11	0.02	0.08	0.05
<i>USEPA Conformity Determination Thresholds (40 CFR 93.153)</i>	<i>50 tons/year</i>	<i>50 tons/year</i>	<i>100 tons/year</i>	<i>100 tons/year</i>	<i>100 tons/year</i>	<i>100 tons/year</i>
Exceed USEPA Conformity Threshold?	No	No	No	No	No	No

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

As shown in Table 2-3, Project emissions resulting from construction would not exceed the USEPA Conformity Determination thresholds.

Project Operations

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM₁₀, PM_{2.5}, CO, and SO₂ as well as O₃ precursors such as ROG and NO_x. Project-generated increases in emissions would be predominantly associated with motor vehicle and area uses. Table 2-6 summarizes operational emissions from the proposed Project.

As previously stated, operational related emissions associated with the proposed Project were calculated using the CalEEMod computer program. Operational air pollution impacts were based on model defaults, assumptions and information provided by the Project applicant.

Table 2-6. Operational-Related Emissions (USEPA Conformity Determination Analysis)						
Emission Source	Pollutant (tons per year)					
	VOC	NO_x	CO	SO₂	PM₁₀	PM_{2.5}
Area	0.61	0.01	0.91	0.00	0.02	0.00
Energy	0.01	0.07	0.03	0.00	0.00	0.00
Mobile	0.08	0.31	1.02	0.00	0.36	0.11
Total:	0.70	0.39	1.96	0.00	0.38	0.11
<i>EPA Conformity Determination Thresholds (40 CFR 93.153)</i>	100	100	100	100	100	100
Exceed EPA Conformity Determination Thresholds?	No	No	No	No	No	No

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

As indicated in Table 2-4, operational emissions would not exceed the USEPA Conformity Determination thresholds.

Conflict with an Applicable Air Quality Management Plan

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. The Ventura County portion of the SIP is constituted of air quality attainment plans approved by the USEPA. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. As previously mentioned, the Ventura County portion of the SCCAB is designated as nonattainment area for the federal O₃ standards.

The 2016 Ventura County AQMP is the most recent air quality planning document covering Ventura County. The 2016 AQMP was prepared to satisfy federal CAA planning requirements for areas designated as serious federal 8-hour O₃ nonattainment areas, including, but not limited to, updated air quality information, an updated emissions inventory, local and state air pollutant control measures, new emission

forecasts and projections, a new federal conformity budget for transportation projects, a reasonable further progress demonstration for precursors of O₃ (reactive organic gases and nitrogen oxides), a demonstration that Ventura County will attain the 2008 federal 8-hour O₃ standard, and contingency measures.

Consistency with the 2016 AQMP means that a project is consistent with the goals, objectives, and assumptions set forth in the 2016 AQMP that are designed to achieve federal air quality standards. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions and updated emission inventory methodologies for various source categories. Project consistency with the 2016 AQMP can be determined by comparing the actual population growth in the region with the projected growth rates used in the 2016 AQMP. The projected growth rate in population is used as an indicator of future emissions from population-related emission categories in the 2016 AQMP. These emission estimates are used, in part, to estimate the date by which the region will attain the federal O₃ standard. The Project is consistent with the City General Plan land use designation for the site, and therefore consistent with the projected population growth for the region. As such, the Project would not increase population figures over those that have been planned for the area and would not result in a long-term impact on the region's ability to meet federal air quality standards. Therefore, the proposed Project is considered consistent with the VCAPCD's 2016 AQMP.

3.0 REFERENCES

CAPCOA. 2017. California Emissions Estimator Model (CalEEMod), version 2016.3.2.

_____. 2013. Health Effects. <http://www.capcoa.org/health-effects/>.

CARB. 2020. Air Quality Data Statistics. <http://www.arb.ca.gov/adam/index.html>.

_____. 2018. State and Federal Area Designation Maps. <http://www.arb.ca.gov/desig/adm/adm.htm>.

USEPA. 2020. De Minimis Tables. <https://www.epa.gov/general-conformity/de-minimis-tables>

_____. 1994. Guidance on the General Conformity Regulations.

LIST OF ATTACHMENTS

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Ventura Springs - Ventura County, Annual

Ventura Springs Home
Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	122.00	Dwelling Unit	9.26	122,000.00	373
Parking Lot	21.00	Space	0.19	8,400.00	0
General Office Building	10.00	1000sqft	0.23	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site = 9.68 acres

Construction Phase -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	7/18/2022	7/18/2023
tblConstructionPhase	PhaseEndDate	5/23/2022	5/23/2023
tblConstructionPhase	PhaseEndDate	7/5/2021	7/5/2022
tblConstructionPhase	PhaseEndDate	6/20/2022	6/20/2023
tblConstructionPhase	PhaseEndDate	6/7/2021	6/7/2022
tblConstructionPhase	PhaseStartDate	6/21/2022	6/21/2023
tblConstructionPhase	PhaseStartDate	7/6/2021	7/6/2022
tblConstructionPhase	PhaseStartDate	6/8/2021	6/8/2022
tblConstructionPhase	PhaseStartDate	5/24/2022	5/24/2023
tblConstructionPhase	PhaseStartDate	5/25/2021	5/25/2022
tblLandUse	LotAcreage	24.40	9.26

2.0 Emissions Summary

Ventura Springs - Ventura County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	4-27-2022	7-26-2022	0.5552	0.5552
6	7-27-2022	10-26-2022	0.6345	0.6345
7	10-27-2022	1-26-2023	0.6198	0.6198
8	1-27-2023	4-26-2023	0.5652	0.5652
9	4-27-2023	7-26-2023	1.0372	1.0372
		Highest	1.0372	1.0372

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						
Energy	8.8900e-003	0.0762	0.0343	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						
Mobile	0.0807	0.3046	1.0223	3.7600e-003	0.3668	2.8400e-003	0.3696	0.0981	2.6400e-003	0.1007						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	0.7069	0.3912	1.9630	4.2900e-003	0.3668	0.0140	0.3808	0.0981	0.0138	0.1119						

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						
Energy	8.8900e-003	0.0762	0.0343	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						
Mobile	0.0807	0.3046	1.0223	3.7600e-003	0.3668	2.8400e-003	0.3696	0.0981	2.6400e-003	0.1007						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	0.7069	0.3912	1.9630	4.2900e-003	0.3668	0.0140	0.3808	0.0981	0.0138	0.1119						

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/25/2022	6/7/2022	5	10	
2	Grading	Grading	6/8/2022	7/5/2022	5	20	
3	Building Construction	Building Construction	7/6/2022	5/23/2023	5	230	
4	Paving	Paving	5/24/2023	6/20/2023	5	20	
5	Architectural Coating	Architectural Coating	6/21/2023	7/18/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.19

Residential Indoor: 247,050; Residential Outdoor: 82,350; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 504 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	95.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497						
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003						
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0903	8.0600e-003	0.0984	0.0497	7.4200e-003	0.0571						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	2.9000e-004	1.8000e-004	2.0500e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						
Total	2.9000e-004	1.8000e-004	2.0500e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						

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3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497						
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003						
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0903	8.0600e-003	0.0984	0.0497	7.4200e-003	0.0571						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	2.9000e-004	1.8000e-004	2.0500e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						
Total	2.9000e-004	1.8000e-004	2.0500e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						

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3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337						
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003						
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0655	9.4100e-003	0.0749	0.0337	8.6600e-003	0.0423						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.9000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						
Total	4.9000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						

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3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337						
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003						
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0655	9.4100e-003	0.0749	0.0337	8.6600e-003	0.0423						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.9000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						
Total	4.9000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						

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3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1092	0.9994	1.0473	1.7200e-003		0.0518	0.0518		0.0487	0.0487						
Total	0.1092	0.9994	1.0473	1.7200e-003		0.0518	0.0518		0.0487	0.0487						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	2.7500e-003	0.0939	0.0255	2.6000e-004	6.8200e-003	2.4000e-004	7.0600e-003	1.9700e-003	2.3000e-004	2.2000e-003						
Worker	0.0198	0.0123	0.1384	4.3000e-004	0.0490	3.4000e-004	0.0494	0.0130	3.1000e-004	0.0133						
Total	0.0225	0.1062	0.1639	6.9000e-004	0.0558	5.8000e-004	0.0564	0.0150	5.4000e-004	0.0155						

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3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1092	0.9994	1.0473	1.7200e-003		0.0518	0.0518		0.0487	0.0487						
Total	0.1092	0.9994	1.0473	1.7200e-003		0.0518	0.0518		0.0487	0.0487						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	2.7500e-003	0.0939	0.0255	2.6000e-004	6.8200e-003	2.4000e-004	7.0600e-003	1.9700e-003	2.3000e-004	2.2000e-003						
Worker	0.0198	0.0123	0.1384	4.3000e-004	0.0490	3.4000e-004	0.0494	0.0130	3.1000e-004	0.0133						
Total	0.0225	0.1062	0.1639	6.9000e-004	0.0558	5.8000e-004	0.0564	0.0150	5.4000e-004	0.0155						

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3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0802	0.7336	0.8284	1.3700e-003		0.0357	0.0357		0.0336	0.0336						
Total	0.0802	0.7336	0.8284	1.3700e-003		0.0357	0.0357		0.0336	0.0336						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	1.6200e-003	0.0569	0.0184	2.0000e-004	5.4300e-003	7.0000e-005	5.5100e-003	1.5700e-003	7.0000e-005	1.6400e-003						
Worker	0.0149	8.8400e-003	0.1018	3.3000e-004	0.0391	2.6000e-004	0.0393	0.0104	2.4000e-004	0.0106						
Total	0.0165	0.0657	0.1202	5.3000e-004	0.0445	3.3000e-004	0.0448	0.0120	3.1000e-004	0.0123						

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3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0802	0.7336	0.8284	1.3700e-003		0.0357	0.0357		0.0336	0.0336						
Total	0.0802	0.7336	0.8284	1.3700e-003		0.0357	0.0357		0.0336	0.0336						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	1.6200e-003	0.0569	0.0184	2.0000e-004	5.4300e-003	7.0000e-005	5.5100e-003	1.5700e-003	7.0000e-005	1.6400e-003						
Worker	0.0149	8.8400e-003	0.1018	3.3000e-004	0.0391	2.6000e-004	0.0393	0.0104	2.4000e-004	0.0106						
Total	0.0165	0.0657	0.1202	5.3000e-004	0.0445	3.3000e-004	0.0448	0.0120	3.1000e-004	0.0123						

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3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						
Paving	2.5000e-004					0.0000	0.0000		0.0000	0.0000						
Total	0.0106	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.6000e-004	2.7000e-004	3.1500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						
Total	4.6000e-004	2.7000e-004	3.1500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						

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3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						
Paving	2.5000e-004					0.0000	0.0000		0.0000	0.0000						
Total	0.0106	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.6000e-004	2.7000e-004	3.1500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						
Total	4.6000e-004	2.7000e-004	3.1500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004						

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3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7390					0.0000	0.0000		0.0000	0.0000						
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004						
Total	0.7410	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004						

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	5.8000e-004	3.5000e-004	3.9900e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004						
Total	5.8000e-004	3.5000e-004	3.9900e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004						

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3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7390					0.0000	0.0000		0.0000	0.0000						
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004						
Total	0.7410	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004						

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	5.8000e-004	3.5000e-004	3.9900e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004						
Total	5.8000e-004	3.5000e-004	3.9900e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004						

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0807	0.3046	1.0223	3.7600e-003	0.3668	2.8400e-003	0.3696	0.0981	2.6400e-003	0.1007						
Unmitigated	0.0807	0.3046	1.0223	3.7600e-003	0.3668	2.8400e-003	0.3696	0.0981	2.6400e-003	0.1007						

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Retirement Community	292.80	247.66	237.90	769,539	769,539
General Office Building	110.30	24.60	10.50	200,261	200,261
Total	403.10	272.26	248.40	969,801	969,801

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.593330	0.040945	0.188012	0.107577	0.017981	0.006204	0.019981	0.018142	0.001176	0.001026	0.003857	0.000384	0.001386
Retirement Community	0.593330	0.040945	0.188012	0.107577	0.017981	0.006204	0.019981	0.018142	0.001176	0.001026	0.003857	0.000384	0.001386
General Office Building	0.593330	0.040945	0.188012	0.107577	0.017981	0.006204	0.019981	0.018142	0.001176	0.001026	0.003857	0.000384	0.001386

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						
NaturalGas Mitigated	8.8900e-003	0.0762	0.0343	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						
NaturalGas Unmitigated	8.8900e-003	0.0762	0.0343	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	91400	4.9000e-004	4.4800e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004						
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Retirement Community	1.55667e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003						
Total		8.8800e-003	0.0762	0.0343	4.9000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	91400	4.9000e-004	4.4800e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004						
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Retirement Community	1.55667e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003						
Total		8.8800e-003	0.0762	0.0343	4.9000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003						

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	139900				
Parking Lot	2940				
Retirement Community	530806				
Total					

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	139900				
Parking Lot	2940				
Retirement Community	530806				
Total					

6.0 Area Detail

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6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						
Unmitigated	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0739					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.5161					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	0.0273	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						
Total	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0739					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.5161					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	0.0273	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						
Total	0.6173	0.0105	0.9064	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003						

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				
Unmitigated				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.77734 / 1.08934				
Parking Lot	0 / 0				
Retirement Community	7.94879 / 5.01119				
Total					

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.77734 / 1.08934				
Parking Lot	0 / 0				
Retirement Community	7.94879 / 5.01119				
Total					

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3				
Parking Lot	0				
Retirement Community	56.12				
Total					

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	9.3				
Parking Lot	0				
Retirement Community	56.12				
Total					

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
