



Discovery Village Greenhouse Gas Analysis City of Murrieta

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LIST OF ABBREVIATED TERMS

| | |
|---------------------------------|--|
| % | percent |
| °F | degrees Fahrenheit |
| AB | Assembly Bill |
| AB 1881 | California Water Conservation in Landscaping Act of 2006 |
| AB 32 | Global Warming Solutions Act of 2006 |
| ACC | Advanced Clean Cars |
| C ₂ F ₆ | hexafluoroethane |
| C ₂ H ₆ | ethane |
| CAA | Clean Air Act |
| CAFE | Corporate Average Fuel Economy |
| CalEEMod | California Emissions Estimator Model |
| CalEPA | California Environmental Protection Agency |
| CALGAPS | California LBNL GHG Analysis of Policies Spreadsheet |
| CALGreen | California Green Building Standards Code |
| CalSTA | California State Transportation Agency |
| Caltrans | California Department of Transportation |
| CAP | Climate Action Plan |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resource Board |
| CCR | California Code of Regulations |
| CDFA | Department of Food and Agriculture |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| CF ₄ | tetrafluoromethane |
| CFCs | Chlorofluorocarbons |
| CH ₂ FCF | 1,1,1,2-tetrafluoroethane |
| CH ₃ CF ₂ | 1,1-difluoroethane |
| CH ₄ | methane |
| CHF ₃ | fluoroform |
| CNRA | California Natural Resources Agency |
| CNRA 2009 | 2009 California Climate Adaptation Strategy |
| CO ₂ | carbon dioxide |
| CO ₂ e | CO ₂ equivalent |
| CPUC | California Public Utility Commission |
| CTC | California Transportation Commission |
| EMFAC | EMissions FACtor model |

| | |
|-------------------------|--|
| EPA | U.S. Environmental Protection Agency |
| EV | electric vehicles |
| GCC | Global Climate Change |
| GHG | greenhouse gas |
| GHGA | Discovery Village Greenhouse Gas Analysis |
| GO-Biz | Governor’s Office of Business and Economic Development |
| GWP | global warming potential |
| HDT | heavy-duty trucks |
| HFCs | hydrofluorocarbons |
| IPCC | Intergovernmental Panel on Climate Change |
| IRP | Integrated Resource Planning |
| LBNL | Lawrence Berkeley National Laboratory |
| lbs | pounds |
| LCA | life-cycle analysis |
| LCFS | Low Carbon Fuel Standard |
| MD | medium duty |
| MMT CO ₂ e | million metric tons of CO ₂ e |
| Mpg | miles per gallon |
| MT | metric tons |
| MT CO ₂ | metric tons of CO ₂ e |
| MT CO ₂ e/yr | MT CO ₂ e per year |
| /yr | per year |
| MW | megawatts |
| MWELO | Model Water Efficient Landscape Ordinance |
| MWh | MW-hour |
| MY | model year |
| N ₂ O | nitrous oxide |
| NF ₃ | Nitrogen Trifluoride |
| NHTSA | National Highway Traffic Safety Administration |
| NIOSH | National Institute for Occupational Safety and Health |
| PFCs | perfluorocarbons |
| Ppb | parts per billion |
| Ppm | parts per million |
| Ppt | parts per trillion |
| Project | Discovery Village Project |
| SAFE Rule | <i>Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks</i> |
| SB | Senate Bill |

| | |
|-----------------|---|
| SB 1078 | Renewable Portfolio Standards |
| SB 1368 | Retail Provider Emissions Performance Standards |
| SB 32 | California Global Warming Solutions Act of 2006 |
| SCAB | South Coast Air Basin |
| SCAQMD | South Coast Air Quality Management District |
| SF ₆ | sulfur hexafluoride |
| SGC | Strategic Growth Council |
| SP | service population |
| U.S. Court | United States Supreme Court |
| VMT | vehicle miles traveled |
| WCI | Western Climate Initiative |
| WRI | World Resources Institute |
| ZEV | zero-emission vehicles |

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this Discovery Village Greenhouse Gas Analysis (GHGA) is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for potential greenhouse gas (GHG) impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

| Analysis | Report Section | Significance Findings | |
|--|----------------|------------------------------|------------|
| | | Unmitigated | Mitigated |
| GHG Impact #1: Would the Project generate direct or indirect GHG emission that would result in a significant impact on the environment? | 3.8 | <i>Less Than Significant</i> | <i>N/A</i> |
| GHG Impact #2: Would the Project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs? | 3.8 | <i>Less Than Significant</i> | <i>N/A</i> |

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill (SB) 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations (CCR)). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10% less by 2020 (7).
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010, to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent (%) by 2010 and 33% by 2020 (10).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, and therefore are accounted for in the Project's emission calculations.

1 INTRODUCTION

This report presents the results of the Greenhouse Gas Analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Discovery Village Project (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and disclose the level of GHG impacts as a result of constructing and operating the proposed Project.

1.1 SITE LOCATION

This report presents the results of the GHGA for the proposed Discovery Village (“Project”), which is located east of Interstate 215 (I-215), at the southwest corner of Whitewood Road and Baxter Road in the City of Murrieta. The Project’s location in relation to the surrounding area is shown on Exhibit 1-A.

The Project site is surrounded by residential land uses, health care land uses, commercial land uses, and open space, with the nearest residential land use is north of the Project site across Baxter Road. Residential land uses are located to the north and northwest across Baxter Road. The Loma Linda University Health facility and Compass Health Rehabilitation are located to the northwest and southeast of the Project site respectively. The recently adopted General Plan designates the eastern portion of the Project site for “Multiple-Family Residential (10.1-30 dwelling units per acre),” and designates the western portion of the Project site located west of the future alignment of Warm Springs Road for “Innovation (0.6-2.5 FAR)” land uses.

The eastern portion of the Project site is zoned MF-2 (Multi-Family Residential 2) District, with an allowable density range of 15.1 to 18 dwelling units per net acre. The western portion of the site is zoned “Innovation”.

1.2 PROJECT DESCRIPTION

The Project involves consideration of Tentative Tract Map (TTM) No. 38228 (eight individual parcels) (refer to Exhibit 1-B), and associated grading and infrastructure installation (55.8 gross acres) to facilitate future development of the Project site compliant with current General Plan and zoning designations. A portion of the Project site would be preserved as open space. For purposes of analysis, and based on existing General Plan and zoning designations, it is anticipated that future development at the Project site could include: business park uses and commercial uses on Lot 1 through Lot 3 (18.8 gross acres/16.53 net acres), consistent with the “Innovation” land use designation; and multifamily (low-rise) housing units (condo) and single family detached residential dwelling units on Lot 4 through Lot 8 (28.55 net acres), consistent with the existing General Plan land use designation and zoning (MF-2, Multi-Family Residential). This analysis assumes that future development associated with the Project would consist of 199 multifamily (low-rise) housing units (condo), 237 single family detached residential dwelling units, 267,000 square feet (sf) of business park use, and 5,000 sf of commercial use. The Project would also involve site-adjacent roadway improvements. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2027. The proposed Project is

anticipated to generate 7,104 two-way trips per day, with 618 AM peak hour trips and 675 PM peak hour trips.

EXHIBIT 1-A: LOCATION MAP

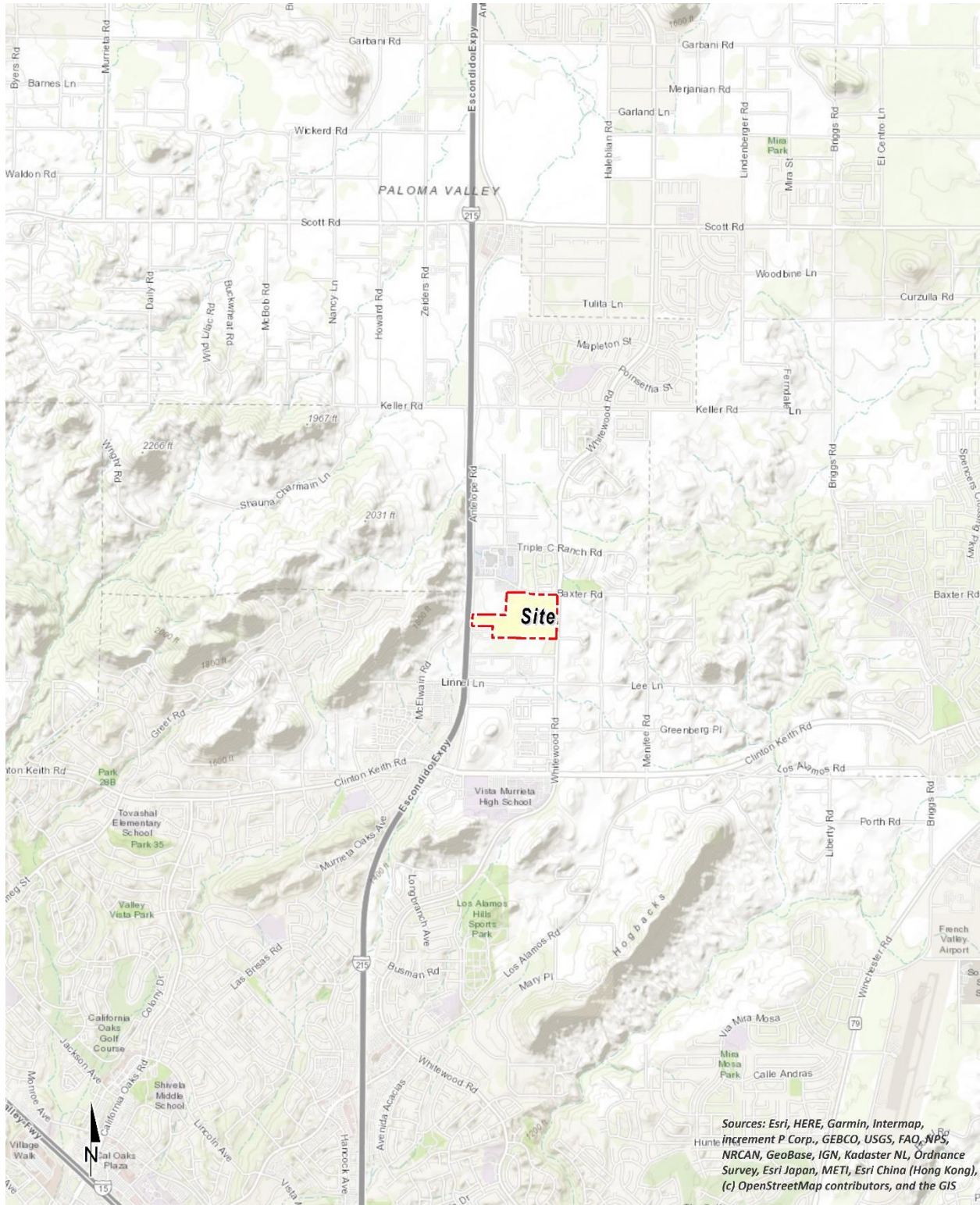
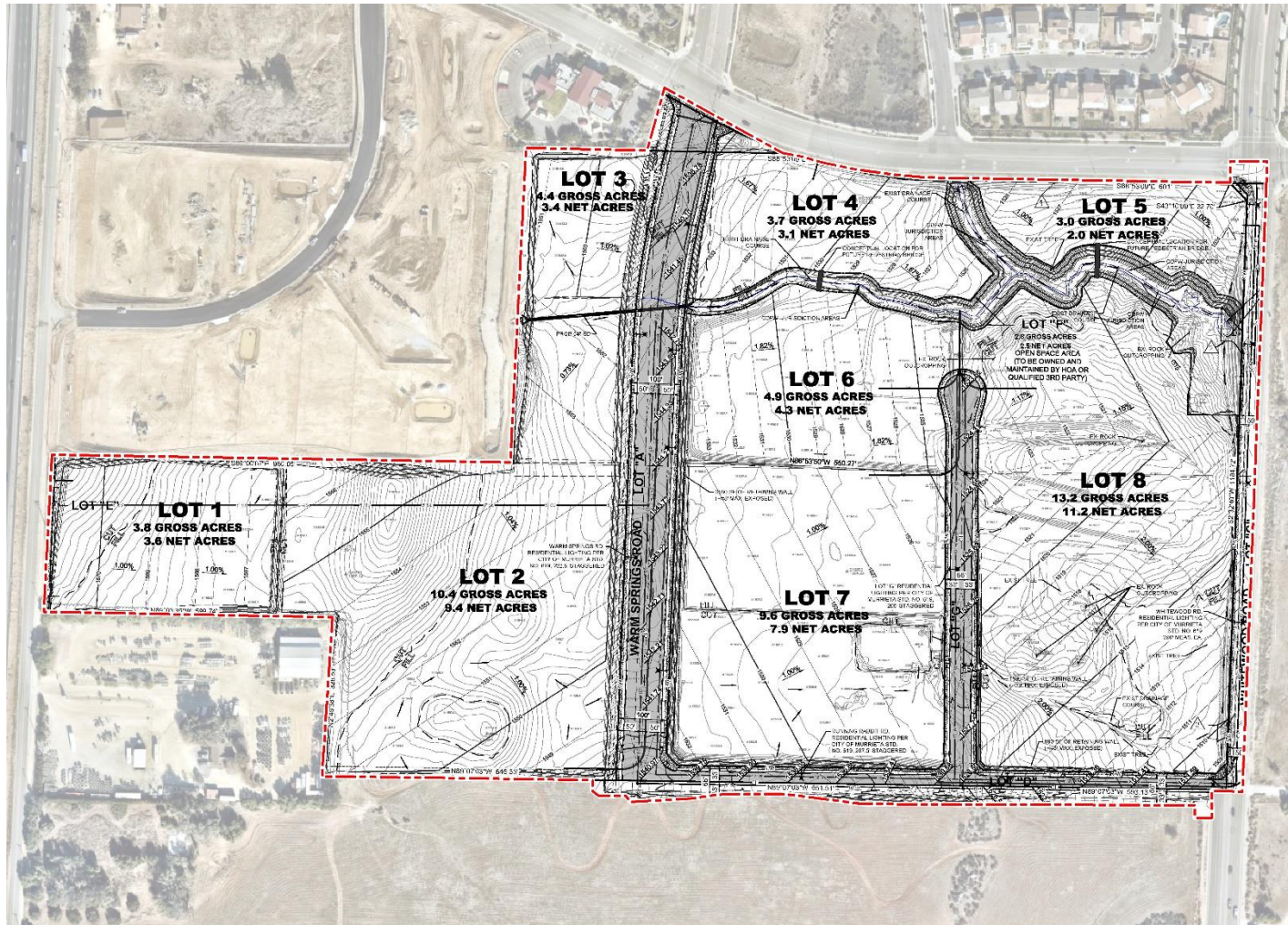


EXHIBIT 1-B: TENTATIVE TRACT MAP



LEGEND:
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 Site Boundary

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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential cumulative contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GREENHOUSE GASES

GREENHOUSE GASES AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO₂, CH₄, and N₂O were evaluated (see Table 3-1 later in

this report) because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GREENHOUSE GASES

| Greenhouse Gases | Description | Sources | Health Effects |
|------------------|--|---|--|
| Water | <p>Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.</p> <p>As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold</p> | <p>The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.</p> | <p>There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.</p> |

TABLE 2-1: GREENHOUSE GASES

| Greenhouse Gases | Description | Sources | Health Effects |
|------------------|--|--|---|
| | <p>more water vapor and so on and so on. This is referred to as a “positive feedback loop.” The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth’s surface and heat it up) (12).</p> | | |
| CO ₂ | <p>CO₂ is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO₂ concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO₂ in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (13).</p> | <p>CO₂ is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO₂ is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (14).</p> | <p>Outdoor levels of CO₂ are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO₂ can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO₂ in the earth’s atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000</p> |

TABLE 2-1: GREENHOUSE GASES

| Greenhouse Gases | Description | Sources | Health Effects |
|------------------|---|--|---|
| | | | ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (15). |
| CH ₄ | CH ₄ is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO ₂ and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. | CH ₄ has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH ₄ . Other anthropogenic sources include fossil-fuel combustion and biomass burning (16). | CH ₄ is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH ₄ can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate. |
| N ₂ O | N ₂ O, also known as laughing gas, is a colorless GHG. Concentrations of N ₂ O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). | N ₂ O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power | N ₂ O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (17). |

TABLE 2-1: GREENHOUSE GASES

| Greenhouse Gases | Description | Sources | Health Effects |
|----------------------------|---|--|--|
| | | <p>plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N₂O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (17).</p> | |
| Chlorofluorocarbons (CFCs) | <p>CFCs are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).</p> | <p>CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that</p> | <p>In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.</p> |

TABLE 2-1: GREENHOUSE GASES

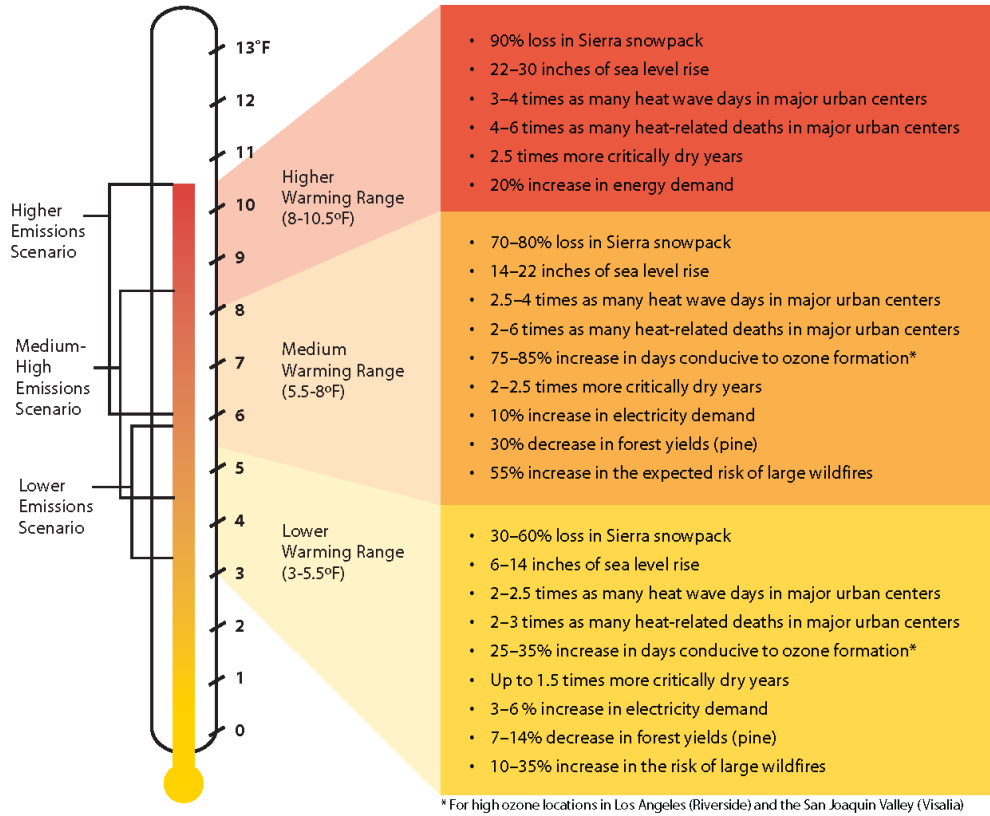
| Greenhouse Gases | Description | Sources | Health Effects |
|------------------|---|--|--|
| | | some of the CFCs will remain in the atmosphere for over 100 years (18). | |
| HFCs | HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), fluoroform (CHF ₃), 1,1,1,2-tetrafluoroethane (CH ₂ FCF), and 1,1-difluoroethane (CH ₃ CF ₂). Prior to 1990, the only significant emissions were of CHF ₃ . CH ₂ FCF emissions are increasing due to its use as a refrigerant. | HFCs are manmade for applications such as automobile air conditioners and refrigerants. | No health effects are known to result from exposure to HFCs. |
| PFCs | PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have exceedingly long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF ₄) and hexafluoroethane (C ₂ F ₆). The EPA estimates that concentrations of CF ₄ in the atmosphere are over 70 parts per trillion (ppt). | The two main sources of PFCs are primary aluminum production and semiconductor manufacture. | No health effects are known to result from exposure to PFCs. |
| SF ₆ | SF ₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (19). The EPA indicates that | SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, | In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. |

TABLE 2-1: GREENHOUSE GASES

| Greenhouse Gases | Description | Sources | Health Effects |
|---|--|--|---|
| | concentrations in the 1990s were about 4 ppt. | in semiconductor manufacturing, and as a tracer gas for leak detection. | |
| Nitrogen Trifluoride (NF ₃) | NF ₃ is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF ₃ has a 100-year GWP of 17,200 (20). | NF ₃ is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display panels, types of solar panels, and chemical lasers. | Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (21). |

The potential health effects related directly to the emissions of CO₂, CH₄, and N₂O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also hypothesize that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (22). Exhibit 2-A presents the potential impacts of global warming (23).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



*For high ozone locations in Los Angeles (Riverside) and the San Joaquin Valley (Visalia)

Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO₂ is utilized as the reference gas for GWP, and thus has a GWP of 1. CO₂ equivalent (CO₂e) is a term used for describing the difference GHGs in a common unit. CO₂e signifies the amount of CO₂ which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO₂ to 23,900 for SF₆ and GWP for the IPCC's 5th Assessment Report range from 1 for CO₂ to 23,500 for SF₆ (24).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

| Gas | Atmospheric Lifetime (years) | Global Warming Potential (100-year time horizon) | |
|-----------------|------------------------------|--|-----------------------------------|
| | | Second Assessment Report | 5 th Assessment Report |
| CO ₂ | See* | 1 | 1 |

| | | | |
|------------------|-------|--------|--------|
| CH ₄ | 12.4 | 21 | 28 |
| N ₂ O | 121 | 310 | 265 |
| HFC-23 | 222 | 11,700 | 12,400 |
| HFC-134a | 13.4 | 1,300 | 1,300 |
| HFC-152a | 1.5 | 140 | 138 |
| SF ₆ | 3,200 | 23,900 | 23,500 |

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GREENHOUSE GAS EMISSIONS INVENTORIES

STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the U.S. emissions inventory total (25). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2020 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2018 In 2018, emissions from GHG emitting activities statewide were 425 million metric tons of carbon dioxide equivalent (MMT CO₂e), 0.8 MMT CO₂e higher than 2017 levels and 6 MMT CO₂e below the 2020 GHG Limit of 431 MMT CO₂e. (MMT CO₂e/yr) (26).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

WATER RESOURCES

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months.

Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower

warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

FEDERAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG Endangerment. In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (U.S. Court) found that four GHGs, including CO₂, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (27).

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 U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards would cut CO₂ 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 EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO₂ in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO₂ emissions and fuel consumption by the 2018 model year. For HDT 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% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the Model Year (MY) 2022-2025 GHG standards are not appropriate and should be revised (28). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO₂ standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Rule which increased stringency of CAFE and CO₂ emissions standards by 1.5% each year through model year 2026 (29).

As of January 2021, Executive Order 13990 directed the U.S. Environmental Protection Agency (EPA) to reconsider the Agency's 2019 action titled "The Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program Rule (SAFE-1)" for the purposes of rescinding the action taken by the prior administration. Therefore the U.S. EPA is seeking public comment on its reconsideration of the SAFE-1 and is reviewing public comment on the Notice of Reconsideration (30).

Mandatory Reporting of GHGs. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons (MT) per year (/yr) or more of GHG emissions are required to submit annual reports to the EPA.

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

"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."

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

Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO₂ for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO₂ per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the U.S. Court issued a stay of this regulation pending litigation. Additionally, the EPA Administrator also signed a measure to repeal the Clean Power Plan, including the CO₂ standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued

the final Affordable Clean Energy rule. Under the Affordable Clean Energy rule, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

Cap-and-Trade. Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N₂O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO₂ emissions from power plants, auctions CO₂ emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it successfully reached the 2020 emissions goal initiative set in 2007, SB 32, requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SmartWay Program. The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (31):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with

a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

CALIFORNIA

Legislative Actions to Reduce GHGs

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

AB 32. The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met¹). GHGs as defined under AB 32 include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The CARB is the state agency charged with monitoring and regulating sources of GHGs. 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

¹ Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 MMT CO₂e (26). This is less than the 2020 emissions target of 431 MMT CO₂e.

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.”

SB 32. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (11).

CARB Scoping Plan Update. In November 2017, CARB released the *Final 2017 Scoping Plan Update*, which identifies the State’s post-2020 reduction strategy. The *Final 2017 Scoping Plan Update* reflected the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update built upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH₄ emissions from agricultural and other wastes.

The *Final 2017 Scoping Plan Update* established a new emissions limit of 260 MMT CO_{2e} for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (32).

California’s climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH₄, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California’s local districts to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *Final 2017 Scoping Plan Update* framework included:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH₄ and hydrofluorocarbon emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.

- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

Note, however, that the *Final 2017 Scoping Plan Update* acknowledged that:

“[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.”

In addition to the statewide strategies listed above, the *Final 2017 Scoping Plan Update* also identifies local governments as essential partners in achieving the State’s long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO₂e (MT CO₂e) or less per capita by 2030 and 2 MT CO₂e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State’s long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or a performance-based metric using a Climate Action Plan (CAP) or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 MT CO₂e per year (MT CO₂e/yr), indicating that “even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32].” CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State’s 80% reduction goal by 2050, various combinations of policies could allow California’s cumulative emissions to remain very low through 2050 (33) (34).

Cap-and-Trade Program. The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG

emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 MT CO₂e/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 MT CO₂e/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule).

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each MT CO₂e of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (35).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative." (36)

The Cap-and-Trade Program covered approximately 80% of California's GHG emissions (32). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

SB 375 – the Sustainable Communities and Climate Protection Act of 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the

following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493. California AB 1493 required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22% reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30% reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program or the Advanced Clean Cars program (ACC). The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles (EV) and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350— Clean Energy and Pollution Reduction Act of 2015. SB 350 required an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

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

Executive Order B-55-18 and SB 100. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Executive Order S-3-05. Executive Order S-3-05 set the following reduction targets for GHG emissions:

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

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. AB 32 as adopted enacts the 2020 GHG reduction goal identified in this Executive Order. However, the Legislature did not include the 2050 GHG reduction goal.

Executive Order S-01-07 – Low Carbon Fuel Standard. Executive Order S-01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. The CARB adopted the LCFS on April 23, 2009.

In 2018, the CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included 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 (37).

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

Executive Order B-30-15. Executive Order B-30-15 sets an interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMT CO₂e. The Order also requires the state’s climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. However, SB 32 as adopted enacts the 2030 GHG reduction goal identified in this Executive Order but not the 2050 GHG reduction goal.

CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations, contained in the California Code of Regulations (CCR), have kept California’s energy consumption relatively flat even with rapid population growth.

Title 20 CCR. CCR, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards and California Green Building Standards. California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect in 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) and air pollutant emissions. The 2022 version of Title 24 was adopted by the CEC and will be effective on January 1, 2023.

The 2022 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2022 Title 24 standards require solar photovoltaic systems for new homes, encourage the use of heat pumps for space and water heating, and require homes to be electric-ready to ease the adoption of cleaner electric heating, cooking, and EV charging. The CEC anticipates that the 2022 energy code will provide \$1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (38). The Project would be required to comply with the applicable standards in place at the time building permit document submittals are made. These require, among other items (39):

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106.5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).

- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).

- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

RESIDENTIAL MANDATORY MEASURES

- EV Charging (new one- and two-family dwellings and townhouses with attached private garages). For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device (4.106.4.1).
- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have ten or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add ten or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one

- showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
- Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
 - Residential lavatory faucets shall have a maximum flow rate of not more than 1.2 gallons per minute at 60 psi (4.303.1.4.1). Lavatory faucets in common or public use areas shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (4.303.1.4.2). Metering faucets shall not deliver more than 0.25 gallons per cycle (4.303.1.4.3). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi (4.303.1.4.4).
 - Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
 - Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gal/day (5.303.1.1 and 5.303.1.2).
 - Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
 - Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

Additionally, under California's 2022 Title 24, Part 6 Building Energy Efficiency Standards, solar photovoltaic systems are required for newly constructed low-rise residential buildings and shall be sized sufficient to offset the electricity use of the proposed building as if it was a mixed-fuel building.

MWELO. The MWELO requirements were updated by AB 1881, the Water Conservation Act. The bill requires local agencies to adopt a local landscape ordinance at least as effective in conserving water as MWELO by January 1, 2010. On April 1, 2015, the Department of Water Resources was ordered by the governor to update MWELO through expedited regulation. The California Water Commission approved the revised MWELO on July 15, 2015, and it became effective December 15, 2015. New development projects that include landscape areas of 500 sf or more are subject to the MWELO. The update requires:

- More efficient irrigation systems;

- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

SB 97 and the CEQA Guidelines Update. SB 97 added Section 21083.05 to the Public Resources Code. The code states “(a) On or before July 1, 2009, the OPR shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a).” Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010, for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the CEQA Guidelines for implementing the CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.3 was added the CEQA Guidelines and states that in determining the significance of a project’s GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project’s emissions to the effects of climate change. A project’s incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. The agency’s analysis should consider a timeframe that is appropriate for the project. The agency’s analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (40).

REGIONAL

The Project is within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a

lead agency if they are the only agency that has discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, which could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008 (41). The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project’s construction emissions are averaged over 30 years and are added to the project’s operational emissions. If a project’s emissions are below one of the following screening thresholds, then the project is less than significant:
 - Residential and Commercial land use: 3,000 MT CO₂e/yr
 - Industrial land use: 10,000 MT CO₂e/yr
 - Based on land use type: residential: 3,500 MT CO₂e/yr; commercial: 1,400 MT CO₂e/yr; or mixed use: 3,000 MT CO₂e/yr
- Tier 4 has the following options:
 - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 MT CO₂e/SP/year for projects and 6.6 MT CO₂e/SP/year for plans;
 - Option 3, 2035 target: 3.0 MT CO₂e/SP/year for projects and 4.1 MT CO₂e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD’s interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order’s objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the Project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

2.8 CITY OF MURRIETA

CLIMATE ACTION PLAN (CAP)

The City of Murrieta originally adopted a CAP as part of the City's General Plan 2035 in 2011. In order to aggressively address the threats of global climate change, the City prepared a CAP Update (in 2020), which provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate (42). The CAP Update includes GHG emissions targets that are consistent with the reduction targets of the State of California and presents several strategies that will make it possible for the City of Murrieta to meet the recommended targets. Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change. The CAP Update was completed in January 2020 and approved by the City Council on June 16, 2020. A project's consistency with the CAP will be determined through the CAP Consistency Review Checklist. The CAP Consistency Review Checklist contains GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects will need to incorporate all potential applicable CAP measures to demonstrate consistency with the CAP.

The Project will be compliant with the goals and objectives set forth in the City of Murrieta's CAP Update (as shown on Table 3-5, presented later in the report). Therefore, Project consistency with the CAP Update would result in a less than significant impact with respect to GHG emissions.

2.9 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The City of Murrieta has not established local CEQA significance thresholds for GHG emissions, as described in Section 15064.7 of the CEQA guidelines. According to the Final Statement of Reasons (FSOR) for Regulatory Action, the revised Section 15064.7 gives lead agencies the discretion to determine their methodology for quantifying GHG emissions (43).

The AEP Climate Change Committee has prepared a white paper to provide guidance to local governments on how to develop thresholds for use in CEQA based on Section 15064.7 and

guidance developed by several air quality districts and the CAPCOA guidance on addressing climate change. The AEP white paper identified seven thresholds for operational emissions. The following four methods described are the most widely used evaluation criteria.

- (1) Consistency with a Qualified GHG Reduction Plan. For a project located within a jurisdiction that has adopted a qualified GHG reduction plan (as defined by CEQA Guidelines Section 15183.5), GHG emissions would be less than significant if the project is anticipated by the plan and fully consistent with the plan. However, projects with a horizon year beyond 2020 should not tier from a plan that is qualified up to 2020.
- (2) Bright line Thresholds. There are two types of bright line thresholds: a. Standalone Threshold. Emissions exceeding standalone thresholds would be considered significant. b. Screening Threshold. Emissions exceeding screening thresholds would require evaluation using a second-tier threshold, such as an efficiency threshold or other threshold concept to determine whether project emissions would be considered significant. However, projects with a horizon year beyond 2020 should take into account the type and amount of land use projects and their expected emissions out to the year 2030.
- (3) Efficiency Thresholds. Land use sector efficiency thresholds are currently based on AB 32 targets and should not be used for projects with a horizon year beyond 2020. Projects with a horizon year beyond 2020 should use efficiency metrics that are adjusted for 2030 and include applicable land uses.
- (4) Percent Below “Business as Usual” (BAU). GHG emissions would be less than significant if the project reduces BAU emissions by the same amount as the statewide 2020 reductions. However, this method is no longer recommended following the Newhall Ranch ruling.

The AEP recommendations are similar to the recommendation developed by the SCAQMD Working group. As the City has adopted a Climate Action Plan, i.e. qualified GHG reduction plan, method 1 is the most applicable.

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3 PROJECT GREENHOUSE GAS IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Under these thresholds, a project may result in a significant impact related to GHG if it would (44):

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

3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ANALYZE GHG EMISSIONS

In May 2022 California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of CalEEMod version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from MMs (45). Accordingly, the latest version of CalEEMod has been used for this Project to estimate construction and operational GHG emissions. CalEEMod output for construction and operational activity are provided in Appendices 3.1, 3.2, 3.3 and 3.4.

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (46). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (47). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction activities would generate CO₂ and CH₄ emissions. The report *Discovery Village Air Quality Impact Analysis Report* contains detailed information regarding Project construction activities (48). Construction related emissions are expected from the following activities:

- Site Preparation
- Grading
- Blasting
- Rock Crushing
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

Construction is expected to commence in April 2023 and will continue through October 2027. The construction schedule utilized in the analysis, shown in Table 3-1, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.² The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines. The duration of construction activities was based on an applicant provided schedule.

TABLE 3-1: CONSTRUCTION DURATION

| Phase Name | Start Date | End Date | Days |
|--|------------|------------|------|
| Site Preparation (entire site) | 4/25/2023 | 5/25/2023 | 23 |
| Superpad Grading (entire site) | 5/26/2023 | 9/4/2023 | 72 |
| Backbone Underground Utilities (entire site) | 9/5/2023 | 12/11/2023 | 70 |
| Backbone Paving | 12/12/2023 | 1/22/2024 | 30 |
| InTract Rough Grading (R) | 3/24/2024 | 4/24/2024 | 23 |
| InTract Underground Utilities (R) | 4/25/2024 | 6/3/2024 | 28 |
| InTract Paving (R) | 6/4/2024 | 7/23/2024 | 36 |
| InTract Rough Grading (INN) | 9/24/2024 | 10/24/2024 | 23 |
| InTract Underground Utilities (INN) | 10/25/2024 | 12/3/2024 | 28 |
| InTract Paving (INN) | 12/4/2024 | 1/23/2025 | 37 |

² As shown in the CalEEMod User’s Guide Version 2022.1, Section 4.3 “Offroad Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

| Phase Name | Start Date | End Date | Days |
|--|------------|------------|------|
| Building Construction & Finish Grade (INN) | 1/24/2025 | 3/23/2026 | 302 |
| Architectural Coating (INN) | 1/24/2025 | 3/23/2026 | 302 |
| Building Construction & Finish Grade (R) | 7/24/2024 | 10/23/2027 | 848 |
| Architectural Coating (R) | 7/24/2024 | 10/23/2027 | 848 |

((R) = Residential uses, (INN) Innovation uses

Source: CalEEMod, Appendices 3.1, 3.2 and 3.3.

3.5.2 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific Project needs at the time of construction. The construction equipment estimates are generally based on CalEEMod standard inputs. A detailed summary of construction equipment assumptions by phase is provided in Table 3-2. Please refer to specific detailed modeling inputs/outputs contained in Appendices 3.1, 3.2 and 3.3.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

| Phase Name | Equipment | Amount | Hours Per Day |
|-----------------------------------|---------------------------|--------|---------------|
| Site Preparation | Crawler Tractors | 4 | 8 |
| Site Preparation | Rubber Tired Dozers | 3 | 8 |
| Superpad Grading | Bore/Drill Rigs | 1 | 8 |
| Superpad Grading | Crawler Tractors | 1 | 8 |
| Superpad Grading | Crawler Tractors | 1 | 8 |
| Superpad Grading | Crushing/Proc. Equipment | 1 | 8 |
| Superpad Grading | Graders | 1 | 8 |
| Superpad Grading | Rubber Tired Dozers | 1 | 8 |
| Superpad Grading | Scrapers | 2 | 8 |
| Backbone Underground Utilities | Excavators | 1 | 8 |
| Backbone Underground Utilities | Tractors/Loaders/Backhoes | 1 | 8 |
| Backbone Underground Utilities | Trenchers | 1 | 8 |
| Backbone Paving | Pavers | 2 | 8 |
| Backbone Paving | Paving Equipment | 2 | 8 |
| Backbone Paving | Rollers | 2 | 8 |
| InTract Rough Grading (R) | Crawler Tractors | 2 | 8 |
| InTract Rough Grading (R) | Crawler Tractors | 2 | 8 |
| InTract Rough Grading (R) | Graders | 1 | 8 |
| InTract Rough Grading (R) | Rubber Tired Dozers | 1 | 8 |
| InTract Rough Grading (R) | Scrapers | 2 | 8 |
| InTract Underground Utilities (R) | Excavators | 1 | 8 |
| InTract Underground Utilities (R) | Trenchers | 1 | 8 |

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

| Phase Name | Equipment | Amount | Hours Per Day |
|--|---------------------------|--------|---------------|
| InTract Paving (R) | Pavers | 2 | 8 |
| InTract Paving (R) | Paving Equipment | 2 | 8 |
| InTract Paving (R) | Rollers | 2 | 8 |
| Building Construction & Finish Grade (R) | Cranes | 1 | 8 |
| Building Construction & Finish Grade (R) | Forklifts | 3 | 8 |
| Building Construction & Finish Grade (R) | Generator Sets | 1 | 8 |
| Building Construction & Finish Grade (R) | Tractors/Loaders/Backhoes | 3 | 8 |
| Building Construction & Finish Grade (R) | Welders | 1 | 8 |
| Architectural Coating (R) | Air Compressors | 1 | 8 |
| InTract Rough Grading (INN) | Crawler Tractors | 2 | 8 |
| InTract Rough Grading (INN) | Crawler Tractors | 2 | 8 |
| InTract Rough Grading (INN) | Graders | 1 | 8 |
| InTract Rough Grading (INN) | Rubber Tired Dozers | 1 | 8 |
| InTract Rough Grading (INN) | Scrapers | 2 | 8 |
| InTract Underground Utilities (INN) | Excavators | 1 | 8 |
| InTract Underground Utilities (INN) | Trenchers | 1 | 8 |
| InTract Paving (INN) | Pavers | 2 | 8 |
| InTract Paving (INN) | Paving Equipment | 2 | 8 |
| InTract Paving (INN) | Rollers | 2 | 8 |
| Building Construction & Finish Grade (INN) | Cranes | 1 | 8 |
| Building Construction & Finish Grade (INN) | Forklifts | 3 | 8 |
| Building Construction & Finish Grade (INN) | Generator Sets | 1 | 8 |
| Building Construction & Finish Grade (INN) | Tractors/Loaders/Backhoes | 3 | 8 |
| Building Construction & Finish Grade (INN) | Welders | 1 | 8 |
| Architectural Coating (INN) | Air Compressors | 1 | 8 |

(R) = Residential uses, (INN) Innovation uses

Source: CalEEMod, Appendices 3.1, 3.2 and 3.3.

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (49). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

| Year | Emissions (MT/yr) | | | | |
|---|-------------------|-----------------|------------------|-------------|--------------------------------------|
| | CO ₂ | CH ₄ | N ₂ O | R | Total CO ₂ e ³ |
| 2023 | 993 | 0.03 | 0.11 | 0.63 | 1,027 |
| 2024 | 634.20 | 0.02 | 0.02 | 0.47 | 641.70 |
| 2025 | 1,553 | 0.06 | 0.07 | 1.38 | 1,579 |
| 2026 | 1,061 | 0.02 | 0.05 | 0.95 | 1,077 |
| 2027 | 733 | 0.02 | 0.03 | 0.62 | 744 |
| Total GHG Emissions | 4,974.20 | 0.15 | 0.28 | 4.05 | 5,068.70 |
| Amortized Construction Emissions | 165.81 | 0.01 | 0.01 | 0.14 | 168.96 |

Source: CalEEMod, Appendices 3.1, 3.2 and 3.3.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO₂, CH₄, N₂O and R from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste
- Refrigerants

3.6.1 AREA SOURCE EMISSIONS

Landscape maintenance equipment are typically the only area sources that would generate GHG emissions, which are primarily due to fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on standard assumptions included in CalEEMod.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO₂ and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a

³ CalEEMod reports the most common GHGs emitted which include CO₂, CH₄, R, and N₂O. These GHGs are then converted into the CO₂e by multiplying the individual GHG by the GWP.

building; the building energy use emissions do not include street lighting⁴. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are indirect emissions. Unless otherwise noted, CalEEMod default parameters were used.

TITLE 24 ENERGY EFFICIENCY STANDARDS

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2022 version of Title 24 was adopted by the CEC and will become effective on January 1, 2023. Buildings whose permit applications are submitted after January 1, 2023 must comply with the 2022 Energy Code (5).

3.6.3 MOBILE SOURCE EMISSIONS

Project mobile source GHG impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project-related GHG impacts are derived primarily from vehicle trips generated by the Project. Trip characteristics available from the TIA report were utilized in this analysis (50).

3.6.4 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. Water usage available from the Domestic Water Study were utilized in this analysis (51).

3.6.5 SOLID WASTE

Proposed land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using standard generation rates.

3.6.6 REFRIGERANTS

Air conditioning (A/C) equipment associated with the building are anticipated to generate GHG emissions. CalEEMod automatically generates a default A/C and refrigeration equipment inventory for each project land use subtype based on industry data from the USEPA (2016b). CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the

⁴ The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

lifetime estimate. Note that CalEEMod does not quantify emissions from the disposal of refrigeration and A/C equipment at the end of its lifetime. Per 17 CCR 95371, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022. GHG emissions associated with refrigerants were calculated by CalEEMod using default parameters.

3.7 EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are estimated to be approximately 11,450.74 MT CO₂e/yr as summarized in Table 3-4. The emissions estimates are based on the regulatory requirements built into CalEEMod which would be in effect at the Project's buildout year of 2027.

3.8 GREENHOUSE GAS EMISSIONS FINDINGS AND RECOMMENDATIONS

3.8.1 GHG IMPACT 1

The Project could generate direct or indirect GHG emissions that would result in a significant impact on the environment.

As shown on Table 3-4, the Project would result in 11,450.74 MTCO₂e/yr.

TABLE 3-4: PROJECT GHG EMISSIONS

| Emission Source | Emissions (MT/yr) | | | | |
|--|-------------------|-----------------|------------------|-------|-------------------------|
| | CO ₂ | CH ₄ | N ₂ O | R | Total CO ₂ e |
| Amortized Construction Emissions | 165.81 | 0.01 | 0.01 | 0.14 | 168.96 |
| Mobile Source | 8334.00 | 0.35 | 0.40 | 12.00 | 8473.00 |
| Area Source | 107.00 | < 0.005 | < 0.005 | 0.00 | 107.00 |
| Energy Source | 2385.00 | 0.22 | 0.02 | 0.00 | 2396.00 |
| Water Usage | 72.20 | 1.24 | 0.03 | 0.00 | 112.00 |
| Waste | 55.10 | 5.51 | 0.00 | 0.00 | 193.00 |
| Refrigerants | 0.00 | 0.00 | 0.00 | 0.78 | 0.78 |
| Total CO₂e (All Sources) | 11,450.74 | | | | |

Source: CalEEMod output, See Appendix 3.4 for detailed model outputs.

As previously stated, the purpose of the City of Murrieta GHG CAP Checklist is to provide guidance in selecting and accounting for the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. Each project must comply with all checklist items to be considered consistent with the CAP. Thus, the emissions estimates provided in Table 3-4 are provided for disclosure per State CEQA Guidelines Section 15064.4(a), and the significance of GHG emissions is based on compliance with the CAP.

The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

3.8.2 GHG IMPACT 2

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

CONSISTENCY WITH CITY OF MURRIETA CAP UPDATE

The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents a number of strategies that will make it possible for the City of Murrieta to meet the recommended targets (52). As part of the CAP development the City of Murrieta developed a project level checklist for CEQA purposes. Based on the requirements of the CAP all "applicable" Checklist questions must be answered "Yes", and documentation provided, where necessary, that substantiates how compliance would be achieved as requested by the City of Murrieta. For measures for which a "Yes" is indicated, the features must be demonstrated as part of the project's design and described. All applicable requirements in the Checklist will be included in the conditions of approval. Further, if any questions are marked with a "No", the project cannot be determined to be consistent with the CAP, and project specific GHG analysis would be required as part of the CEQA process. If any questions are marked "N/A" (meaning "not applicable"), a statement describing why the question is not applicable shall be provided to the satisfaction of the Planning Division or building official, as requested. The CAP also suggests best practices for implementation and makes recommendations for measuring progress. As indicated in Table 3-5, the proposed Project would be consistent with, or otherwise would not conflict with, the CAP.

TABLE 3-5: PROJECT CONSISTENCY WITH THE CAP UPDATE CONSISTENCY REVIEW CHECKLIST

| Checklist Items | Yes | No | n/a |
|--|-----|----|-----|
| Step 1: Land Use Consistency | | | |
| 1. Are the proposed land uses in the project consistent with the existing General Plan land use and zoning designations? | X | | |
| If "Yes", questions 2 below is not applicable and the project shall proceed to Step 2 of the checklist. If "No", proceed to Question 2 below. | | | |
| 2. If the proposed project is not consistent with the General Plan land use or zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG- intensive project when compared to the existing designations? | | | X |
| If "Yes", attach to this checklist the estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation. If the proposed project is determined to result in an equivalent or less GHG-intensive project when compared to the existing designations, proceed to Step 2 of the checklist. | | | |
| If "No", the applicant must conduct a full GHG impact analysis for the project as part of the CEQA process. The project shall incorporate each of the applicable measures identified in Step 2 to mitigate cumulative GHG emissions impacts. | | | |

| Checklist Items | Yes | No | n/a |
|--|-----|----|-----|
| Step 2: CAP Strategies Consistency | | | |
| 1. Zero Net Energy Standards (Measure BE-3) | | | |
| a) For residential projects, would the project or a portion of the project be subject to building permitting (i.e., building permits issued) on or after January 1, 2023? | X | | |
| b) For commercial projects or commercial portions of mixed-use projects, would the project or a portion of the project be subject to building permitting (i.e., building permits issued) on or after January 1, 2025? | X | | |
| c) For industrial projects, would the project or a portion of the project be subject to building permitting (i.e., building permits issued) on or after January 1, 2025? | | | X |
| If "Yes" to either a, b, or c, proceed to question d of this checklist requirement. | | | |
| d) Would the project or portions of the project permitted after January 1, 2023 for residential projects and after January 1, 2025 for nonresidential projects be designed and constructed to comply with the Zero Net Energy standard? | X | | |
| 2. Construction Waste Diversion (Measure SW-2) | | | |
| a) For residential projects, recycle and/or salvage for reuse a minimum of 80 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4 of the California Code of Regulations, Title 24? | X | | |
| b) For nonresidential projects, recycle and/or salvage for reuse a minimum of 80 percent of the nonhazardous construction and demolition waste in accordance with either Section 5.408.1.1, 5.408.1.2 or 5.408.1.3 of the California Code of Regulations, Title 24? | X | | |
| 3. Transportation Demand Management Program (Measure T-7) | | | |
| a) For the construction of nonresidential projects that would include 50 or more employees, would the project include a transportation demand management plan that meets requirements of Section 16.40 "Transportation Demand Management" of the City's Municipal Code and has been reviewed and approved by the City of Murrieta Public Works Department? | X | | |
| Check "N/A" if the project is a residential project or if it would include 49 or fewer employees. | | | |
| 4. Electric Vehicle Service Equipment (EVSE) (Measure T-2)3 | | | |
| Checklist Requirement by Project Type: | | | |
| a) <u>One- and two-family dwellings and townhouses with attached private garages:</u> Would the required parking serving each new dwelling include Electric Vehicle Service Equipment (EVSE) to allow for electric vehicle charging by the resident(s)? | X | | |
| b) <u>Multi-Family Residential Projects:</u> Would 6% of the total parking spaces required, or a minimum of two spaces, whichever is greater, include Electric Vehicle Service Equipment (EVSE) to allow for electric vehicle charging by the resident(s)? | X | | |
| c) <u>Non-residential projects:</u> Would 3% of the total parking spaces required, or a minimum of two spaces, whichever is greater, include Electric Vehicle Service Equipment (EVSE) to allow for electric vehicle charging by the occupant(s)? | X | | |
| 5. Tree Planting (Measure LU-2) | | | |
| a) For residential and non-residential projects, would the project include the planting of new trees where required by Section 16.26 "Landscaping Standards and Water Efficient Landscaping" of the City's Municipal Code? | X | | |

As shown in Table 3-5, the Project would comply with all applicable CAP Checklist items, therefore, the Project is consistent with the CAP and GHG impacts are less than significant.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Discovery Village Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me at hqureshi@urbanxroads.com.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
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ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
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**APPENDIX 3.1:
CALEEMOD INITIAL SITE PREPARATION CONSTRUCTION EMISSIONS MODEL
OUTPUTS**

14073-Discovery Village (Initial Site Construction) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

| Data Field | Value |
|-----------------------------|---|
| Project Name | 14073-Discovery Village (Initial Site Construction) |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 18.6 |
| Location | 33.610265792900094, -117.16647726624267 |
| County | Riverside-South Coast |
| City | Murrieta |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5545 |
| EDFZ | 11 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |

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 |
|-------------------------|------|-------------------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| User Defined Commercial | 55.8 | User Defined Unit | 55.8 | 0.00 | 0.00 | — | — | — |

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 40.0 | 38.5 | 65.0 | 88.6 | 0.20 | 2.92 | 8.15 | 11.1 | 2.62 | 2.74 | 5.12 | — | 27,528 | 27,528 | 0.66 | 3.30 | 43.9 | 28,572 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.13 | 0.95 | 8.15 | 11.1 | 0.01 | 0.41 | 0.20 | 0.61 | 0.38 | 0.05 | 0.43 | — | 1,714 | 1,714 | 0.07 | 0.02 | 0.02 | 1,722 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 8.41 | 8.03 | 17.0 | 21.3 | 0.04 | 0.78 | 1.99 | 2.78 | 0.71 | 0.67 | 1.38 | — | 6,000 | 6,000 | 0.15 | 0.66 | 3.83 | 6,203 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.53 | 1.47 | 3.11 | 3.88 | 0.01 | 0.14 | 0.36 | 0.51 | 0.13 | 0.12 | 0.25 | — | 993 | 993 | 0.03 | 0.11 | 0.63 | 1,027 |

2.2. Construction Emissions by Year, Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|----------------------|------|------|------|------|---------|---------|---------|---------|---------|---------|---------|---|--------|--------|---------|---------|---------|--------|
| 2023 | 40.0 | 38.5 | 65.0 | 88.6 | 0.20 | 2.92 | 8.15 | 11.1 | 2.62 | 2.74 | 5.12 | — | 27,528 | 27,528 | 0.66 | 3.30 | 43.9 | 28,572 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 1.13 | 0.95 | 8.15 | 11.1 | 0.01 | 0.41 | 0.20 | 0.61 | 0.38 | 0.05 | 0.43 | — | 1,714 | 1,714 | 0.07 | 0.02 | 0.02 | 1,722 |
| 2024 | 1.09 | 0.92 | 7.90 | 11.0 | 0.01 | 0.39 | 0.20 | 0.59 | 0.36 | 0.05 | 0.40 | — | 1,710 | 1,710 | 0.07 | 0.02 | 0.02 | 1,718 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 8.41 | 8.03 | 17.0 | 21.3 | 0.04 | 0.78 | 1.99 | 2.78 | 0.71 | 0.67 | 1.38 | — | 6,000 | 6,000 | 0.15 | 0.66 | 3.83 | 6,203 |
| 2024 | 0.05 | 0.04 | 0.34 | 0.47 | < 0.005 | 0.02 | 0.01 | 0.03 | 0.02 | < 0.005 | 0.02 | — | 73.7 | 73.7 | < 0.005 | < 0.005 | 0.02 | 74.1 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 1.53 | 1.47 | 3.11 | 3.88 | 0.01 | 0.14 | 0.36 | 0.51 | 0.13 | 0.12 | 0.25 | — | 993 | 993 | 0.03 | 0.11 | 0.63 | 1,027 |
| 2024 | 0.01 | 0.01 | 0.06 | 0.09 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 12.2 | 12.2 | < 0.005 | < 0.005 | < 0.005 | 12.3 |

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 5.83 | 4.90 | 47.0 | 38.0 | 0.05 | 2.53 | — | 2.53 | 2.33 | — | 2.33 | — | 5,530 | 5,530 | 0.22 | 0.04 | — | 5,549 |
| Dust From Material Movement | — | — | — | — | — | — | 5.66 | 5.66 | — | 2.69 | 2.69 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|-----------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|------|------|---------|---------|------|------|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.37 | 0.31 | 2.96 | 2.39 | < 0.005 | 0.16 | — | 0.16 | 0.15 | — | 0.15 | — | 348 | 348 | 0.01 | < 0.005 | — | 350 |
| Dust From Material Movement | — | — | — | — | — | — | 0.36 | 0.36 | — | 0.17 | 0.17 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.06 | 0.54 | 0.44 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 57.7 | 57.7 | < 0.005 | < 0.005 | — | 57.9 |
| Dust From Material Movement | — | — | — | — | — | — | 0.07 | 0.07 | — | 0.03 | 0.03 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.10 | 0.09 | 0.09 | 1.59 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 257 | 257 | 0.01 | 0.01 | 1.10 | 261 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------|---------|---------|---------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Worker | 0.01 | 0.01 | 0.01 | 0.08 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 15.1 | 15.1 | < 0.005 | < 0.005 | 0.03 | 15.3 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 2.50 | 2.50 | < 0.005 | < 0.005 | < 0.005 | 2.53 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.3. Grading (2023) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 39.0 | 38.0 | 41.6 | 81.2 | 0.06 | 2.54 | — | 2.54 | 2.24 | — | 2.24 | — | 6,893 | 6,893 | 0.28 | 0.06 | — | 6,917 |
| Dust From Material Movement | — | — | — | — | — | — | 2.70 | 2.70 | — | 0.98 | 0.98 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 7.70 | 7.50 | 8.20 | 16.0 | 0.01 | 0.50 | — | 0.50 | 0.44 | — | 0.44 | — | 1,360 | 1,360 | 0.06 | 0.01 | — | 1,364 |

14073-Discovery Village (Initial Site Construction) Detailed Report, 11/21/2022

| | | | | | | | | | | | | | | | | | | |
|------------------------------|---------|---------|---------|------|---------|------|---------|---------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Dust From Material Movement: | — | — | — | — | — | — | 0.53 | 0.53 | — | 0.19 | 0.19 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.40 | 1.37 | 1.50 | 2.92 | < 0.005 | 0.09 | — | 0.09 | 0.08 | — | 0.08 | — | 225 | 225 | 0.01 | < 0.005 | — | 226 |
| Dust From Material Movement: | — | — | — | — | — | — | 0.10 | 0.10 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.11 | 0.11 | 1.81 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 294 | 294 | 0.01 | 0.01 | 1.26 | 298 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.83 | 0.32 | 23.3 | 5.58 | 0.13 | 0.38 | 1.39 | 1.77 | 0.38 | 0.51 | 0.88 | — | 20,341 | 20,341 | 0.37 | 3.23 | 42.6 | 21,356 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.28 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 53.9 | 53.9 | < 0.005 | < 0.005 | 0.11 | 54.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.16 | 0.06 | 4.84 | 1.11 | 0.03 | 0.07 | 0.27 | 0.35 | 0.07 | 0.10 | 0.17 | — | 4,013 | 4,013 | 0.07 | 0.64 | 3.63 | 4,209 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 8.93 | 8.93 | < 0.005 | < 0.005 | 0.02 | 9.05 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|---------|------|------|------|------|------|------|---|-----|-----|------|------|------|-----|
| Hauling | 0.03 | 0.01 | 0.88 | 0.20 | < 0.005 | 0.01 | 0.05 | 0.06 | 0.01 | 0.02 | 0.03 | — | 664 | 664 | 0.01 | 0.11 | 0.60 | 697 |
|---------|------|------|------|------|---------|------|------|------|------|------|------|---|-----|-----|------|------|------|-----|

3.5. Paving (2023) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.04 | 0.88 | 8.06 | 10.0 | 0.01 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.32 | 0.39 | < 0.005 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | — | 59.2 | 59.2 | < 0.005 | < 0.005 | — | 59.4 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.06 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.80 | 9.80 | < 0.005 | < 0.005 | — | 9.83 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.08 | 0.09 | 1.03 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 202 | 202 | 0.01 | 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 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.04 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 8.03 | 8.03 | < 0.005 | < 0.005 | 0.02 | 8.14 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 1.33 | 1.33 | < 0.005 | < 0.005 | < 0.005 | 1.35 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.7. Paving (2024) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.01 | 0.85 | 7.81 | 10.0 | 0.01 | 0.39 | — | 0.39 | 0.36 | — | 0.36 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |

14073-Discovery Village (Initial Site Construction) Detailed Report, 11/21/2022

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.04 | 0.34 | 0.43 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 65.1 | 65.1 | < 0.005 | < 0.005 | — | 65.3 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.06 | 0.08 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 10.8 | 10.8 | < 0.005 | < 0.005 | — | 10.8 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.09 | 0.95 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 198 | 198 | 0.01 | 0.01 | 0.02 | 201 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.04 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 8.65 | 8.65 | < 0.005 | < 0.005 | 0.02 | 8.77 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------|---------|---------|---------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 1.43 | 1.43 | < 0.005 | < 0.005 | < 0.005 | 1.45 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.9. Trenching (2023) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.54 | 0.46 | 3.53 | 4.44 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 639 | 639 | 0.03 | 0.01 | — | 642 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.54 | 0.46 | 3.53 | 4.44 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 639 | 639 | 0.03 | 0.01 | — | 642 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.09 | 0.68 | 0.85 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 123 | 123 | < 0.005 | < 0.005 | — | 123 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.12 | 0.16 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 20.3 | 20.3 | < 0.005 | < 0.005 | — | 20.4 |

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|------|------|------|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.04 | 0.68 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 110 | 110 | < 0.005 | < 0.005 | 0.47 | 112 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.04 | 0.04 | 0.05 | 0.52 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 101 | 101 | < 0.005 | < 0.005 | 0.01 | 102 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.01 | 0.01 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 19.7 | 19.7 | < 0.005 | < 0.005 | 0.04 | 19.9 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 3.26 | 3.26 | < 0.005 | < 0.005 | 0.01 | 3.30 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Remove | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 4/25/2023 | 5/25/2023 | 5.00 | 23.0 | — |
| Superpad Grading | Grading | 5/26/2023 | 9/4/2023 | 5.00 | 72.0 | — |
| Backbone Paving | Paving | 12/12/2023 | 1/22/2024 | 5.00 | 30.0 | — |
| Backbone Underground Utilities | Trenching | 9/5/2023 | 12/11/2023 | 5.00 | 70.0 | — |

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 | Crawler Tractors | Diesel | Average | 4.00 | 8.00 | 87.0 | 0.43 |
| Superpad Grading | Crawler Tractors | Diesel | Average | 1.00 | 8.00 | 87.0 | 0.43 |
| Superpad Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Superpad Grading | Crushing/Proc. Equipment | Gasoline | Average | 1.00 | 8.00 | 12.0 | 0.85 |
| Superpad Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Superpad Grading | Crawler Tractors | Diesel | Average | 1.00 | 8.00 | 87.0 | 0.43 |
| Backbone Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |

| | | | | | | | |
|--------------------------------|---------------------------|--------|---------|------|------|------|------|
| Backbone Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Backbone Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Superpad Grading | Bore/Drill Rigs | Diesel | Average | 1.00 | 8.00 | 83.0 | 0.50 |
| Backbone Underground Utilities | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| Backbone Underground Utilities | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Backbone Underground Utilities | Trenchers | Diesel | Average | 1.00 | 8.00 | 40.0 | 0.50 |
| Superpad Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |

5.3. Construction Vehicles

5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|--------------------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 17.5 | 18.5 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 10.2 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Superpad Grading | — | — | — | — |
| Superpad Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Superpad Grading | Vendor | — | 10.2 | HHDT,MHDT |
| Superpad Grading | Hauling | 286 | 20.0 | HHDT |
| Superpad Grading | Onsite truck | — | — | HHDT |
| Backbone Underground Utilities | — | — | — | — |
| Backbone Underground Utilities | Worker | 7.50 | 18.5 | LDA,LDT1,LDT2 |
| Backbone Underground Utilities | Vendor | — | 10.2 | HHDT,MHDT |

| | | | | |
|--------------------------------|--------------|------|------|---------------|
| Backbone Underground Utilities | Hauling | 0.00 | 20.0 | HHDT |
| Backbone Underground Utilities | Onsite truck | — | — | HHDT |
| Backbone Paving | — | — | — | — |
| Backbone Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Backbone Paving | Vendor | — | 10.2 | HHDT,MHDT |
| Backbone Paving | Hauling | 0.00 | 20.0 | HHDT |
| Backbone Paving | 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) |
|------------|--|--|--|--|-----------------------------|
|------------|--|--|--|--|-----------------------------|

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 | — | — | 80.5 | 0.00 | — |
| Superpad Grading | 165,000 | — | 288 | 0.00 | — |
| Backbone Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area | 3 | 74% | 74% |

5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|-------------------------|--------------------|-----------|
| User Defined Commercial | 0.00 | 0% |

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|------|--------------|-----|------|---------|
| 2023 | 0.00 | 532 | 0.03 | < 0.005 |
| 2024 | 0.00 | 532 | 0.03 | < 0.005 |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|------------------------------|-----------------------------|--|
| Temperature and Extreme Heat | 28.6 | annual days of extreme heat |
| Extreme Precipitation | 3.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |
| Wildfire | 16.5 | 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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

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

6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |

| | | | | |
|-------------|-----|-----|-----|-----|
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 0 | 0 | 0 | N/A |

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

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

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

6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 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 | 80.0 |
| AQ-PM | 40.4 |
| AQ-DPM | 31.3 |
| Drinking Water | 11.0 |
| Lead Risk Housing | 4.06 |
| Pesticides | 13.6 |
| Toxic Releases | 14.3 |
| Traffic | 81.3 |
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 73.6 |
| Impaired Water Bodies | 58.7 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 31.6 |
| Cardio-vascular | 76.0 |
| Low Birth Weights | 56.6 |
| Socioeconomic Factor Indicators | — |
| Education | 40.1 |
| Housing | 12.8 |
| Linguistic | 8.49 |
| Poverty | 34.9 |
| Unemployment | 48.3 |

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 | 70.31951752 |
| Employed | 39.30450404 |
| Median HI | 80.88027717 |
| Education | — |
| Bachelor's or higher | 58.29590658 |
| High school enrollment | 100 |
| Preschool enrollment | 64.72475298 |
| Transportation | — |
| Auto Access | 89.83703323 |
| Active commuting | 12.60105223 |
| Social | — |
| 2-parent households | 73.95098165 |
| Voting | 49.22366226 |
| Neighborhood | — |
| Alcohol availability | 89.3750802 |
| Park access | 2.194276915 |
| Retail density | 10.31695111 |
| Supermarket access | 18.61927371 |
| Tree canopy | 4.38855383 |
| Housing | — |
| Homeownership | 67.93276017 |
| Housing habitability | 86.16707301 |
| Low-inc homeowner severe housing cost burden | 69.34428333 |
| Low-inc renter severe housing cost burden | 80.27717182 |
| Uncrowded housing | 68.66418581 |

| | |
|---------------------------------------|-------------|
| Health Outcomes | — |
| Insured adults | 89.59322469 |
| Arthritis | 10.7 |
| Asthma ER Admissions | 78.7 |
| High Blood Pressure | 18.2 |
| Cancer (excluding skin) | 10.4 |
| Asthma | 46.1 |
| Coronary Heart Disease | 23.5 |
| Chronic Obstructive Pulmonary Disease | 33.2 |
| Diagnosed Diabetes | 68.9 |
| Life Expectancy at Birth | 83.5 |
| Cognitively Disabled | 29.3 |
| Physically Disabled | 73.0 |
| Heart Attack ER Admissions | 38.4 |
| Mental Health Not Good | 64.8 |
| Chronic Kidney Disease | 45.1 |
| Obesity | 48.4 |
| Pedestrian Injuries | 39.7 |
| Physical Health Not Good | 61.7 |
| Stroke | 51.7 |
| Health Risk Behaviors | — |
| Binge Drinking | 19.3 |
| Current Smoker | 59.6 |
| No Leisure Time for Physical Activity | 72.6 |
| Climate Change Exposures | — |
| Wildfire Risk | 18.1 |
| SLR Inundation Area | 0.0 |

| | |
|----------------------------------|------|
| Children | 5.7 |
| Elderly | 87.4 |
| English Speaking | 95.5 |
| Foreign-born | 16.2 |
| Outdoor Workers | 58.6 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 74.9 |
| Traffic Density | 62.3 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 29.8 |
| Other Decision Support | — |
| 2016 Voting | 55.2 |

7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 67.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

| Screen | Justification |
|-----------------------------------|--|
| Land Use | Initial Site Construction |
| Construction: Construction Phases | Taken from Updated Construction schedule |
| Construction: Off-Road Equipment | Client Indicated Equipment List |

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APPENDIX 3.2:
CALEEMOD RESIDENTIAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

14073-Discovery Village (Residential) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

| Data Field | Value |
|-----------------------------|--|
| Project Name | 14073-Discovery Village (Residential) |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 18.6 |
| Location | 33.61081091086113, -117.16602601375352 |
| County | Riverside-South Coast |
| City | Murrieta |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5545 |
| EDFZ | 11 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |

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 |
|-----------------------|------|---------------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Condo/Townhouse | 199 | Dwelling Unit | 12.4 | 210,940 | 0.00 | — | 643 | — |
| Single Family Housing | 237 | Dwelling Unit | 16.1 | 462,150 | 2,775,947 | — | 766 | — |

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.35 | 7.89 | 41.7 | 39.2 | 0.07 | 2.15 | 3.98 | 5.35 | 1.98 | 1.07 | 3.05 | — | 8,204 | 8,204 | 0.31 | 0.38 | 19.7 | 8,343 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.34 | 7.81 | 41.7 | 35.6 | 0.07 | 2.15 | 3.98 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,885 | 7,885 | 0.32 | 0.38 | 0.51 | 8,006 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.15 | 5.38 | 11.1 | 23.6 | 0.03 | 0.37 | 2.81 | 3.19 | 0.35 | 0.67 | 1.02 | — | 5,596 | 5,596 | 0.22 | 0.27 | 5.63 | 5,687 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.39 | 0.98 | 2.03 | 4.31 | < 0.005 | 0.07 | 0.51 | 0.58 | 0.06 | 0.12 | 0.19 | — | 926 | 926 | 0.04 | 0.04 | 0.93 | 942 |

2.2. Construction Emissions by Year, Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|----------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| 2024 | 5.35 | 7.89 | 41.7 | 39.2 | 0.07 | 2.15 | 3.98 | 5.35 | 1.98 | 1.07 | 3.05 | — | 8,204 | 8,204 | 0.31 | 0.38 | 19.7 | 8,343 |
| 2025 | 3.20 | 7.61 | 15.3 | 37.3 | 0.04 | 0.52 | 3.98 | 4.51 | 0.48 | 0.95 | 1.43 | — | 8,101 | 8,101 | 0.31 | 0.38 | 18.3 | 8,238 |
| 2026 | 2.93 | 7.47 | 14.4 | 35.7 | 0.04 | 0.46 | 3.98 | 4.45 | 0.43 | 0.95 | 1.38 | — | 7,994 | 7,994 | 0.31 | 0.37 | 16.7 | 8,129 |
| 2027 | 2.81 | 7.36 | 13.7 | 34.2 | 0.04 | 0.41 | 3.98 | 4.40 | 0.38 | 0.95 | 1.33 | — | 7,898 | 7,898 | 0.19 | 0.36 | 15.0 | 8,025 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 5.34 | 7.81 | 41.7 | 35.6 | 0.07 | 2.15 | 3.98 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,885 | 7,885 | 0.32 | 0.38 | 0.51 | 8,006 |
| 2025 | 3.02 | 7.54 | 15.5 | 32.2 | 0.04 | 0.52 | 3.98 | 4.51 | 0.48 | 0.95 | 1.43 | — | 7,790 | 7,790 | 0.31 | 0.38 | 0.47 | 7,910 |
| 2026 | 2.87 | 7.41 | 14.6 | 31.0 | 0.04 | 0.46 | 3.98 | 4.45 | 0.43 | 0.95 | 1.38 | — | 7,691 | 7,691 | 0.20 | 0.38 | 0.43 | 7,808 |
| 2027 | 2.75 | 7.30 | 13.9 | 29.8 | 0.04 | 0.41 | 3.98 | 4.40 | 0.38 | 0.95 | 1.33 | — | 7,601 | 7,601 | 0.19 | 0.36 | 0.39 | 7,713 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 1.51 | 2.86 | 8.82 | 14.4 | 0.02 | 0.37 | 1.47 | 1.84 | 0.34 | 0.37 | 0.71 | — | 3,166 | 3,166 | 0.13 | 0.12 | 2.76 | 3,209 |
| 2025 | 2.15 | 5.38 | 11.1 | 23.6 | 0.03 | 0.37 | 2.81 | 3.19 | 0.35 | 0.67 | 1.02 | — | 5,596 | 5,596 | 0.22 | 0.27 | 5.63 | 5,687 |
| 2026 | 2.04 | 5.29 | 10.5 | 22.6 | 0.03 | 0.33 | 2.81 | 3.14 | 0.30 | 0.67 | 0.97 | — | 5,524 | 5,524 | 0.14 | 0.27 | 5.13 | 5,613 |
| 2027 | 1.59 | 4.23 | 8.09 | 17.6 | 0.02 | 0.24 | 2.28 | 2.52 | 0.22 | 0.54 | 0.76 | — | 4,428 | 4,428 | 0.11 | 0.21 | 3.76 | 4,496 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.28 | 0.52 | 1.61 | 2.63 | < 0.005 | 0.07 | 0.27 | 0.34 | 0.06 | 0.07 | 0.13 | — | 524 | 524 | 0.02 | 0.02 | 0.46 | 531 |
| 2025 | 0.39 | 0.98 | 2.03 | 4.31 | < 0.005 | 0.07 | 0.51 | 0.58 | 0.06 | 0.12 | 0.19 | — | 926 | 926 | 0.04 | 0.04 | 0.93 | 942 |
| 2026 | 0.37 | 0.96 | 1.92 | 4.13 | < 0.005 | 0.06 | 0.51 | 0.57 | 0.06 | 0.12 | 0.18 | — | 915 | 915 | 0.02 | 0.04 | 0.85 | 929 |
| 2027 | 0.29 | 0.77 | 1.48 | 3.22 | < 0.005 | 0.04 | 0.42 | 0.46 | 0.04 | 0.10 | 0.14 | — | 733 | 733 | 0.02 | 0.03 | 0.62 | 744 |

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|------------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 5.24 | 4.40 | 41.6 | 34.4 | 0.07 | 2.15 | — | 2.15 | 1.98 | — | 1.98 | — | 7,129 | 7,129 | 0.29 | 0.06 | — | 7,154 |
| Dust From Material Movement: | — | — | — | — | — | — | 2.94 | 2.94 | — | 1.01 | 1.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 5.24 | 4.40 | 41.6 | 34.4 | 0.07 | 2.15 | — | 2.15 | 1.98 | — | 1.98 | — | 7,129 | 7,129 | 0.29 | 0.06 | — | 7,154 |
| Dust From Material Movement: | — | — | — | — | — | — | 2.94 | 2.94 | — | 1.01 | 1.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.33 | 0.28 | 2.62 | 2.17 | < 0.005 | 0.14 | — | 0.14 | 0.12 | — | 0.12 | — | 449 | 449 | 0.02 | < 0.005 | — | 451 |
| Dust From Material Movement: | — | — | — | — | — | — | 0.19 | 0.19 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|-----------------------------|---------|---------|---------|------|---------|------|---------|---------|------|------|------|---|------|------|---------|---------|------|------|
| Off-Road Equipment | 0.06 | 0.05 | 0.48 | 0.40 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 74.4 | 74.4 | < 0.005 | < 0.005 | — | 74.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.03 | 0.03 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.10 | 1.67 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 288 | 288 | 0.01 | 0.01 | 1.14 | 292 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.11 | 1.26 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 265 | 265 | 0.01 | 0.01 | 0.03 | 268 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.08 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 16.9 | 16.9 | < 0.005 | < 0.005 | 0.03 | 17.1 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 2.80 | 2.80 | < 0.005 | < 0.005 | 0.01 | 2.83 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.3. Building Construction (2024) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.55 | 1.30 | 12.2 | 14.2 | 0.03 | 0.54 | — | 0.54 | 0.49 | — | 0.49 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.55 | 1.30 | 12.2 | 14.2 | 0.03 | 0.54 | — | 0.54 | 0.49 | — | 0.49 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.49 | 0.41 | 3.83 | 4.48 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 829 | 829 | 0.03 | 0.01 | — | 832 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.07 | 0.70 | 0.82 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 137 | 137 | 0.01 | < 0.005 | — | 138 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|------|------|---------|---------|---------|------|---------|---------|---------|---|-------|-------|---------|------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.29 | 1.17 | 1.10 | 19.1 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 3,290 | 3,290 | 0.14 | 0.11 | 13.1 | 3,341 |
| Vendor | 0.07 | 0.04 | 1.64 | 0.51 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,447 | 1,447 | 0.03 | 0.22 | 4.08 | 1,517 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.22 | 1.10 | 1.30 | 14.4 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 3,024 | 3,024 | 0.14 | 0.11 | 0.34 | 3,062 |
| Vendor | 0.06 | 0.04 | 1.72 | 0.52 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,448 | 1,448 | 0.03 | 0.22 | 0.11 | 1,514 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.38 | 0.35 | 0.41 | 4.79 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | — | 965 | 965 | 0.05 | 0.04 | 1.78 | 978 |
| Vendor | 0.02 | 0.01 | 0.54 | 0.16 | < 0.005 | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 | 0.02 | — | 456 | 456 | 0.01 | 0.07 | 0.55 | 477 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.07 | 0.87 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 160 | 160 | 0.01 | 0.01 | 0.29 | 162 |
| Vendor | < 0.005 | < 0.005 | 0.10 | 0.03 | < 0.005 | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 75.5 | 75.5 | < 0.005 | 0.01 | 0.09 | 79.0 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.5. Building Construction (2025) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.04 | 0.87 | 8.08 | 10.1 | 0.02 | 0.33 | — | 0.33 | 0.31 | — | 0.31 | — | 1,879 | 1,879 | 0.08 | 0.02 | — | 1,885 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.47 | 1.84 | < 0.005 | 0.06 | — | 0.06 | 0.06 | — | 0.06 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.23 | 1.02 | 1.00 | 17.7 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 3,222 | 3,222 | 0.13 | 0.11 | 11.8 | 3,271 |
| Vendor | 0.06 | 0.03 | 1.57 | 0.49 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,426 | 1,426 | 0.03 | 0.22 | 4.05 | 1,495 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.08 | 0.96 | 1.10 | 13.3 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 2,962 | 2,962 | 0.14 | 0.11 | 0.31 | 2,999 |

| | | | | | | | | | | | | | | | | | | |
|---------------|------|---------|------|------|---------|---------|------|------|---------|---------|------|---|-------|-------|---------|------|------|-------|
| Vendor | 0.06 | 0.03 | 1.64 | 0.50 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,427 | 1,427 | 0.03 | 0.22 | 0.11 | 1,492 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.76 | 0.68 | 0.85 | 10.1 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.00 | 0.00 | — | 2,143 | 2,143 | 0.10 | 0.08 | 3.65 | 2,173 |
| Vendor | 0.05 | 0.02 | 1.17 | 0.35 | 0.01 | 0.01 | 0.06 | 0.07 | 0.01 | 0.02 | 0.04 | — | 1,019 | 1,019 | 0.02 | 0.15 | 1.25 | 1,067 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.12 | 0.16 | 1.84 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 355 | 355 | 0.02 | 0.01 | 0.60 | 360 |
| Vendor | 0.01 | < 0.005 | 0.21 | 0.06 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | 0.01 | — | 169 | 169 | < 0.005 | 0.03 | 0.21 | 177 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.7. 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 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.38 | 1.16 | 10.7 | 14.1 | 0.03 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.38 | 1.16 | 10.7 | 14.1 | 0.03 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.99 | 0.83 | 7.62 | 10.0 | 0.02 | 0.29 | — | 0.29 | 0.27 | — | 0.27 | — | 1,878 | 1,878 | 0.08 | 0.02 | — | 1,885 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.39 | 1.83 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 311 | 311 | 0.01 | < 0.005 | — | 312 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.08 | 0.97 | 0.90 | 16.4 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 3,153 | 3,153 | 0.13 | 0.11 | 10.7 | 3,199 |
| Vendor | 0.06 | 0.03 | 1.50 | 0.46 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,403 | 1,403 | 0.03 | 0.22 | 3.84 | 1,472 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.03 | 0.91 | 1.00 | 12.4 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 2,899 | 2,899 | 0.05 | 0.11 | 0.28 | 2,934 |
| Vendor | 0.06 | 0.03 | 1.56 | 0.48 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,404 | 1,404 | 0.03 | 0.22 | 0.10 | 1,470 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.73 | 0.65 | 0.78 | 9.30 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.00 | 0.00 | — | 2,097 | 2,097 | 0.03 | 0.08 | 3.30 | 2,125 |
| Vendor | 0.04 | 0.02 | 1.12 | 0.34 | 0.01 | 0.01 | 0.06 | 0.07 | 0.01 | 0.02 | 0.04 | — | 1,002 | 1,002 | 0.02 | 0.15 | 1.18 | 1,050 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.13 | 0.12 | 0.14 | 1.70 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 347 | 347 | 0.01 | 0.01 | 0.55 | 352 |

| | | | | | | | | | | | | | | | | | | |
|---------|------|---------|------|------|---------|---------|------|------|---------|---------|------|---|------|------|---------|------|------|------|
| Vendor | 0.01 | < 0.005 | 0.20 | 0.06 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | 0.01 | — | 166 | 166 | < 0.005 | 0.03 | 0.19 | 174 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.9. 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 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.33 | 1.11 | 10.2 | 14.0 | 0.03 | 0.36 | — | 0.36 | 0.34 | — | 0.34 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.33 | 1.11 | 10.2 | 14.0 | 0.03 | 0.36 | — | 0.36 | 0.34 | — | 0.34 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.77 | 0.64 | 5.89 | 8.13 | 0.01 | 0.21 | — | 0.21 | 0.19 | — | 0.19 | — | 1,523 | 1,523 | 0.06 | 0.01 | — | 1,529 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.12 | 1.08 | 1.48 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 252 | 252 | 0.01 | < 0.005 | — | 253 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|---------|------|------|---------|---------|------|------|---------|---------|------|---|-------|-------|---------|------|------|-------|
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 1.03 | 0.92 | 0.79 | 15.2 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 3,094 | 3,094 | 0.04 | 0.11 | 9.61 | 3,137 |
| Vendor | 0.06 | 0.03 | 1.44 | 0.45 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,377 | 1,377 | 0.03 | 0.21 | 3.51 | 1,443 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.98 | 0.87 | 0.90 | 11.5 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | — | 2,846 | 2,846 | 0.04 | 0.11 | 0.25 | 2,879 |
| Vendor | 0.06 | 0.03 | 1.51 | 0.47 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,378 | 1,378 | 0.03 | 0.21 | 0.09 | 1,441 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.57 | 0.50 | 0.57 | 6.98 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0.00 | 0.00 | — | 1,669 | 1,669 | 0.02 | 0.06 | 2.40 | 1,691 |
| Vendor | 0.04 | 0.02 | 0.87 | 0.27 | 0.01 | 0.01 | 0.05 | 0.06 | 0.01 | 0.02 | 0.03 | — | 798 | 798 | 0.02 | 0.12 | 0.88 | 835 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.10 | 0.09 | 0.10 | 1.27 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 276 | 276 | < 0.005 | 0.01 | 0.40 | 280 |
| Vendor | 0.01 | < 0.005 | 0.16 | 0.05 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | 0.01 | — | 132 | 132 | < 0.005 | 0.02 | 0.15 | 138 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.11. Paving (2024) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment | 1.01 | 0.85 | 7.81 | 10.0 | 0.01 | 0.39 | — | 0.39 | 0.36 | — | 0.36 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.10 | 0.08 | 0.77 | 0.99 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 149 | 149 | 0.01 | < 0.005 | — | 150 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.14 | 0.18 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 24.7 | 24.7 | < 0.005 | < 0.005 | — | 24.8 |
| Paving | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.08 | 0.07 | 1.25 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 216 | 216 | 0.01 | 0.01 | 0.86 | 219 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------|---------|---------|---------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|------|------|
| Worker | 0.01 | 0.01 | 0.01 | 0.10 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 19.8 | 19.8 | < 0.005 | < 0.005 | 0.04 | 20.1 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 3.28 | 3.28 | < 0.005 | < 0.005 | 0.01 | 3.33 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.13. Architectural Coating (2024) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.22 | 0.18 | 1.21 | 1.53 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architectural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.22 | 0.18 | 1.21 | 1.53 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architectural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|---------|---------|------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.06 | 0.38 | 0.48 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 56.1 | 56.1 | < 0.005 | < 0.005 | — | 56.3 |
| Architectural Coatings | — | 1.57 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.07 | 0.09 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.29 | 9.29 | < 0.005 | < 0.005 | — | 9.32 |
| Architectural Coatings | — | 0.29 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.26 | 0.23 | 0.22 | 3.82 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 658 | 658 | 0.03 | 0.02 | 2.61 | 668 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.24 | 0.22 | 0.26 | 2.89 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 605 | 605 | 0.03 | 0.02 | 0.07 | 612 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.08 | 0.96 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 193 | 193 | 0.01 | 0.01 | 0.36 | 196 |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|------|------|------|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.17 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 32.0 | 32.0 | < 0.005 | < 0.005 | 0.06 | 32.4 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.15. Architectural Coating (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.17 | 1.18 | 1.52 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.17 | 1.18 | 1.52 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|---------|---------|------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 0.12 | 0.84 | 1.09 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 127 | 127 | 0.01 | < 0.005 | — | 128 |
| Architectural Coatings | — | 3.55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.15 | 0.20 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 21.1 | 21.1 | < 0.005 | < 0.005 | — | 21.1 |
| Architectural Coatings | — | 0.65 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.25 | 0.20 | 0.20 | 3.53 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 644 | 644 | 0.03 | 0.02 | 2.37 | 654 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.22 | 0.19 | 0.22 | 2.67 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 592 | 592 | 0.03 | 0.02 | 0.06 | 600 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.14 | 0.17 | 2.01 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | — | 429 | 429 | 0.02 | 0.02 | 0.73 | 435 |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|------|------|------|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.03 | 0.37 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 70.9 | 70.9 | < 0.005 | < 0.005 | 0.12 | 71.9 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.17. Architectural Coating (2026) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.14 | 1.51 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.14 | 1.51 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|---------|---------|------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.11 | 0.82 | 1.08 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 127 | 127 | 0.01 | < 0.005 | — | 128 |
| Architectural Coatings | — | 3.55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.15 | 0.20 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 21.1 | 21.1 | < 0.005 | < 0.005 | — | 21.1 |
| Architectural Coatings | — | 0.65 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.22 | 0.19 | 0.18 | 3.28 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 631 | 631 | 0.03 | 0.02 | 2.14 | 640 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.21 | 0.18 | 0.20 | 2.49 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 580 | 580 | 0.01 | 0.02 | 0.06 | 587 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.13 | 0.16 | 1.86 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | — | 419 | 419 | 0.01 | 0.02 | 0.66 | 425 |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|------|------|------|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.03 | 0.34 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 69.4 | 69.4 | < 0.005 | < 0.005 | 0.11 | 70.4 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.19. 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 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|-------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.11 | 1.50 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.11 | 1.50 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architect ural Coatings | — | 4.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|---------|---------|------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.11 | 0.09 | 0.64 | 0.87 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 103 | 103 | < 0.005 | < 0.005 | — | 103 |
| Architectural Coatings | — | 2.88 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.12 | 0.16 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 17.1 | 17.1 | < 0.005 | < 0.005 | — | 17.1 |
| Architectural Coatings | — | 0.53 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.21 | 0.18 | 0.16 | 3.04 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 619 | 619 | 0.01 | 0.02 | 1.92 | 627 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.20 | 0.17 | 0.18 | 2.30 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 569 | 569 | 0.01 | 0.02 | 0.05 | 576 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.11 | 1.40 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 334 | 334 | < 0.005 | 0.01 | 0.48 | 338 |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|---------|---------|------|------|------|------|---|------|------|---------|---------|------|------|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.25 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | 0.00 | — | 55.3 | 55.3 | < 0.005 | < 0.005 | 0.08 | 56.0 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.21. Trenching (2024) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|------|---------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.37 | 0.31 | 2.19 | 2.50 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 349 | 349 | 0.01 | < 0.005 | — | 350 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.17 | 0.19 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.8 | 26.8 | < 0.005 | < 0.005 | — | 26.9 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | < 0.005 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.43 | 4.43 | < 0.005 | < 0.005 | — | 4.45 |

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|---------|------|------|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.02 | 0.42 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 72.0 | 72.0 | < 0.005 | < 0.005 | 0.29 | 73.1 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 5.14 | 5.14 | < 0.005 | < 0.005 | 0.01 | 5.21 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 0.85 | 0.85 | < 0.005 | < 0.005 | < 0.005 | 0.86 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

| | | | | | | | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Remove d | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |
|--------------------------------------|-----------------------|------------|------------|---------------|---------------------|-------------------|
| InTract Rough Grading | Grading | 3/24/2024 | 4/24/2024 | 5.00 | 23.0 | — |
| Building Construction & finish Grade | Building Construction | 7/24/2024 | 10/23/2027 | 5.00 | 848 | — |
| InTract Paving | Paving | 6/4/2024 | 7/23/2024 | 5.00 | 36.0 | — |
| Architectural Coating | Architectural Coating | 7/24/2024 | 10/23/2027 | 5.00 | 848 | — |
| InTract Underground Utilities | Trenching | 4/25/2024 | 6/3/2024 | 5.00 | 28.0 | — |

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 |
|--------------------------------------|---------------------|-----------|-------------|----------------|---------------|------------|-------------|
| InTract Rough Grading | Crawler Tractors | Diesel | Average | 2.00 | 8.00 | 87.0 | 0.43 |
| InTract Rough Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| InTract Rough Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| InTract Rough Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| InTract Rough Grading | Crawler Tractors | Diesel | Average | 2.00 | 8.00 | 87.0 | 0.43 |
| Building Construction & finish Grade | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |

| | | | | | | | |
|--------------------------------------|---------------------------|--------|---------|------|------|------|------|
| Building Construction & finish Grade | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction & finish Grade | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction & finish Grade | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Building Construction & finish Grade | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| InTract Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| InTract Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| InTract Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 8.00 | 37.0 | 0.48 |
| InTract Underground Utilities | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| InTract Underground Utilities | Trenchers | Diesel | Average | 1.00 | 8.00 | 40.0 | 0.50 |

5.3. Construction Vehicles

5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|-------------------------------|--------------|-----------------------|----------------|---------------|
| InTract Underground Utilities | — | — | — | — |
| InTract Underground Utilities | Worker | 5.00 | 18.5 | LDA,LDT1,LDT2 |
| InTract Underground Utilities | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Underground Utilities | Hauling | 0.00 | 20.0 | HHDT |
| InTract Underground Utilities | Onsite truck | — | — | HHDT |
| InTract Rough Grading | — | — | — | — |
| InTract Rough Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| InTract Rough Grading | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Rough Grading | Hauling | 0.00 | 20.0 | HHDT |

| | | | | |
|--------------------------------------|--------------|------|------|---------------|
| InTract Rough Grading | Onsite truck | — | — | HHDT |
| Building Construction & finish Grade | — | — | — | — |
| Building Construction & finish Grade | Worker | 229 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction & finish Grade | Vendor | 46.6 | 10.2 | HHDT,MHDT |
| Building Construction & finish Grade | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction & finish Grade | Onsite truck | — | — | HHDT |
| InTract Paving | — | — | — | — |
| InTract Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| InTract Paving | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Paving | Hauling | 0.00 | 20.0 | HHDT |
| InTract Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 45.7 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|-----------------------|--|--|--|--|-----------------------------|
| Architectural Coating | 1,363,007 | 454,336 | 0.00 | 0.00 | — |

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) |
|-----------------------|------------------------|------------------------|----------------------|-------------------------------|---------------------|
| InTract Rough Grading | — | — | 115 | 0.00 | — |
| InTract Paving | 0.00 | 0.00 | 0.00 | 0.00 | 2.61 |

5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area | 3 | 74% | 74% |

5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|-----------------------|--------------------|-----------|
| Condo/Townhouse | — | 0% |
| Single Family Housing | 2.61 | 0% |

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|------|--------------|-----|------|---------|
| 2024 | 0.00 | 532 | 0.03 | < 0.005 |
| 2025 | 0.00 | 532 | 0.03 | < 0.005 |
| 2026 | 0.00 | 532 | 0.03 | < 0.005 |
| 2027 | 0.00 | 532 | 0.03 | < 0.005 |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|------------------------------|-----------------------------|--|
| Temperature and Extreme Heat | 28.6 | annual days of extreme heat |
| Extreme Precipitation | 3.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |
| Wildfire | 16.5 | annual hectares burned |

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

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

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

6.2. Initial Climate Risk Scores

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

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

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

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

6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |

| | | | | |
|-------------|-----|-----|-----|-----|
| Drought | N/A | N/A | N/A | N/A |
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 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 | 80.0 |
| AQ-PM | 40.4 |
| AQ-DPM | 31.3 |
| Drinking Water | 11.0 |
| Lead Risk Housing | 4.06 |
| Pesticides | 13.6 |
| Toxic Releases | 14.3 |
| Traffic | 81.3 |
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 73.6 |

| | |
|---------------------------------|------|
| Impaired Water Bodies | 58.7 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 31.6 |
| Cardio-vascular | 76.0 |
| Low Birth Weights | 56.6 |
| Socioeconomic Factor Indicators | — |
| Education | 40.1 |
| Housing | 12.8 |
| Linguistic | 8.49 |
| Poverty | 34.9 |
| Unemployment | 48.3 |

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 | 70.31951752 |
| Employed | 39.30450404 |
| Median HI | 80.88027717 |
| Education | — |
| Bachelor's or higher | 58.29590658 |
| High school enrollment | 100 |
| Preschool enrollment | 64.72475298 |
| Transportation | — |
| Auto Access | 89.83703323 |
| Active commuting | 12.60105223 |

| | |
|--|-------------|
| Social | — |
| 2-parent households | 73.95098165 |
| Voting | 49.22366226 |
| Neighborhood | — |
| Alcohol availability | 89.3750802 |
| Park access | 2.194276915 |
| Retail density | 10.31695111 |
| Supermarket access | 18.61927371 |
| Tree canopy | 4.38855383 |
| Housing | — |
| Homeownership | 67.93276017 |
| Housing habitability | 86.16707301 |
| Low-inc homeowner severe housing cost burden | 69.34428333 |
| Low-inc renter severe housing cost burden | 80.27717182 |
| Uncrowded housing | 68.66418581 |
| Health Outcomes | — |
| Insured adults | 89.59322469 |
| Arthritis | 10.7 |
| Asthma ER Admissions | 78.7 |
| High Blood Pressure | 18.2 |
| Cancer (excluding skin) | 10.4 |
| Asthma | 46.1 |
| Coronary Heart Disease | 23.5 |
| Chronic Obstructive Pulmonary Disease | 33.2 |
| Diagnosed Diabetes | 68.9 |
| Life Expectancy at Birth | 83.5 |
| Cognitively Disabled | 29.3 |

| | |
|---------------------------------------|------|
| Physically Disabled | 73.0 |
| Heart Attack ER Admissions | 38.4 |
| Mental Health Not Good | 64.8 |
| Chronic Kidney Disease | 45.1 |
| Obesity | 48.4 |
| Pedestrian Injuries | 39.7 |
| Physical Health Not Good | 61.7 |
| Stroke | 51.7 |
| Health Risk Behaviors | — |
| Binge Drinking | 19.3 |
| Current Smoker | 59.6 |
| No Leisure Time for Physical Activity | 72.6 |
| Climate Change Exposures | — |
| Wildfire Risk | 18.1 |
| SLR Inundation Area | 0.0 |
| Children | 5.7 |
| Elderly | 87.4 |
| English Speaking | 95.5 |
| Foreign-born | 16.2 |
| Outdoor Workers | 58.6 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 74.9 |
| Traffic Density | 62.3 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 29.8 |
| Other Decision Support | — |

| | |
|-------------|------|
| 2016 Voting | 55.2 |
|-------------|------|

7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 67.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

| Screen | Justification |
|-----------------------------------|---|
| Land Use | Taken from site plan and lot acreage |
| Construction: Construction Phases | Client Indicated schedule |
| Construction: Off-Road Equipment | Client Indicated Construction Equipment |

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APPENDIX 3.3:
CALEEMOD INNOVATION/RETAIL COSTRUCTION EMISSIONS MODEL OUTPUTS

14073-Discovery Village (Innovation/Commercial) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

| Data Field | Value |
|-----------------------------|---|
| Project Name | 14073-Discovery Village (Innovation/Commercial) |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 18.6 |
| Location | 33.60967394045453, -117.16743356137664 |
| County | Riverside-South Coast |
| City | Murrieta |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5545 |
| EDFZ | 11 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |

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 |
|--------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Office Park | 267 | 1000sqft | 13.1 | 267,000 | 0.00 | — | — | — |
| Regional Shopping Center | 5.00 | 1000sqft | 3.47 | 5,000 | 0.00 | — | — | — |
| Parking Lot | 187 | Space | 1.68 | 0.00 | 0.00 | — | — | — |

| | | | | | | | | |
|------------------------|------|------|------|------|------|---|---|---|
| Other Asphalt Surfaces | 9.06 | Acre | 9.06 | 0.00 | 0.00 | — | — | — |
|------------------------|------|------|------|------|------|---|---|---|

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.35 | 6.49 | 41.7 | 36.0 | 0.07 | 2.15 | 3.21 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,417 | 7,417 | 0.30 | 0.28 | 9.28 | 7,446 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.34 | 6.46 | 41.7 | 35.6 | 0.07 | 2.15 | 3.21 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,394 | 7,394 | 0.30 | 0.28 | 0.24 | 7,422 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.52 | 4.39 | 10.1 | 15.6 | 0.03 | 0.37 | 1.16 | 1.53 | 0.34 | 0.28 | 0.62 | — | 3,787 | 3,787 | 0.14 | 0.19 | 2.70 | 3,850 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.28 | 0.80 | 1.85 | 2.85 | < 0.005 | 0.07 | 0.21 | 0.28 | 0.06 | 0.05 | 0.11 | — | 627 | 627 | 0.02 | 0.03 | 0.45 | 637 |

2.2. Construction Emissions by Year, Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|----------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 5.35 | 4.50 | 41.7 | 36.0 | 0.07 | 2.15 | 3.21 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,417 | 7,417 | 0.30 | 0.07 | 1.14 | 7,446 |
| 2025 | 2.28 | 6.49 | 14.4 | 24.2 | 0.04 | 0.52 | 1.75 | 2.27 | 0.48 | 0.43 | 0.91 | — | 5,644 | 5,644 | 0.20 | 0.28 | 9.28 | 5,743 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 5.34 | 4.50 | 41.7 | 35.6 | 0.07 | 2.15 | 3.21 | 5.35 | 1.98 | 1.07 | 3.05 | — | 7,394 | 7,394 | 0.30 | 0.07 | 0.03 | 7,422 |
| 2025 | 2.21 | 6.46 | 14.6 | 22.2 | 0.04 | 0.52 | 1.75 | 2.27 | 0.48 | 0.43 | 0.91 | — | 5,527 | 5,527 | 0.21 | 0.28 | 0.24 | 5,616 |
| 2026 | 2.10 | 6.37 | 13.8 | 21.7 | 0.04 | 0.46 | 1.75 | 2.21 | 0.43 | 0.43 | 0.85 | — | 5,475 | 5,475 | 0.16 | 0.28 | 0.22 | 5,564 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.43 | 0.40 | 3.23 | 3.07 | 0.01 | 0.16 | 0.22 | 0.38 | 0.15 | 0.07 | 0.22 | — | 592 | 592 | 0.02 | 0.01 | 0.06 | 594 |
| 2025 | 1.52 | 4.39 | 10.1 | 15.6 | 0.03 | 0.37 | 1.16 | 1.53 | 0.34 | 0.28 | 0.62 | — | 3,787 | 3,787 | 0.14 | 0.19 | 2.70 | 3,850 |
| 2026 | 0.34 | 1.02 | 2.22 | 3.53 | 0.01 | 0.07 | 0.28 | 0.35 | 0.07 | 0.07 | 0.14 | — | 881 | 881 | 0.03 | 0.05 | 0.59 | 896 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.08 | 0.07 | 0.59 | 0.56 | < 0.005 | 0.03 | 0.04 | 0.07 | 0.03 | 0.01 | 0.04 | — | 98.0 | 98.0 | < 0.005 | < 0.005 | 0.01 | 98.4 |
| 2025 | 0.28 | 0.80 | 1.85 | 2.85 | < 0.005 | 0.07 | 0.21 | 0.28 | 0.06 | 0.05 | 0.11 | — | 627 | 627 | 0.02 | 0.03 | 0.45 | 637 |
| 2026 | 0.06 | 0.19 | 0.40 | 0.64 | < 0.005 | 0.01 | 0.05 | 0.06 | 0.01 | 0.01 | 0.02 | — | 146 | 146 | < 0.005 | 0.01 | 0.10 | 148 |

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|------------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment | 5.24 | 4.40 | 41.6 | 34.4 | 0.07 | 2.15 | — | 2.15 | 1.98 | — | 1.98 | — | 7,129 | 7,129 | 0.29 | 0.06 | — | 7,154 |
| Dust From Material Movement: | — | — | — | — | — | — | 2.94 | 2.94 | — | 1.01 | 1.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 5.24 | 4.40 | 41.6 | 34.4 | 0.07 | 2.15 | — | 2.15 | 1.98 | — | 1.98 | — | 7,129 | 7,129 | 0.29 | 0.06 | — | 7,154 |
| Dust From Material Movement: | — | — | — | — | — | — | 2.94 | 2.94 | — | 1.01 | 1.01 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.33 | 0.28 | 2.62 | 2.17 | < 0.005 | 0.14 | — | 0.14 | 0.12 | — | 0.12 | — | 449 | 449 | 0.02 | < 0.005 | — | 451 |
| Dust From Material Movement: | — | — | — | — | — | — | 0.19 | 0.19 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.48 | 0.40 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 74.4 | 74.4 | < 0.005 | < 0.005 | — | 74.6 |
| Dust From Material Movement: | — | — | — | — | — | — | 0.03 | 0.03 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|------|------|------|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.10 | 1.67 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 288 | 288 | 0.01 | 0.01 | 1.14 | 292 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.11 | 0.10 | 0.11 | 1.26 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 265 | 265 | 0.01 | 0.01 | 0.03 | 268 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.01 | 0.01 | 0.01 | 0.08 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 16.9 | 16.9 | < 0.005 | < 0.005 | 0.03 | 17.1 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 2.80 | 2.80 | < 0.005 | < 0.005 | 0.01 | 2.83 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

3.3. Building Construction (2025) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.45 | 1.21 | 11.3 | 14.1 | 0.03 | 0.47 | — | 0.47 | 0.43 | — | 0.43 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.97 | 0.81 | 7.57 | 9.47 | 0.02 | 0.31 | — | 0.31 | 0.29 | — | 0.29 | — | 1,760 | 1,760 | 0.07 | 0.01 | — | 1,766 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.18 | 0.15 | 1.38 | 1.73 | < 0.005 | 0.06 | — | 0.06 | 0.05 | — | 0.05 | — | 291 | 291 | 0.01 | < 0.005 | — | 292 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.47 | 0.39 | 0.38 | 6.72 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,227 | 1,227 | 0.05 | 0.04 | 4.51 | 1,245 |
| Vendor | 0.06 | 0.03 | 1.50 | 0.47 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,364 | 1,364 | 0.03 | 0.21 | 3.87 | 1,430 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|---------|------|------|---------|---------|------|------|---------|---------|------|---|-------|-------|---------|---------|------|-------|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.41 | 0.37 | 0.42 | 5.08 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,128 | 1,128 | 0.05 | 0.04 | 0.12 | 1,142 |
| Vendor | 0.06 | 0.03 | 1.57 | 0.48 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,365 | 1,365 | 0.03 | 0.21 | 0.10 | 1,428 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.27 | 0.24 | 0.31 | 3.59 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | — | 764 | 764 | 0.04 | 0.03 | 1.30 | 775 |
| Vendor | 0.04 | 0.02 | 1.05 | 0.32 | 0.01 | 0.01 | 0.05 | 0.07 | 0.01 | 0.02 | 0.03 | — | 913 | 913 | 0.02 | 0.14 | 1.12 | 956 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.04 | 0.06 | 0.66 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 127 | 127 | 0.01 | < 0.005 | 0.22 | 128 |
| Vendor | 0.01 | < 0.005 | 0.19 | 0.06 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | 0.01 | — | 151 | 151 | < 0.005 | 0.02 | 0.19 | 158 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.5. Building Construction (2026) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.38 | 1.16 | 10.7 | 14.1 | 0.03 | 0.41 | — | 0.41 | 0.38 | — | 0.38 | — | 2,630 | 2,630 | 0.11 | 0.02 | — | 2,639 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|------|------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.22 | 0.19 | 1.71 | 2.26 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 422 | 422 | 0.02 | < 0.005 | — | 423 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.31 | 0.41 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 69.9 | 69.9 | < 0.005 | < 0.005 | — | 70.1 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.39 | 0.35 | 0.38 | 4.74 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,104 | 1,104 | 0.02 | 0.04 | 0.11 | 1,117 |
| Vendor | 0.06 | 0.03 | 1.49 | 0.46 | 0.01 | 0.02 | 0.08 | 0.10 | 0.02 | 0.03 | 0.05 | — | 1,343 | 1,343 | 0.03 | 0.21 | 0.10 | 1,406 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.07 | 0.80 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 179 | 179 | < 0.005 | 0.01 | 0.28 | 182 |
| Vendor | 0.01 | < 0.005 | 0.24 | 0.07 | < 0.005 | < 0.005 | 0.01 | 0.02 | < 0.005 | < 0.005 | 0.01 | — | 215 | 215 | < 0.005 | 0.03 | 0.25 | 226 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.15 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 29.7 | 29.7 | < 0.005 | < 0.005 | 0.05 | 30.1 |
| Vendor | < 0.005 | < 0.005 | 0.04 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 35.7 | 35.7 | < 0.005 | 0.01 | 0.04 | 37.4 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.7. Paving (2024) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|------|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.01 | 0.85 | 7.81 | 10.0 | 0.01 | 0.39 | — | 0.39 | 0.36 | — | 0.36 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 0.76 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.43 | 0.55 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 82.8 | 82.8 | < 0.005 | < 0.005 | — | 83.1 |
| Paving | — | 0.04 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.08 | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.09 | 0.95 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 198 | 198 | 0.01 | 0.01 | 0.02 | 201 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 11.0 | 11.0 | < 0.005 | < 0.005 | 0.02 | 11.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 1.82 | 1.82 | < 0.005 | < 0.005 | < 0.005 | 1.85 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.9. Paving (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.95 | 0.80 | 7.45 | 9.98 | 0.01 | 0.35 | — | 0.35 | 0.32 | — | 0.32 | — | 1,511 | 1,511 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 0.76 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

14073-Discovery Village (Innovation/Commercial) Detailed Report, 11/14/2022

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|------|---------|------|------|------|---------|---------|---------|------|------|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.04 | 0.34 | 0.45 | < 0.005 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | — | 68.0 | 68.0 | < 0.005 | < 0.005 | — | 68.3 | |
| Paving | — | 0.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Off-Road Equipment | 0.01 | 0.01 | 0.06 | 0.08 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 11.3 | 11.3 | < 0.005 | < 0.005 | — | 11.3 | |
| Paving | — | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | 0.07 | 0.06 | 0.07 | 0.88 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 194 | 194 | 0.01 | 0.01 | 0.02 | 197 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.04 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 8.86 | 8.86 | < 0.005 | < 0.005 | 0.02 | 8.98 | |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 1.47 | 1.47 | < 0.005 | < 0.005 | < 0.005 | 1.49 | |

| | | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.11. Architectural Coating (2025) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e | |
|------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.17 | 1.18 | 1.52 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 | |
| Architectural Coatings | — | 4.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.17 | 1.18 | 1.52 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 | |
| Architectural Coatings | — | 4.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.11 | 0.79 | 1.02 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 119 | 119 | < 0.005 | < 0.005 | — | 120 | |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|---------|---------|------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Architectural Coatings | — | 3.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.14 | 0.19 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 19.7 | 19.7 | < 0.005 | < 0.005 | — | 19.8 |
| Architectural Coatings | — | 0.56 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.08 | 1.34 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 245 | 245 | 0.01 | 0.01 | 0.90 | 249 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.08 | 1.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 226 | 226 | 0.01 | 0.01 | 0.02 | 228 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.06 | 0.72 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 153 | 153 | 0.01 | 0.01 | 0.26 | 155 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|------|------|
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 25.3 | 25.3 | < 0.005 | < 0.005 | 0.04 | 25.7 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.13. Architectural Coating (2026) - Unmitigated

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

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|------|------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|------|---------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.14 | 1.51 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 178 | 178 | 0.01 | < 0.005 | — | 179 |
| Architectural Coatings | — | 4.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.03 | 0.18 | 0.24 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 28.6 | 28.6 | < 0.005 | < 0.005 | — | 28.7 |
| Architectural Coatings | — | 0.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|------------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Off-Road Equipment | 0.01 | < 0.005 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.73 | 4.73 | < 0.005 | < 0.005 | — | 4.75 |
| Architectural Coatings | — | 0.13 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.08 | 0.95 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 221 | 221 | < 0.005 | 0.01 | 0.02 | 223 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.16 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 35.9 | 35.9 | < 0.005 | < 0.005 | 0.06 | 36.4 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 5.94 | 5.94 | < 0.005 | < 0.005 | 0.01 | 6.02 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.15. Trenching (2024) - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|---------|------|------|---------|---------|---------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.37 | 0.31 | 2.19 | 2.50 | < 0.005 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 349 | 349 | 0.01 | < 0.005 | — | 350 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.17 | 0.19 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.8 | 26.8 | < 0.005 | < 0.005 | — | 26.9 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | < 0.005 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.43 | 4.43 | < 0.005 | < 0.005 | — | 4.45 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.03 | 0.32 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 66.1 | 66.1 | < 0.005 | < 0.005 | 0.01 | 67.0 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---------------|---------|---------|---------|---------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 5.14 | 5.14 | < 0.005 | < 0.005 | 0.01 | 5.21 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 0.85 | 0.85 | < 0.005 | < 0.005 | < 0.005 | 0.86 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|-----------------------|------------|------------|------------|---------------|---------------------|-------------------|
| InTract Rough Grading | Grading | 9/24/2024 | 10/24/2024 | 5.00 | 23.0 | — |

| | | | | | | |
|--------------------------------------|-----------------------|------------|-----------|------|------|---|
| Building Construction & Finish Grade | Building Construction | 1/24/2025 | 3/23/2026 | 5.00 | 302 | — |
| InTract Paving | Paving | 12/4/2024 | 1/23/2025 | 5.00 | 37.0 | — |
| Architectural Coating | Architectural Coating | 1/24/2025 | 3/23/2026 | 5.00 | 302 | — |
| InTract Underground Utilities | Trenching | 10/25/2024 | 12/3/2024 | 5.00 | 28.0 | — |

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 |
|--------------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| InTract Rough Grading | Crawler Tractors | Diesel | Average | 2.00 | 8.00 | 87.0 | 0.43 |
| InTract Rough Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| InTract Rough Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| InTract Rough Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| InTract Rough Grading | Crawler Tractors | Diesel | Average | 2.00 | 8.00 | 87.0 | 0.43 |
| Building Construction & Finish Grade | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Building Construction & Finish Grade | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction & Finish Grade | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction & Finish Grade | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Building Construction & Finish Grade | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| InTract Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| InTract Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| InTract Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 8.00 | 37.0 | 0.48 |

| | | | | | | | |
|-------------------------------|------------|--------|---------|------|------|------|------|
| InTract Underground Utilities | Excavators | Diesel | Average | 1.00 | 8.00 | 36.0 | 0.38 |
| InTract Underground Utilities | Trenchers | Diesel | Average | 1.00 | 8.00 | 40.0 | 0.50 |

5.3. Construction Vehicles

5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|--------------------------------------|--------------|-----------------------|----------------|---------------|
| InTract Underground Utilities | — | — | — | — |
| InTract Underground Utilities | Worker | 5.00 | 18.5 | LDA,LDT1,LDT2 |
| InTract Underground Utilities | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Underground Utilities | Hauling | 0.00 | 20.0 | HHDT |
| InTract Underground Utilities | Onsite truck | — | — | HHDT |
| InTract Rough Grading | — | — | — | — |
| InTract Rough Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| InTract Rough Grading | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Rough Grading | Hauling | 0.00 | 20.0 | HHDT |
| InTract Rough Grading | Onsite truck | — | — | HHDT |
| Building Construction & Finish Grade | — | — | — | — |
| Building Construction & Finish Grade | Worker | 87.0 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction & Finish Grade | Vendor | 44.6 | 10.2 | HHDT,MHDT |
| Building Construction & Finish Grade | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction & Finish Grade | Onsite truck | — | — | HHDT |
| InTract Paving | — | — | — | — |
| InTract Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| InTract Paving | Vendor | — | 10.2 | HHDT,MHDT |
| InTract Paving | Hauling | 0.00 | 20.0 | HHDT |

| | | | | |
|-----------------------|--------------|------|------|---------------|
| InTract Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 17.4 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|-----------------------|--|--|--|--|-----------------------------|
| Architectural Coating | 0.00 | 0.00 | 408,000 | 136,000 | 28,078 |

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) |
|-----------------------|------------------------|------------------------|----------------------|-------------------------------|---------------------|
| InTract Rough Grading | — | — | 115 | 0.00 | — |
| InTract Paving | 0.00 | 0.00 | 0.00 | 0.00 | 10.7 |

5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area | 3 | 74% | 74% |

5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|--------------------------|--------------------|-----------|
| Office Park | 0.00 | 0% |
| Regional Shopping Center | 0.00 | 0% |
| Parking Lot | 1.68 | 100% |
| Other Asphalt Surfaces | 9.06 | 100% |

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|------|--------------|-----|------|---------|
| 2024 | 0.00 | 532 | 0.03 | < 0.005 |
| 2025 | 0.00 | 532 | 0.03 | < 0.005 |
| 2026 | 0.00 | 532 | 0.03 | < 0.005 |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|------------------------------|-----------------------------|--|
| Temperature and Extreme Heat | 28.6 | annual days of extreme heat |
| Extreme Precipitation | 3.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |
| Wildfire | 16.5 | annual hectares burned |

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

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

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

6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 0 | 0 | N/A |

| | | | | |
|-----------------------|-----|-----|-----|-----|
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 0 | 0 | 0 | N/A |

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

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

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

6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 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 | 80.0 |
| AQ-PM | 40.4 |
| AQ-DPM | 31.3 |
| Drinking Water | 11.0 |
| Lead Risk Housing | 4.06 |
| Pesticides | 13.6 |
| Toxic Releases | 14.3 |
| Traffic | 81.3 |
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 73.6 |
| Impaired Water Bodies | 58.7 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 31.6 |
| Cardio-vascular | 76.0 |
| Low Birth Weights | 56.6 |
| Socioeconomic Factor Indicators | — |
| Education | 40.1 |
| Housing | 12.8 |

| | |
|--------------|------|
| Linguistic | 8.49 |
| Poverty | 34.9 |
| Unemployment | 48.3 |

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 | 70.31951752 |
| Employed | 39.30450404 |
| Median HI | 80.88027717 |
| Education | — |
| Bachelor's or higher | 58.29590658 |
| High school enrollment | 100 |
| Preschool enrollment | 64.72475298 |
| Transportation | — |
| Auto Access | 89.83703323 |
| Active commuting | 12.60105223 |
| Social | — |
| 2-parent households | 73.95098165 |
| Voting | 49.22366226 |
| Neighborhood | — |
| Alcohol availability | 89.3750802 |
| Park access | 2.194276915 |
| Retail density | 10.31695111 |
| Supermarket access | 18.61927371 |
| Tree canopy | 4.38855383 |

| | |
|--|-------------|
| Housing | — |
| Homeownership | 67.93276017 |
| Housing habitability | 86.16707301 |
| Low-inc homeowner severe housing cost burden | 69.34428333 |
| Low-inc renter severe housing cost burden | 80.27717182 |
| Uncrowded housing | 68.66418581 |
| Health Outcomes | — |
| Insured adults | 89.59322469 |
| Arthritis | 10.7 |
| Asthma ER Admissions | 78.7 |
| High Blood Pressure | 18.2 |
| Cancer (excluding skin) | 10.4 |
| Asthma | 46.1 |
| Coronary Heart Disease | 23.5 |
| Chronic Obstructive Pulmonary Disease | 33.2 |
| Diagnosed Diabetes | 68.9 |
| Life Expectancy at Birth | 83.5 |
| Cognitively Disabled | 29.3 |
| Physically Disabled | 73.0 |
| Heart Attack ER Admissions | 38.4 |
| Mental Health Not Good | 64.8 |
| Chronic Kidney Disease | 45.1 |
| Obesity | 48.4 |
| Pedestrian Injuries | 39.7 |
| Physical Health Not Good | 61.7 |
| Stroke | 51.7 |
| Health Risk Behaviors | — |

| | |
|---------------------------------------|------|
| Binge Drinking | 19.3 |
| Current Smoker | 59.6 |
| No Leisure Time for Physical Activity | 72.6 |
| Climate Change Exposures | — |
| Wildfire Risk | 18.1 |
| SLR Inundation Area | 0.0 |
| Children | 5.7 |
| Elderly | 87.4 |
| English Speaking | 95.5 |
| Foreign-born | 16.2 |
| Outdoor Workers | 58.6 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 74.9 |
| Traffic Density | 62.3 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 29.8 |
| Other Decision Support | — |
| 2016 Voting | 55.2 |

7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 67.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

| Screen | Justification |
|--------------------------------------|---|
| Land Use | Taken from site plan |
| Construction: Construction Phases | Client Indicated Schedule |
| Construction: Off-Road Equipment | Client Indicated Construction Equipment |
| Construction: Architectural Coatings | SCAQMD Rule 1113 |

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APPENDIX 3.4:
CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

14073-Discovery Village (Operations) Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

| Data Field | Value |
|-----------------------------|---------------------------------------|
| Project Name | 14073-Discovery Village (Operations) |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 2.50 |
| Precipitation (days) | 18.6 |
| Location | 33.6110499614919, -117.16773396878716 |
| County | Riverside-South Coast |
| City | Murrieta |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 5545 |
| EDFZ | 11 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |

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 |
|--------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Office Park | 267 | 1000sqft | 13.1 | 267,000 | 0.00 | — | — | — |
| Regional Shopping Center | 5.00 | 1000sqft | 3.47 | 5,000 | 0.00 | — | — | — |
| Parking Lot | 187 | Space | 1.68 | 0.00 | 0.00 | — | — | — |

| | | | | | | | | |
|------------------------|------|---------------|------|---------|-----------|---|-----|---|
| Condo/Townhouse | 199 | Dwelling Unit | 12.4 | 210,940 | 0.00 | — | 643 | — |
| Single Family Housing | 237 | Dwelling Unit | 16.1 | 462,150 | 2,775,947 | — | 766 | — |
| Other Asphalt Surfaces | 9.06 | Acre | 9.06 | 0.00 | 0.00 | — | — | — |

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 36.1 | 54.5 | 37.5 | 282 | 0.69 | 1.40 | 21.5 | 22.9 | 1.38 | 3.82 | 5.20 | 406 | 86,418 | 86,823 | 44.6 | 3.07 | 205 | 89,058 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 30.0 | 48.6 | 38.9 | 207 | 0.65 | 1.38 | 21.5 | 22.9 | 1.35 | 3.82 | 5.17 | 406 | 82,472 | 82,877 | 44.7 | 3.15 | 9.89 | 84,943 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 27.8 | 47.0 | 29.2 | 204 | 0.53 | 0.83 | 18.1 | 18.9 | 0.81 | 3.20 | 4.02 | 406 | 65,752 | 66,157 | 44.2 | 2.71 | 77.1 | 68,147 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.08 | 8.58 | 5.33 | 37.2 | 0.10 | 0.15 | 3.29 | 3.45 | 0.15 | 0.58 | 0.73 | 67.1 | 10,886 | 10,953 | 7.32 | 0.45 | 12.8 | 11,283 |

2.5. Operations Emissions by Sector, Unmitigated

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

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 30.4 | 27.9 | 25.4 | 240 | 0.62 | 0.44 | 21.5 | 22.0 | 0.41 | 3.82 | 4.23 | — | 63,269 | 63,269 | 2.40 | 2.76 | 200 | 64,350 |
| Area | 5.16 | 26.3 | 6.85 | 39.4 | 0.04 | 0.55 | — | 0.55 | 0.56 | — | 0.56 | 0.00 | 8,377 | 8,377 | 0.16 | 0.03 | — | 8,389 |
| Energy | 0.59 | 0.30 | 5.16 | 3.02 | 0.03 | 0.41 | — | 0.41 | 0.41 | — | 0.41 | — | 14,408 | 14,408 | 1.33 | 0.10 | — | 14,473 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 72.5 | 364 | 436 | 7.47 | 0.18 | — | 677 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 333 | 0.00 | 333 | 33.3 | 0.00 | — | 1,165 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.71 | 4.71 |
| Total | 36.1 | 54.5 | 37.5 | 282 | 0.69 | 1.40 | 21.5 | 22.9 | 1.38 | 3.82 | 5.20 | 406 | 86,418 | 86,823 | 44.6 | 3.07 | 205 | 89,058 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 28.6 | 26.1 | 27.3 | 201 | 0.58 | 0.44 | 21.5 | 22.0 | 0.41 | 3.82 | 4.23 | — | 59,438 | 59,438 | 2.50 | 2.84 | 5.18 | 60,353 |
| Area | 0.76 | 22.2 | 6.51 | 2.77 | 0.04 | 0.53 | — | 0.53 | 0.53 | — | 0.53 | 0.00 | 8,262 | 8,262 | 0.16 | 0.02 | — | 8,271 |
| Energy | 0.59 | 0.30 | 5.16 | 3.02 | 0.03 | 0.41 | — | 0.41 | 0.41 | — | 0.41 | — | 14,408 | 14,408 | 1.33 | 0.10 | — | 14,473 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 72.5 | 364 | 436 | 7.47 | 0.18 | — | 677 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 333 | 0.00 | 333 | 33.3 | 0.00 | — | 1,165 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.71 | 4.71 |
| Total | 30.0 | 48.6 | 38.9 | 207 | 0.65 | 1.38 | 21.5 | 22.9 | 1.35 | 3.82 | 5.17 | 406 | 82,472 | 82,877 | 44.7 | 3.15 | 9.89 | 84,943 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 24.2 | 22.1 | 23.4 | 176 | 0.49 | 0.37 | 18.1 | 18.4 | 0.35 | 3.20 | 3.55 | — | 50,335 | 50,335 | 2.12 | 2.42 | 72.4 | 51,180 |
| Area | 3.06 | 24.6 | 0.68 | 25.2 | < 0.005 | 0.05 | — | 0.05 | 0.06 | — | 0.06 | 0.00 | 645 | 645 | 0.01 | 0.01 | — | 647 |
| Energy | 0.59 | 0.30 | 5.16 | 3.02 | 0.03 | 0.41 | — | 0.41 | 0.41 | — | 0.41 | — | 14,408 | 14,408 | 1.33 | 0.10 | — | 14,473 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 72.5 | 364 | 436 | 7.47 | 0.18 | — | 677 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 333 | 0.00 | 333 | 33.3 | 0.00 | — | 1,165 |

| | | | | | | | | | | | | | | | | | | |
|---------|------|------|------|------|---------|------|------|------|------|------|------|------|--------|--------|---------|---------|------|--------|
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.71 | 4.71 |
| Total | 27.8 | 47.0 | 29.2 | 204 | 0.53 | 0.83 | 18.1 | 18.9 | 0.81 | 3.20 | 4.02 | 406 | 65,752 | 66,157 | 44.2 | 2.71 | 77.1 | 68,147 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 4.41 | 4.03 | 4.27 | 32.1 | 0.09 | 0.07 | 3.29 | 3.36 | 0.06 | 0.58 | 0.65 | — | 8,334 | 8,334 | 0.35 | 0.40 | 12.0 | 8,473 |
| Area | 0.56 | 4.50 | 0.12 | 4.61 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 0.00 | 107 | 107 | < 0.005 | < 0.005 | — | 107 |
| Energy | 0.11 | 0.05 | 0.94 | 0.55 | 0.01 | 0.07 | — | 0.07 | 0.07 | — | 0.07 | — | 2,385 | 2,385 | 0.22 | 0.02 | — | 2,396 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 12.0 | 60.2 | 72.2 | 1.24 | 0.03 | — | 112 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 55.1 | 0.00 | 55.1 | 5.51 | 0.00 | — | 193 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.78 | 0.78 |
| Total | 5.08 | 8.58 | 5.33 | 37.2 | 0.10 | 0.15 | 3.29 | 3.45 | 0.15 | 0.58 | 0.73 | 67.1 | 10,886 | 10,953 | 7.32 | 0.45 | 12.8 | 11,283 |

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 13.8 | 12.6 | 12.9 | 123 | 0.33 | 0.23 | 1.88 | 2.11 | 0.22 | 0.58 | 0.80 | — | 33,368 | 33,368 | 1.18 | 1.41 | 106 | 33,924 |
| Regional Shopping Center | 0.87 | 0.82 | 0.56 | 5.02 | 0.01 | 0.01 | 0.07 | 0.08 | 0.01 | 0.02 | 0.03 | — | 1,211 | 1,211 | 0.06 | 0.06 | 3.77 | 1,234 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

14073-Discovery Village (Operations) Detailed Report, 11/14/2022

| | | | | | | | | | | | | | | | | | | |
|--------------------------|------|------|------|------|---------|---------|------|------|---------|---------|---------|---|--------|--------|------|------|------|--------|
| Condo/Townhouse | 6.18 | 5.72 | 4.73 | 44.0 | 0.11 | 0.08 | 0.63 | 0.71 | 0.07 | 0.20 | 0.27 | — | 11,323 | 11,323 | 0.46 | 0.51 | 35.6 | 11,522 |
| Single Family Housing | 9.47 | 8.77 | 7.26 | 67.4 | 0.17 | 0.12 | 0.97 | 1.09 | 0.11 | 0.30 | 0.41 | — | 17,366 | 17,366 | 0.71 | 0.78 | 54.7 | 17,671 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 30.4 | 27.9 | 25.4 | 240 | 0.62 | 0.44 | 3.55 | 3.99 | 0.41 | 1.10 | 1.51 | — | 63,269 | 63,269 | 2.40 | 2.76 | 200 | 64,350 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 13.1 | 11.8 | 13.8 | 102 | 0.31 | 0.23 | 1.88 | 2.11 | 0.22 | 0.58 | 0.80 | — | 31,338 | 31,338 | 1.22 | 1.46 | 2.74 | 31,805 |
| Regional Shopping Center | 0.82 | 0.77 | 0.60 | 4.38 | 0.01 | 0.01 | 0.07 | 0.08 | 0.01 | 0.02 | 0.03 | — | 1,139 | 1,139 | 0.06 | 0.06 | 0.10 | 1,159 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Condo/Townhouse | 5.81 | 5.35 | 5.07 | 37.4 | 0.10 | 0.08 | 0.63 | 0.71 | 0.07 | 0.20 | 0.27 | — | 10,641 | 10,641 | 0.48 | 0.52 | 0.92 | 10,810 |
| Single Family Housing | 8.91 | 8.20 | 7.77 | 57.3 | 0.16 | 0.12 | 0.97 | 1.09 | 0.11 | 0.30 | 0.41 | — | 16,320 | 16,320 | 0.74 | 0.80 | 1.42 | 16,579 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 28.6 | 26.1 | 27.3 | 201 | 0.58 | 0.44 | 3.55 | 3.99 | 0.41 | 1.10 | 1.51 | — | 59,438 | 59,438 | 2.50 | 2.84 | 5.18 | 60,353 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 1.80 | 1.62 | 1.95 | 14.7 | 0.04 | 0.03 | 0.26 | 0.29 | 0.03 | 0.08 | 0.11 | — | 3,978 | 3,978 | 0.15 | 0.18 | 5.75 | 4,042 |
| Regional Shopping Center | 0.12 | 0.11 | 0.09 | 0.64 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 143 | 143 | 0.01 | 0.01 | 0.20 | 146 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Condo/Townhouse | 0.92 | 0.84 | 0.82 | 6.16 | 0.02 | 0.01 | 0.10 | 0.11 | 0.01 | 0.03 | 0.04 | — | 1,551 | 1,551 | 0.07 | 0.08 | 2.22 | 1,577 |
| Single Family Housing | 1.57 | 1.45 | 1.41 | 10.6 | 0.03 | 0.02 | 0.17 | 0.19 | 0.02 | 0.05 | 0.07 | — | 2,662 | 2,662 | 0.12 | 0.13 | 3.81 | 2,708 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 4.41 | 4.03 | 4.27 | 32.1 | 0.09 | 0.07 | 0.54 | 0.61 | 0.06 | 0.17 | 0.23 | — | 8,334 | 8,334 | 0.35 | 0.40 | 12.0 | 8,473 |

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|-------|---------|---------|---|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | 4,417 | 4,417 | 0.42 | 0.05 | — | 4,443 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 46.3 | 46.3 | < 0.005 | < 0.005 | — | 46.5 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 60.9 | 60.9 | 0.01 | < 0.005 | — | 61.3 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | — | 1,383 | 1,383 | 0.13 | 0.02 | — | 1,391 |

| | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|---------|---------|---|-------|
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | 2,099 | 2,099 | 0.20 | 0.02 | — | 2,112 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 8,007 | 8,007 | 0.76 | 0.09 | — | 8,054 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | 4,417 | 4,417 | 0.42 | 0.05 | — | 4,443 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 46.3 | 46.3 | < 0.005 | < 0.005 | — | 46.5 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 60.9 | 60.9 | 0.01 | < 0.005 | — | 61.3 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | — | 1,383 | 1,383 | 0.13 | 0.02 | — | 1,391 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | 2,099 | 2,099 | 0.20 | 0.02 | — | 2,112 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 8,007 | 8,007 | 0.76 | 0.09 | — | 8,054 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | 731 | 731 | 0.07 | 0.01 | — | 736 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | 7.66 | 7.66 | < 0.005 | < 0.005 | — | 7.71 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 10.1 | 10.1 | < 0.005 | < 0.005 | — | 10.1 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|------|---------|---|-------|
| Condo/T | — | — | — | — | — | — | — | — | — | — | — | — | 229 | 229 | 0.02 | < 0.005 | — | 230 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | 348 | 348 | 0.03 | < 0.005 | — | 350 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,326 | 1,326 | 0.13 | 0.02 | — | 1,333 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|---------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|---|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 0.22 | 0.11 | 1.98 | 1.66 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | — | 2,361 | 2,361 | 0.21 | < 0.005 | — | 2,367 |
| Regional Shopping Center | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.49 | 9.49 | < 0.005 | < 0.005 | — | 9.52 |
| 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 |
| Condo/Townhouse | 0.12 | 0.06 | 1.05 | 0.45 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,330 | 1,330 | 0.12 | < 0.005 | — | 1,333 |
| Single Family Housing | 0.25 | 0.12 | 2.13 | 0.91 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,701 | 2,701 | 0.24 | 0.01 | — | 2,709 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.59 | 0.30 | 5.16 | 3.02 | 0.03 | 0.41 | — | 0.41 | 0.41 | — | 0.41 | — | 6,401 | 6,401 | 0.57 | 0.01 | — | 6,419 |

| | | | | | | | | | | | | | | | | | | |
|--------------------------|---------|---------|---------|---------|---------|---------|---|---------|---------|---|---------|---|-------|-------|---------|---------|---|-------|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 0.22 | 0.11 | 1.98 | 1.66 | 0.01 | 0.15 | — | 0.15 | 0.15 | — | 0.15 | — | 2,361 | 2,361 | 0.21 | < 0.005 | — | 2,367 |
| Regional Shopping Center | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.49 | 9.49 | < 0.005 | < 0.005 | — | 9.52 |
| 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 |
| Condo/Townhouse | 0.12 | 0.06 | 1.05 | 0.45 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,330 | 1,330 | 0.12 | < 0.005 | — | 1,333 |
| Single Family Housing | 0.25 | 0.12 | 2.13 | 0.91 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,701 | 2,701 | 0.24 | 0.01 | — | 2,709 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.59 | 0.30 | 5.16 | 3.02 | 0.03 | 0.41 | — | 0.41 | 0.41 | — | 0.41 | — | 6,401 | 6,401 | 0.57 | 0.01 | — | 6,419 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | 0.04 | 0.02 | 0.36 | 0.30 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 391 | 391 | 0.03 | < 0.005 | — | 392 |
| Regional Shopping Center | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.57 | 1.57 | < 0.005 | < 0.005 | — | 1.58 |
| 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 |
| Condo/Townhouse | 0.02 | 0.01 | 0.19 | 0.08 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 220 | 220 | 0.02 | < 0.005 | — | 221 |
| Single Family Housing | 0.05 | 0.02 | 0.39 | 0.17 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 447 | 447 | 0.04 | < 0.005 | — | 448 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|------|------|---|------|------|---|------|---|-------|-------|------|---------|---|-------|
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.11 | 0.05 | 0.94 | 0.55 | 0.01 | 0.07 | — | 0.07 | 0.07 | — | 0.07 | — | 1,060 | 1,060 | 0.09 | < 0.005 | — | 1,063 |

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|---------|------|---|-------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.76 | 0.38 | 6.51 | 2.77 | 0.04 | 0.53 | — | 0.53 | 0.53 | — | 0.53 | 0.00 | 8,262 | 8,262 | 0.16 | 0.02 | — | 8,271 |
| Consumer Products | — | 20.3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 1.54 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 4.40 | 4.11 | 0.34 | 36.6 | < 0.005 | 0.02 | — | 0.02 | 0.03 | — | 0.03 | — | 115 | 115 | < 0.005 | 0.01 | — | 118 |
| Total | 5.16 | 26.3 | 6.85 | 39.4 | 0.04 | 0.55 | — | 0.55 | 0.56 | — | 0.56 | 0.00 | 8,377 | 8,377 | 0.16 | 0.03 | — | 8,389 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.76 | 0.38 | 6.51 | 2.77 | 0.04 | 0.53 | — | 0.53 | 0.53 | — | 0.53 | 0.00 | 8,262 | 8,262 | 0.16 | 0.02 | — | 8,271 |
| Consumer Products | — | 20.3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|------------------------|------|---------|------|------|---------|---------|---|---------|---------|---|---------|------|-------|-------|---------|---------|---|-------|
| Architectural | — | 1.54 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 0.76 | 22.2 | 6.51 | 2.77 | 0.04 | 0.53 | — | 0.53 | 0.53 | — | 0.53 | 0.00 | 8,262 | 8,262 | 0.16 | 0.02 | — | 8,271 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.01 | < 0.005 | 0.08 | 0.03 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 0.00 | 93.7 | 93.7 | < 0.005 | < 0.005 | — | 93.8 |
| Consumer Products | — | 3.70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.28 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.55 | 0.51 | 0.04 | 4.57 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.0 | 13.0 | < 0.005 | < 0.005 | — | 13.4 |
| Total | 0.56 | 4.50 | 0.12 | 4.61 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | 0.00 | 107 | 107 | < 0.005 | < 0.005 | — | 107 |

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 17.9 | 89.3 | 107 | 1.85 | 0.04 | — | 167 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Condo/T | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 54.6 | 274 | 329 | 5.62 | 0.14 | — | 510 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 72.5 | 364 | 436 | 7.47 | 0.18 | — | 677 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 17.9 | 89.3 | 107 | 1.85 | 0.04 | — | 167 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 54.6 | 274 | 329 | 5.62 | 0.14 | — | 510 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 72.5 | 364 | 436 | 7.47 | 0.18 | — | 677 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 2.97 | 14.8 | 17.8 | 0.31 | 0.01 | — | 27.6 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 9.04 | 45.4 | 54.4 | 0.93 | 0.02 | — | 84.4 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 12.0 | 60.2 | 72.2 | 1.24 | 0.03 | — | 112 |

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 2.83 | 0.00 | 2.83 | 0.28 | 0.00 | — | 9.90 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | 79.3 | 0.00 | 79.3 | 7.93 | 0.00 | — | 278 |

| | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|-------|
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 117 | 0.00 | 117 | 11.7 | 0.00 | — | 409 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 333 | 0.00 | 333 | 33.3 | 0.00 | — | 1,165 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 2.83 | 0.00 | 2.83 | 0.28 | 0.00 | — | 9.90 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | 79.3 | 0.00 | 79.3 | 7.93 | 0.00 | — | 278 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 117 | 0.00 | 117 | 11.7 | 0.00 | — | 409 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 333 | 0.00 | 333 | 33.3 | 0.00 | — | 1,165 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | 22.2 | 0.00 | 22.2 | 2.21 | 0.00 | — | 77.5 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | 0.47 | 0.00 | 0.47 | 0.05 | 0.00 | — | 1.64 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Condo/T | — | — | — | — | — | — | — | — | — | — | — | 13.1 | 0.00 | 13.1 | 1.31 | 0.00 | — | 46.0 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | 19.4 | 0.00 | 19.4 | 1.94 | 0.00 | — | 67.8 |
| Other Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 55.1 | 0.00 | 55.1 | 5.51 | 0.00 | — | 193 |

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|------|------|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.38 | 0.38 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.35 | 1.35 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.96 | 2.96 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.71 | 4.71 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|---------|
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.38 | 0.38 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.35 | 1.35 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.96 | 2.96 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.71 | 4.71 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Office Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.06 | 0.06 |
| Regional Shopping Center | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Condo/Townhouse | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.22 | 0.22 |
| Single Family Housing | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.49 | 0.49 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.78 | 0.78 |

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

| | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. 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 |
|--------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|------------|
| Office Park | 3,068 | 684 | 288 | 850,504 | 41,049 | 9,146 | 3,858 | 11,380,080 |
| Regional Shopping Center | 196 | 231 | 105 | 68,625 | 1,111 | 1,463 | 669 | 400,885 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Condo/Townhouse | 1,514 | 905 | 768 | 482,089 | 13,822 | 8,264 | 7,011 | 4,400,221 |
| Single Family Housing | 2,323 | 2,247 | 2,010 | 827,482 | 21,199 | 20,507 | 18,344 | 7,552,766 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

| Hearth Type | Unmitigated (number) |
|-----------------------|----------------------|
| Condo/Townhouse | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 179 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 20 |
| Single Family Housing | — |
| Wood Fireplaces | 0 |
| Gas Fireplaces | 213 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 24 |

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) |
|--|--|--|--|-----------------------------|
| 1363007.25 | 454,336 | 408,000 | 136,000 | 28,078 |

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|--------------------------|----------------------|-----|--------|--------|-----------------------|
| Office Park | 4,657,327 | 346 | 0.0330 | 0.0040 | 7,365,637 |
| Regional Shopping Center | 48,792 | 346 | 0.0330 | 0.0040 | 29,611 |
| Parking Lot | 64,221 | 346 | 0.0330 | 0.0040 | 0.00 |
| Condo/Townhouse | 1,458,499 | 346 | 0.0330 | 0.0040 | 4,149,285 |
| Single Family Housing | 2,213,401 | 346 | 0.0330 | 0.0040 | 8,428,742 |
| Other Asphalt Surfaces | 0.00 | 346 | 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) |
|-------------|-------------------------|--------------------------|
| Office Park | 0.00 | 0.00 |

| | | |
|--------------------------|------------|------------|
| Regional Shopping Center | 9,359,768 | 5,736,632 |
| Parking Lot | 0.00 | 0.00 |
| Condo/Townhouse | 0.00 | 0.00 |
| Single Family Housing | 28,481,212 | 17,955,547 |
| Other Asphalt Surfaces | 0.00 | 0.00 |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|--------------------------|------------------|-------------------------|
| Office Park | 248 | 0.00 |
| Regional Shopping Center | 5.25 | 0.00 |
| Parking Lot | 0.00 | 0.00 |
| Condo/Townhouse | 45.6 | 0.00 |
| Single Family Housing | 67.2 | 0.00 |
| Other Asphalt Surfaces | 0.00 | 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 |
|--------------------------|---|--------------|-------|---------------|----------------------|-------------------|----------------|
| Office Park | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| Office Park | Other commercial A/C and heat pumps | User Defined | 750 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Regional Shopping Center | Other commercial A/C and heat pumps | User Defined | 750 | < 0.005 | 4.00 | 4.00 | 18.0 |

| | | | | | | | |
|--------------------------|---|--------------|-------|---------|------|------|------|
| Regional Shopping Center | Stand-alone retail refrigerators and freezers | R-134a | 1,430 | 0.04 | 1.00 | 0.00 | 1.00 |
| Condo/Townhouse | Average room A/C & Other residential A/C and heat pumps | User Defined | 750 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Condo/Townhouse | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |
| Single Family Housing | Average room A/C & Other residential A/C and heat pumps | User Defined | 750 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Single Family Housing | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

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

| | |
|---|---|
| — | — |
|---|---|

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

| Climate Hazard | Result for Project Location | Unit |
|------------------------------|-----------------------------|--|
| Temperature and Extreme Heat | 28.6 | annual days of extreme heat |
| Extreme Precipitation | 3.45 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |

| | | |
|----------|------|------------------------|
| Wildfire | 16.5 | annual hectares burned |
|----------|------|------------------------|

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

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

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

6.2. Initial Climate Risk Scores

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

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

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

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

6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|------------------------------|----------------|-------------------|-------------------------|---------------------|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |

| | | | | |
|-----------------------|-----|-----|-----|-----|
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack | N/A | N/A | N/A | N/A |
| Air Quality | 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 | 80.0 |
| AQ-PM | 40.4 |
| AQ-DPM | 31.3 |
| Drinking Water | 11.0 |
| Lead Risk Housing | 4.06 |
| Pesticides | 13.6 |
| Toxic Releases | 14.3 |
| Traffic | 81.3 |

| | |
|---------------------------------|------|
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 73.6 |
| Impaired Water Bodies | 58.7 |
| Solid Waste | 0.00 |
| Sensitive Population | — |
| Asthma | 31.6 |
| Cardio-vascular | 76.0 |
| Low Birth Weights | 56.6 |
| Socioeconomic Factor Indicators | — |
| Education | 40.1 |
| Housing | 12.8 |
| Linguistic | 8.49 |
| Poverty | 34.9 |
| Unemployment | 48.3 |

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 | 70.31951752 |
| Employed | 39.30450404 |
| Median HI | 80.88027717 |
| Education | — |
| Bachelor's or higher | 58.29590658 |
| High school enrollment | 100 |

| | |
|--|-------------|
| Preschool enrollment | 64.72475298 |
| Transportation | — |
| Auto Access | 89.83703323 |
| Active commuting | 12.60105223 |
| Social | — |
| 2-parent households | 73.95098165 |
| Voting | 49.22366226 |
| Neighborhood | — |
| Alcohol availability | 89.3750802 |
| Park access | 2.194276915 |
| Retail density | 10.31695111 |
| Supermarket access | 18.61927371 |
| Tree canopy | 4.38855383 |
| Housing | — |
| Homeownership | 67.93276017 |
| Housing habitability | 86.16707301 |
| Low-inc homeowner severe housing cost burden | 69.34428333 |
| Low-inc renter severe housing cost burden | 80.27717182 |
| Uncrowded housing | 68.66418581 |
| Health Outcomes | — |
| Insured adults | 89.59322469 |
| Arthritis | 10.7 |
| Asthma ER Admissions | 78.7 |
| High Blood Pressure | 18.2 |
| Cancer (excluding skin) | 10.4 |
| Asthma | 46.1 |
| Coronary Heart Disease | 23.5 |

| | |
|---------------------------------------|------|
| Chronic Obstructive Pulmonary Disease | 33.2 |
| Diagnosed Diabetes | 68.9 |
| Life Expectancy at Birth | 83.5 |
| Cognitively Disabled | 29.3 |
| Physically Disabled | 73.0 |
| Heart Attack ER Admissions | 38.4 |
| Mental Health Not Good | 64.8 |
| Chronic Kidney Disease | 45.1 |
| Obesity | 48.4 |
| Pedestrian Injuries | 39.7 |
| Physical Health Not Good | 61.7 |
| Stroke | 51.7 |
| Health Risk Behaviors | — |
| Binge Drinking | 19.3 |
| Current Smoker | 59.6 |
| No Leisure Time for Physical Activity | 72.6 |
| Climate Change Exposures | — |
| Wildfire Risk | 18.1 |
| SLR Inundation Area | 0.0 |
| Children | 5.7 |
| Elderly | 87.4 |
| English Speaking | 95.5 |
| Foreign-born | 16.2 |
| Outdoor Workers | 58.6 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 74.9 |
| Traffic Density | 62.3 |

| | |
|------------------------|------|
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 29.8 |
| Other Decision Support | — |
| 2016 Voting | 55.2 |

7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---------------------------------|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 67.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

| Screen | Justification |
|--------------------------|-------------------------------------|
| Land Use | Taken from site plan |
| Operations: Vehicle Data | Taken from TA and ITE weekend rates |

| | |
|------------------------------------|--|
| Operations: Hearths | SCAQMD Rule 445 no wood burning devices, Wood burning devices added to gas devices |
| Operations: Architectural Coatings | SCAQMD Rule 1113 |
| Operations: Water and Waste Water | water use is based on Water Study Report Report, water assigned based on residential and non-residential total water demand. |
| Operations: Refrigerants | Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater |

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