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MEMORANDUM

DATE: May 28, 2021

TO: Ryan Fowler, Senior Planner
Community Development Department/Planning Division
City of Menifee

FROM: Amy Fischer, Principal
Jeffrey Haynes, Assistant Air Quality Analyst

SUBJECT: Energy Analysis for the Proposed Boulder Mixed-Use Project (CIM2002)

INTRODUCTION

This energy technical analysis has been prepared to evaluate potential energy-related impacts associated with the proposed Boulder Mixed-Use Project (Project). The 10.14-acre Boulder Mixed-Use Project (herein referred to as "proposed Project" or "Project") site is located on Assessors' Parcel Number (APN) 339-200-080 in the City of Menifee, in Riverside County, California. Specifically, the Project site is located at the northeast corner of Normandy Road and Berea Road.

PROJECT DESCRIPTION

The existing project site is vacant. The proposed project would develop a 234-dwelling unit mid-rise apartment complex, an 8,250-square-foot daycare facility with outdoor play area, and a 25,745-square-foot three-story general office building. The office building area includes the apartment leasing office and resident amenities with common areas. The apartment complex would consist of nine three-story buildings, with ground level covered parking. The entire project would provide 429 total parking spaces (207 covered garage, 27 covered carports, and 195 open space parking). The parking would include 41 neighborhood electric vehicle (NEV) charging stations. Construction would begin in December of 2021 and finish in April of 2023, a duration of 16 months.

BACKGROUND

The proposed project site is located in the City of Menifee, which is part of the Southern California Edison (SCE) service area for electricity and Southern California Gas (SoCalGas) service area for natural gas.

Existing Environmental Setting

Electricity

Electricity is a manmade resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear

resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).[1]

In 2019, California's electricity was generated primarily by natural gas (38.4 percent), coal (23.4 percent), large hydroelectric (14.72 percent), nuclear (9.08 percent), and renewable sources (29 percent). Total electricity generation in California in 2019 was 279,402 gigawatt-hours (GWh), down 2.1 percent from the 2018 total generation of 285,488 GWh. In 2019, California produced approximately 70.7 percent and imported 29.3 percent of the electricity it used.[2]

The project site is within the service territory of SCE. SCE provides electricity to more than 15 million people in a 50,000-square-mile (sq mi) area of Central, Coastal, and Southern California.[3] According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2019 was 80,913 GWh. Total electricity consumption in Riverside County in 2019 was 15,520 GWh (7,337 GWh for the residential sector and 8,183 GWh for the non-residential sector).[4]

Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).[5]

In 2019, the natural gas consumed in California was used for electricity generation (36 percent), residential uses (16 percent), industrial uses (33 percent), and commercial uses (11 percent). California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.[6]

SoCalGas is the natural gas service provider for the project site. SoCalGas provides natural gas to approximately 21.8 million people in a 24,000 sq mi service area throughout Central and Southern

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1 United States Energy Information Administration (EIA). 2019b. Electricity Explained. Website: https://www.eia.gov/energyexplained/electricity/ (accessed April 2021).

2 California Energy Commission (CEC). 2019c. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

3 Southern California Edison (SCE). 2019. About Us. Website: https://www.sce.com/about-us/who-we-are (accessed April 2021).

4 CEC. 2019a. Electricity Consumption by County. Website: http://www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed April 2021).

5 EIA. 2020b. Natural Gas Explained- Use of Natural Gas. Website: https://www.eia.gov/energyexplained/index.php?page=natural_gas_use (accessed April 2021).

6 CEC. 2020b. Supply and Demand of Natural Gas in California. Website: https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html (accessed April 2021).

California, from Visalia to the Mexican border.[1] According to the CEC, total natural gas consumption in the SoCalGas service area in 2019 was 5,424.7 million therms (2,418.6 million therms for the residential sector and 947.8 million therms for the commercial sector). Total natural gas consumption in Riverside County in 2019 was 453.0 million therms (304.8 million therms for the residential sector and 148.2 therms for the non-residential sector).[2]

Petroleum/Transportation Energy

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2019, total gasoline consumption in California was 360,237 thousand barrels (15.1 billion gallons) or 1,819.9 trillion British Thermal Units (BTU).[3] Of the total gasoline consumption, 343,677 thousand barrels (14.4 billion gallons) or 1,736.3 trillion BTU were consumed for transportation.[4] Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 2.0 billion gallons of gasoline were consumed from vehicle trips in Riverside County in 2019.

Regulatory Setting

Applicable federal, State, regional, and local energy regulations are discussed below,

Federal Regulations

Corporate Average Fuel Economy. Congress first passed the Corporate Average Fuel Economy (CAFE) law in 1975 to increase the fuel economy of cars and light-duty trucks. CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The National Highway Traffic Safety Administration (NHTSA) regulates the standards and the United States Environmental Protection Agency (USEPA) measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the United States. The law has become more stringent over time. The current standard is 27.5 miles per gallon (mpg) for passenger cars and 20.7 mpg for light-duty trucks.

On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the USEPA and the United States Department of Transportation's (USDOT) NHTSA announced a joint final rule establishing a

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1 Southern California Gas Company (SoCalGas). 2020. About SoCalGas. Website: https://www3.socalgas.com/about-us/company-profile (accessed April 2021).

2 CEC. 2020a. Gas Consumption by County. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed April 2021).

3 A British Thermal Unit (BTU) is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

4 EIA. 2020a. California State Profile and Energy Estimates. Table F3: Motor gasoline consumption, price, and expenditure estimates. 2017. Website: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed April 2021).

national program that would reduce greenhouse gas (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States. The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2012 through 2016. This phase required these vehicles to meet a fuel economy standard of 35.5 mpg. The second phase applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg.[1]

On September 15, 2011, the USEPA and USDOT issued a final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 through 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption. On October 25, 2016, the USEPA and USDOT issued Phase 2 of the national standards to improve fuel efficiency standards for medium- and heavy-duty trucks and buses for model years 2021 through 2027 to achieve vehicle fuel savings as high as 25 percent, depending on the vehicle category.

Safer Affordable Fuel-Efficient Vehicles Rule. On March 31, 2020, the Trump Administration adopted *The Safer Affordable Fuel-Efficient* (SAFE) *Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule) to amend the CAFE and GHG emission standards established in 2012 for model years 2021 through 2026. The SAFE Vehicles Rule would decrease fuel economy and would withdraw the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026.[2]

State Regulations

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *California Environmental Quality Act (CEQA) Guidelines* Section 15126.4 to require environmental impact reports (EIR) to include, where relevant, mitigation measures proposed to

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1 National Highway Traffic Safety Administration (NHTSA). 2019a. Corporate Average Fuel Economy. Website: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy (accessed April 2021).

2 NHTSA. March 30, 2020. Website: https://www.nhtsa.gov/corporate-average-fuel-economy/.safe#:~:text=The%20Safer%20Affordable%20Fuel%2DEfficient%20(SAFE)%20Vehicles%20Rule%2C,model%20years%202021%20through%202026 (accessed April 2021).

minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an *Integrated Energy Policy Report* every 2 years and an update every other year. The most recently adopted reports include the *2019 Integrated Energy Policy Report*[1] and the *2020 Integrated Energy Policy Report Update.*[2] The *2019 Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *2020 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The CEC approved the *2020 Integrated Energy Policy Report* in March 2021.[3]

Renewable Portfolio Standards. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the

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1 CEC. 2020. *2019 Integrated Energy Policy Report*. California Energy Commission. Publication Number: CEC-100-2019-001-V1-CMF. March.

2 CEC. 2021. *2020 Integrated Energy Policy Report Update*. California Energy Commission. Publication Number: CEC-100-2020-001-V1-CMF. February.

3 CEC. 2019. Notice of Request for Public Comments on the Draft Scoping Order for the *2019 Integrated Energy Policy Report*. Docket No. 19-IEPR-01.

requirement to 60 percent by 2030 and required that all State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.

Title 24, California Building Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR), known as the California Building Code (CBC). The CEC first adopted the Building Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBC is updated every 3 years, and the current 2019 CBC went into effect on January 1, 2020. The efficiency standards apply to both new construction and rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in CCR Title 24.

California Green Building Standards Code (CALGreen Code). In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2019 CALGreen Code standards that became effective January 1, 2020. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

1. All new residential construction is expected to implement zero net energy (ZNE) by 2020.

2. All new commercial construction will be ZNE by 2030.

3. 50 percent of commercial buildings will be retrofitted to ZNE by 2030.

4. 50 percent of new major renovations of State buildings will be ZNE by 2025.

Regional Regulations

There are no regional energy regulations that apply to the proposed project.

Local Regulations

Menifee Municipal Code. The City of Menifee has adopted the 2019 CALGreen Code and incorporated the CALGreen Code by reference into the City Municipal Code (Chapter 5, Buildings, Article 1, Building Code, Section 5-1 California Building Codes – Adopted).

Menifee General Plan Open Space & Conservation Element. The following goals and policies are applicable to the proposed project:

OSC-4 Efficient and environmentally appropriate use and management of energy and mineral resources to ensure their availability for future generations.

OCS-4.1 Apply energy efficiency and conservation practices in land use, transportation demand management, and subdivision and building design.

OCS-4.2 Evaluate public and private efforts to develop and operate alternative systems of energy production, including solar, wind, and fuel cell.

OCS-4.3 Advocate for cost-effective and reliable production and delivery of electrical power to residents and businesses throughout the community.

METHODOLOGY

This memorandum discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. Annual natural gas and electricity usage estimates associated with project operation were obtained from the California Emissions Estimator Model Version 2016.3.2 (CalEEMod) output, which is included in Appendix A of the *Boulder Mixed-Use Project Air Quality and Greenhouse Gas Emissions Analysis* prepared for the proposed project.[1] In addition, fuel consumption during project operation is based on VMT estimates included in the CalEEMod output and USEPA fuel economy estimates.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, trucks, and construction worker vehicles were based on trip estimates from the CalEEMod model and fuel efficiencies from the California Air Resources Board (CARB) EMFAC2017 model.

THRESHOLD OF SIGNIFICANCE

The State of California has developed guidelines to address the significance energy impacts based on Appendix G of the *CEQA Guidelines* (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

[1] The *Boulder Mixed-Use Project Air Quality and Greenhouse Gas Emissions Analysis Memorandum* (LSA 2021) includes the CalEEMod results for the annual, summer, and winter scenarios. The CalEEMod results for the annual scenario for construction and operations were obtained from the GHG analysis.

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

- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

For purposes of this analysis, impacts to energy resources would be considered to be significant if the project would result in the wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely if the project would not incorporate renewable energy or energy efficiency measures into building design, equipment use, transportation, or other project features.

IMPACT ANALYSIS

Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources

The proposed project would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction. This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

Construction-Related Energy Use

Construction of the proposed project is anticipated to last 16 months, and would require energy for activities such as the manufacture and transportation of building materials, grading activities, and building construction. Construction of the proposed project would require fossil fuels to power construction-related equipment. Construction of the proposed project would not involve the consumption of natural gas because none of the construction-related equipment would be powered by natural gas.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels. Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the types and number of trips, VMT, vehicle fuel efficiency, and travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from the EMFAC2017 model. Fuel consumption estimates are presented in Table A. Detailed calculations are attached.

Table A: Construction-Related Fuel Consumption

Category	Estimated Annual Fuel Consumption (gallons)
Diesel Fuel	
Construction Equipment	39,964
Construction Vendor Trips	21,041
Total Diesel Consumption	**61,005**
Construction Worker Trips	63,724
Total Gasoline Consumption	**63,724**

Source: Compiled by LSA (May 2021).

As indicated in Table A, the project would consume approximately 61,005 gallons of diesel fuel and approximately 63,724 gallons of gasoline during construction. Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 2.0 billion gallons of gasoline were consumed from vehicle trips in Riverside County in 2019. Therefore, construction of the proposed project would increase the annual construction generated fuel use in Riverside County by approximately 0.01 percent for diesel fuel usage and less than 0.1 percent for gasoline fuel usage. As such, project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Riverside County's overall use of the State's available energy sources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State.

In addition, the equipment used for project construction would conform to CARB regulations and California emissions standards. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities or equipment that would not conform to current emissions standards (and related fuel efficiencies). All construction equipment would utilize, at minimum, Tier 2 engines, which were included in CalEEMod. The project would have a balanced cut-and-fill quantity of soil on site. Equipment employed in construction of the proposed project would therefore not result in inefficient, wasteful, or unnecessary fuel consumption.

The proposed project would utilize construction contractors who practice compliance with applicable CARB regulations regarding retrofitting, repowering, and replacement of diesel off-road construction equipment. Additionally, CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (TACs).[1] Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

[1] CARB. Airborne Toxic Control Measures. Website: https://ww2.arb.ca.gov/resources/documents/airborne-toxic-control-measures (accessed April 2021).

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To ensure adherence to these regulations, the Applicant/Developer would be required to comply with Regulatory Compliance Measure 1, provided below, which requires the placement of signage on the project site informing the construction workers that engines must be shut off at or before five minutes of idling.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed development through energy efficiencies realized from bulk purchase, transport, and use of construction materials.

A full analysis related to the energy needed to form construction materials has not been prepared due to a lack of detailed project-specific information on construction materials. At this time, an analysis of the energy needed to create project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with the preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations. With adherence to Regulatory Compliance Measure 1, the proposed project would result in less than significant impacts related to energy during construction.

Operational Energy Use

Energy consumption associated with project operations would include transportation energy demands (e.g., energy consumed by future residents, employees, and delivery vehicles accessing the project site) and facilities energy demands (e.g., energy consumed by building operations and site maintenance activities).

Transportation Energy Demands. Energy that would be consumed by project-generated traffic is a function of total VMT and estimated vehicle fuel economies of the various types of vehicles accessing the project site. The project would implement NEV charging stations. Trip generation rates used in CalEEMod for the proposed project were based on the project's trip generation estimates from the prepared Traffic Study. The proposed project would generate 1,910 average daily trips. Based on CalEEMod, the proposed project would generate approximately 4,961,054 VMT per year.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.2 mpg in 2019.[1] Therefore, using

[1] U.S. Department of Transportation (USDOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed May 20, 2021).

the USEPA fuel economy estimates for 2019, the proposed project would result in the consumption of approximately 223,471 gallons of fuel (gasoline and diesel) per year.

Facility Energy Demands. Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

Annual natural gas and electricity usage estimates associated with project operation were obtained from CalEEMod. The energy reduction features that were incorporated into the CalEEMod analysis include the following:

- Neighborhood electric vehicle (NEV) charging stations;
- Energy Star appliances in apartment land use subtypes;
- Natural Gas reduction of 40 percent for apartment land-use types;
- No non-Title 24 energy usage for all land use types;
- Compliance with 2019 Title 24 standards;
- No natural gas hearths; and
- State CalRecycle 75 percent initiative of solid waste to be recycled, reduced, or composted.

Table B provides the proposed project's estimated annual operational energy usage. Detailed calculations are attached.

Table B: Estimated Annual Energy Use of the Proposed Project

Land Use	Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Fuel Consumption (gallons per year)
Apartments Mid Rise	211,414	11,466	181,317
Day-Care Center	27,579	535	17,292
General Office Building	97,061	831	24,862
Enclosed Parking Structure	338,081	0	0
Parking Lot	7,770	0	0
Total	**681,905**	**12,832**	**223,471**

Source: Compiled by LSA (May 2021).
kWh = kilowatt-hour(s)

As shown in Table B, the estimated potential increase in electricity demand associated with the operation of the proposed project is 681,905 kWh per year. Total electricity demand in Riverside County in 2019 was approximately 15,520 GWh (15,520,129,785 kWh). Therefore, operation of the proposed project would increase the annual electricity consumption in Riverside County by less than 0.1 percent.

As shown in Table B, the estimated potential increase in natural gas demand associated with the proposed project is 12,832 therms per year. Total natural gas consumption in Riverside County in 2019 was 453 million therms (452,992,090 therms). Therefore, operation of the proposed project

would negligibly increase the annual natural gas consumption in Riverside County by less than 0.1 percent.

Electrical and natural gas demand associated with project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The project would be required to adhere to all federal, State, and local requirements for energy efficiency, including the Title 24 standards as discussed above. Compliance with Title 24 standards is required as identified in Regulatory Compliance Measure 2, which would significantly reduce energy usage.

The proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table B, fuel use associated with the vehicle trips generated by the proposed project is estimated at 223,471 gallons of fuel (gasoline and diesel). Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 1,944.2 million gallons of gasoline would be consumed in Riverside County during the projects opening year. . Therefore, operation of the proposed project would result in a negligible increase in the annual gasoline and diesel fuel consumption in Riverside County. Fuel consumption associated with vehicle trips generated by project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Conflict or Obstruct a State or Local Plans

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC approved the *2020 Integrated Energy Policy Report* in March 2021.[1] The *2020 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. The City of Menifee relies on the State integrated energy plan and does not have its own local plan to address renewable energy or energy efficiency.

As indicated above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the overall use in the County. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the overall use in Riverside County, and the State's available energy sources. Therefore, energy impacts at the regional level would be negligible.

[1] CEC. 2019. Notice of Request for Public Comments on the Draft Scoping Order for the *2019 Integrated Energy Policy Report*. Docket No. 19-IEPR-01.

Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's *2020 Integrated Energy Policy Report*. Therefore, the proposed project would not conflict with or obstruction of a State or local plan for renewable energy or energy efficiency.

Level of Significance Prior to Mitigation

Energy impacts related to the inefficient, wasteful, and unnecessary consumption of energy are considered less than significant, and no mitigation is required.

Regulatory Compliance Measures and Mitigation Measures

Regulatory Compliance Measures

The following regulatory compliance measures are existing regulations that are applicable to the proposed project and are considered in the analysis of potential impacts related to energy. The City of Menifee considers these requirements to be mandatory; therefore, they are not mitigation measures.

Regulatory Compliance Measure 1	**Idling Restriction Signage.** Prior to the issuance of grading permits, the City of Menifee (City) Community Development Director shall confirm that the grading plans for the project include a requirement that a sign shall be posted on site stating that construction workers shall shut off engines at or before five minutes of idling.
Regulatory Compliance Measure 2	**California Code of Regulations (CCR), Title 24.** Prior to the issuance of building permits, the City Chief Building Official, or designee, shall confirm that the project design complies with the 2019 Building Energy Efficiency Standards (CCR Title 24) energy conservation and green building standards, as well as those listed in Part 11 (California Green Building Standards [CALGreen Code]). The City's Chief Building Official shall confirm that the project complies with the mandatory measures listed in the CALGreen Code for residential and non-residential building construction.

Mitigation Measures

No mitigation is required for the proposed project.

Level of Significance after Mitigation

Construction and operational impacts related to energy use would be less than significant. No mitigation is required.

Cumulative Impacts

The geographic area for cumulative analysis of electricity is that of the SCE service area, while the geographic area for cumulative analysis of natural gas service is that of the SoCalGas service area. The proposed project would result in an increased demand for electricity and natural gas service. Although the proposed project would result in an increase in demand for electricity, this increase would not require SCE to expand or construct infrastructure that could cause substantial environmental impacts. As discussed previously, the total annual electricity consumption in the SCE service area in 2019 was 80,912.7 GWh. By 2030, consumption is anticipated to increase by approximately 12,000 GWh for the low-demand scenario and by 22,000 GWh for the high-demand scenario.[1] While this forecast represents a large increase in electricity consumption, the proposed project's share of cumulative consumption would be negligible. The proposed project, in combination with cumulative development, is well within SCE's system-wide net annual increase in electricity supplies over the 2018 to 2030 period, and there are sufficient planned electricity supplies in the region for estimated net increases in energy demands.

Similarly, additional natural gas infrastructure is not anticipated due to cumulative development. Total natural gas consumption in the SoCalGas service area in 2019 was 5,424.7 million therms. Between 2018 and 2035, total natural gas consumption in the SoCalGas service area is forecast to remain steady for the low- and mid-demand scenarios and to increase by approximately 650 million therms in the high-demand scenario due to intense energy efficiency efforts.[2] The proposed project's share of cumulative consumption of natural gas in the SoCalGas service area would be negligible. It is anticipated that SoCalGas would be able to meet the natural gas demand of the related projects without additional facilities. In addition, both SCE and SoCalGas demand forecasts include the growth contemplated by the proposed project and the related projects. Increased energy efficiency to comply with building energy efficiency standards will reduce energy consumption on a per-square-foot basis. Furthermore, utility companies are required to increase their renewable energy sources to meet the Renewable Portfolio Standards mandate of 60 percent renewable supplies by 2030. SCE and SoCalGas plan to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Transportation energy use would also increase; however, this transportation energy use would not represent a major amount of energy use when compared to the amount of existing development and to the total number of vehicle trips and VMT throughout Riverside County and the region. The proposed project and related projects are required to comply with various federal and State government legislation to improve energy efficiency in buildings, equipment, and appliances, and reduce VMT.

Compliance with Regulatory Compliance Measure 1 would ensure that the proposed project does not result in an inefficient, wasteful, and unnecessary consumption of energy. Therefore, the proposed project's contribution to impacts related to the inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable, and no mitigation is required.

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1 CEC. 2018. California Energy Demand, 2018–2030 Revised Forecast. Publication Number: CEC-200-2018-002-CMF. February. Website: https://efiling.energy.ca.gov/getdocument.aspx?tn=223244 (accessed April 2021).

2 Ibid.

CONCLUSION

Based on the analysis presented above, construction of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Attachment: Energy Calculations

ATTACHMENT

ENERGY CALCULATIONS

Boulders Mixed Use Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	25.75	1000sqft	0.59	25,745.00	0
Day-Care Center	8.25	1000sqft	0.19	8,250.00	0
Enclosed Parking Structure	207.00	Space	1.86	82,800.00	0
Parking Lot	222.00	Space	2.00	88,800.00	0
Apartments Mid Rise	234.00	Dwelling Unit	5.50	234,000.00	669

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	470.63	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2019 Sustainability Report.

Land Use - 234 multi-family DU. 3-story office building including lobby, corridoor, apartment leasing, and common areas 25,745 sf. Daycare Center 8,250 sf. 207 covered garage and 222 carport/open parking for total 429 spaces. Gross lot 10.14 acres.

Construction Phase - Construction would begin in December 2021 and completed in April 2023. Grading was extended for balanced 20,600 cy of cut/fill work. Architectural coatings phase extended.

Off-road Equipment - Additional grader added.

Grading -

Vehicle Trips - Multi-Family Residential 1,269 ADT (5.42). General Office Building 247 ADT (9.7). Daycare 393 ADT (47.62). Total 1,909 ADT.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Woodstoves - No wood burning stoves or fireplaces would be incorporated on-site.

Energy Use - Comply with 2019 Title 24 Building Energy Efficiency Standards. Excludes non-Title 24 intensity factors from all land use types, and reduce Title 24 NG intensity by 40 percent for Apts.

Construction Off-road Equipment Mitigation - All off-road equiptment over 50 HP will utilize Tier 2 engines. Water exposed areas at least three times daily during construction.

Mobile Land Use Mitigation - The project is a high-density development 24.6 DU/acre. Transit bus station located within 0.5 miles of the project site. NEV being implimented with 41 EV chagring stalls.

Area Mitigation - No hearths.

Energy Mitigation - Exceeds 2016 Title 24 by 7 percent for 2019 Title 24, LED or other efficient lighting in 75 percent of the luminaires, and Energy Star appliances in apartment land use subtypes.

Water Mitigation - 2010 CALGreen Code requires a 20% reduction in water use. . Project would utilize low-flow water features and efficienct irrigation system.

Waste Mitigation - State CalRecycle 75 percent initiative of solid waste generated be source reduced, recycled or composted.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	40.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.49	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	1.79	0.00
tblEnergyUse	T24NG	8,764.08	5,258.45
tblFireplaces	NumberGas	198.90	0.00
tblFireplaces	NumberNoFireplace	23.40	0.00

tblFireplaces	NumberWood	11.70	0.00
tblLandUse	LandUseSquareFeet	25,750.00	25,745.00
tblLandUse	LotAcreage	6.16	5.50
tblProjectCharacteristics	CO2IntensityFactor	702.44	470.63
tblVehicleEF	LDA	243.88	251.56
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	256.98	265.07
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	239.64	247.19
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDT1	310.15	319.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	325.67	335.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	304.96	314.57
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT2	344.86	355.73
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	362.72	374.15
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	338.93	349.61
tblVehicleEF	LDT2	73.12	75.42
tblVehicleTrips	WD_TR	6.65	5.42
tblVehicleTrips	WD_TR	74.06	47.62
tblVehicleTrips	WD_TR	11.03	9.70
tblWoodstoves	NumberCatalytic	11.70	0.00
tblWoodstoves	NumberNoncatalytic	11.70	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0351	0.3639	0.2154	4.0000e-004	0.1474	0.0178	0.1652	0.0734	0.0164	0.0898	0.0000	35.4446	35.4446	0.0109	0.0000	35.7179
2022	0.3507	2.8053	3.1190	7.9000e-003	0.4954	0.1115	0.6069	0.1702	0.1044	0.2746	0.0000	710.6073	710.6073	0.0946	0.0000	712.9712
2023	0.9568	0.2932	0.4280	9.6000e-004	0.0393	0.0128	0.0520	0.0105	0.0120	0.0225	0.0000	85.8083	85.8083	0.0128	0.0000	86.1284
Maximum	**0.9568**	**2.8053**	**3.1190**	**7.9000e-003**	**0.4954**	**0.1115**	**0.6069**	**0.1702**	**0.1044**	**0.2746**	**0.0000**	**710.6073**	**710.6073**	**0.0946**	**0.0000**	**712.9712**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0134	0.3400	0.2448	4.0000e-004	0.0588	9.7700e-003	0.0685	0.0290	9.7700e-003	0.0387	0.0000	35.4446	35.4446	0.0109	0.0000	35.7179
2022	0.2802	3.7540	3.3884	7.9000e-003	0.3993	0.1135	0.5129	0.1217	0.1133	0.2350	0.0000	710.6069	710.6069	0.0946	0.0000	712.9708
2023	0.9529	0.4680	0.4705	9.6000e-004	0.0393	0.0157	0.0549	0.0105	0.0156	0.0261	0.0000	85.8082	85.8082	0.0128	0.0000	86.1283
Maximum	**0.9529**	**3.7540**	**3.3884**	**7.9000e-003**	**0.3993**	**0.1135**	**0.5129**	**0.1217**	**0.1133**	**0.2350**	**0.0000**	**710.6069**	**710.6069**	**0.0946**	**0.0000**	**712.9708**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.16**	**-31.76**	**-9.07**	**0.00**	**27.08**	**2.17**	**22.79**	**36.59**	**-4.49**	**22.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2021**	**2-28-2022**	0.8701	0.9189
2	**3-1-2022**	**5-31-2022**	0.7998	1.0303
3	**6-1-2022**	**8-31-2022**	0.8030	1.0414
4	**9-1-2022**	**11-30-2022**	0.7973	1.0332
5	**12-1-2022**	**2-28-2023**	0.6930	0.9449
6	**3-1-2023**	**5-31-2023**	0.8310	0.8310
		Highest	0.8701	1.0414

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1439	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487
Energy	7.4300e-003	0.0639	0.0302	4.1000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	303.1836	303.1836	0.0156	4.2800e-003	304.8468
Mobile	0.4392	2.1897	5.7967	0.0238	2.1049	0.0170	2.1220	0.5640	0.0158	0.5798	0.0000	2,240.5629	2,240.5629	0.0980	0.0000	2,243.0127
Waste						0.0000	0.0000		0.0000	0.0000	28.8876	0.0000	28.8876	1.7072	0.0000	71.5679
Water						0.0000	0.0000		0.0000	0.0000	6.4011	87.6902	94.0913	0.6629	0.0166	115.6219
Total	**1.5906**	**2.2815**	**8.2449**	**0.0243**	**2.1049**	**0.0356**	**2.1405**	**0.5640**	**0.0344**	**0.5984**	**35.2887**	**2,635.3900**	**2,670.6787**	**2.4874**	**0.0209**	**2,739.0979**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1439	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487
Energy	6.9100e-003	0.0594	0.0281	3.8000e-004		4.7700e-003	4.7700e-003		4.7700e-003	4.7700e-003	0.0000	213.9229	213.9229	0.0103	3.1100e-003	215.1064
Mobile	0.4199	2.0800	5.3023	0.0215	1.8850	0.0154	1.9004	0.5051	0.0144	0.5194	0.0000	2,022.1476	2,022.1476	0.0898	0.0000	2,024.3916
Waste						0.0000	0.0000		0.0000	0.0000	7.2219	0.0000	7.2219	0.4268	0.0000	17.8920
Water						0.0000	0.0000		0.0000	0.0000	5.1209	74.5454	79.6663	0.5306	0.0134	96.9143
Total	**1.5707**	**2.1673**	**7.7484**	**0.0220**	**1.8850**	**0.0336**	**1.9186**	**0.5051**	**0.0325**	**0.5376**	**12.3428**	**2,314.5693**	**2,326.9121**	**1.0612**	**0.0165**	**2,358.3529**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.25**	**5.00**	**6.02**	**9.66**	**10.45**	**5.51**	**10.37**	**10.45**	**5.36**	**10.16**	**65.02**	**12.17**	**12.87**	**57.34**	**21.22**	**13.90**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2021	12/14/2021	5	10	
2	Grading	Grading	12/15/2021	3/8/2022	5	60	
3	Building Construction	Building Construction	3/9/2022	1/24/2023	5	230	
4	Paving	Paving	1/25/2023	2/21/2023	5	20	
5	Architectural Coating	Architectural Coating	2/22/2023	4/18/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30

Acres of Paving: 3.86

Residential Indoor: 473,850; Residential Outdoor: 157,950; Non-Residential Indoor: 50,993; Non-Residential Outdoor: 16,998; Striped Parking Area: 10,296 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	252.00	59.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.8000e-004	3.1400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8601	0.8601	2.0000e-005	0.0000	0.8607
Total	**3.8000e-004**	**2.8000e-004**	**3.1400e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8601**	**0.8601**	**2.0000e-005**	**0.0000**	**0.8607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0500e-003	0.1686	0.1148	1.9000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**6.0500e-003**	**0.1686**	**0.1148**	**1.9000e-004**	**0.0352**	**4.7300e-003**	**0.0400**	**0.0194**	**4.7300e-003**	**0.0241**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.8000e-004	3.1400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8601	0.8601	2.0000e-005	0.0000	0.8607
Total	**3.8000e-004**	**2.8000e-004**	**3.1400e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8601**	**0.8601**	**2.0000e-005**	**0.0000**	**0.8607**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0551	0.0000	0.0551	0.0232	0.0000	0.0232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0149	0.1608	0.1031	1.9000e-004		7.5400e-003	7.5400e-003		6.9400e-003	6.9400e-003	0.0000	16.9349	16.9349	5.4800e-003	0.0000	17.0718
Total	**0.0149**	**0.1608**	**0.1031**	**1.9000e-004**	**0.0551**	**7.5400e-003**	**0.0626**	**0.0232**	**6.9400e-003**	**0.0302**	**0.0000**	**16.9349**	**16.9349**	**5.4800e-003**	**0.0000**	**17.0718**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.0000e-004	3.4000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9318	0.9318	2.0000e-005	0.0000	0.9324
Total	**4.1000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9318**	**0.9318**	**2.0000e-005**	**0.0000**	**0.9324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0215	0.0000	0.0215	9.0600e-003	0.0000	9.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5600e-003	0.1708	0.1234	1.9000e-004		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	16.9349	16.9349	5.4800e-003	0.0000	17.0718
Total	**6.5600e-003**	**0.1708**	**0.1234**	**1.9000e-004**	**0.0215**	**5.0200e-003**	**0.0265**	**9.0600e-003**	**5.0200e-003**	**0.0141**	**0.0000**	**16.9349**	**16.9349**	**5.4800e-003**	**0.0000**	**17.0718**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	3.0000e-004	3.4000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9318	0.9318	2.0000e-005	0.0000	0.9324
Total	**4.1000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.9318**	**0.9318**	**2.0000e-005**	**0.0000**	**0.9324**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1574	0.0000	0.1574	0.0795	0.0000	0.0795	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0458	0.4901	0.3589	7.0000e-004		0.0221	0.0221		0.0203	0.0203	0.0000	61.2287	61.2287	0.0198	0.0000	61.7238
Total	**0.0458**	**0.4901**	**0.3589**	**7.0000e-004**	**0.1574**	**0.0221**	**0.1795**	**0.0795**	**0.0203**	**0.0999**	**0.0000**	**61.2287**	**61.2287**	**0.0198**	**0.0000**	**61.7238**

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.8000e-004	0.0113	4.0000e-005	3.8700e-003	3.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0500e-003	0.0000	3.2479	3.2479	8.0000e-005	0.0000	3.2500
Total	**1.3800e-003**	**9.8000e-004**	**0.0113**	**4.0000e-005**	**3.8700e-003**	**3.0000e-005**	**3.9000e-003**	**1.0300e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.2479**	**3.2479**	**8.0000e-005**	**0.0000**	**3.2500**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0614	0.0000	0.0614	0.0310	0.0000	0.0310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.6176	0.4463	7.0000e-004		0.0182	0.0182		0.0182	0.0182	0.0000	61.2286	61.2286	0.0198	0.0000	61.7237
Total	**0.0237**	**0.6176**	**0.4463**	**7.0000e-004**	**0.0614**	**0.0182**	**0.0796**	**0.0310**	**0.0182**	**0.0492**	**0.0000**	**61.2286**	**61.2286**	**0.0198**	**0.0000**	**61.7237**

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	9.8000e-004	0.0113	4.0000e-005	3.8700e-003	3.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0500e-003	0.0000	3.2479	3.2479	8.0000e-005	0.0000	3.2500
Total	**1.3800e-003**	**9.8000e-004**	**0.0113**	**4.0000e-005**	**3.8700e-003**	**3.0000e-005**	**3.9000e-003**	**1.0300e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.2479**	**3.2479**	**8.0000e-005**	**0.0000**	**3.2500**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1817	1.6631	1.7427	2.8700e-003		0.0862	0.0862		0.0811	0.0811	0.0000	246.7874	246.7874	0.0591	0.0000	248.2655
Total	**0.1817**	**1.6631**	**1.7427**	**2.8700e-003**		**0.0862**	**0.0862**		**0.0811**	**0.0811**	**0.0000**	**246.7874**	**246.7874**	**0.0591**	**0.0000**	**248.2655**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.5765	0.1425	1.5700e-003	0.0396	1.0600e-003	0.0407	0.0114	1.0100e-003	0.0124	0.0000	152.0588	152.0588	9.3400e-003	0.0000	152.2922
Worker	0.1051	0.0747	0.8636	2.7300e-003	0.2945	2.1500e-003	0.2966	0.0782	1.9800e-003	0.0802	0.0000	247.2845	247.2845	6.2100e-003	0.0000	247.4398
Total	**0.1218**	**0.6512**	**1.0061**	**4.3000e-003**	**0.3341**	**3.2100e-003**	**0.3373**	**0.0896**	**2.9900e-003**	**0.0926**	**0.0000**	**399.3433**	**399.3433**	**0.0156**	**0.0000**	**399.7320**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1333	2.4843	1.9247	2.8700e-003		0.0922	0.0922		0.0922	0.0922	0.0000	246.7871	246.7871	0.0591	0.0000	248.2652
Total	**0.1333**	**2.4843**	**1.9247**	**2.8700e-003**		**0.0922**	**0.0922**		**0.0922**	**0.0922**	**0.0000**	**246.7871**	**246.7871**	**0.0591**	**0.0000**	**248.2652**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.5765	0.1425	1.5700e-003	0.0396	1.0600e-003	0.0407	0.0114	1.0100e-003	0.0124	0.0000	152.0588	152.0588	9.3400e-003	0.0000	152.2922
Worker	0.1051	0.0747	0.8636	2.7300e-003	0.2945	2.1500e-003	0.2966	0.0782	1.9800e-003	0.0802	0.0000	247.2845	247.2845	6.2100e-003	0.0000	247.4398
Total	**0.1218**	**0.6512**	**1.0061**	**4.3000e-003**	**0.3341**	**3.2100e-003**	**0.3373**	**0.0896**	**2.9900e-003**	**0.0926**	**0.0000**	**399.3433**	**399.3433**	**0.0156**	**0.0000**	**399.7320**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0134	0.1223	0.1381	2.3000e-004		5.9500e-003	5.9500e-003		5.6000e-003	5.6000e-003	0.0000	19.7034	19.7034	4.6900e-003	0.0000	19.8206
Total	**0.0134**	**0.1223**	**0.1381**	**2.3000e-004**		**5.9500e-003**	**5.9500e-003**		**5.6000e-003**	**5.6000e-003**	**0.0000**	**19.7034**	**19.7034**	**4.6900e-003**	**0.0000**	**19.8206**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0346	0.0102	1.2000e-004	3.1600e-003	4.0000e-005	3.2000e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	11.7703	11.7703	6.5000e-004	0.0000	11.7865
Worker	7.8900e-003	5.3900e-003	0.0636	2.1000e-004	0.0235	1.7000e-004	0.0237	6.2400e-003	1.5000e-004	6.3900e-003	0.0000	19.0003	19.0003	4.5000e-004	0.0000	19.0114
Total	**8.8900e-003**	**0.0400**	**0.0737**	**3.3000e-004**	**0.0267**	**2.1000e-004**	**0.0269**	**7.1500e-003**	**1.9000e-004**	**7.3400e-003**	**0.0000**	**30.7706**	**30.7706**	**1.1000e-003**	**0.0000**	**30.7980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.1979	0.1535	2.3000e-004		7.2800e-003	7.2800e-003		7.2800e-003	7.2800e-003	0.0000	19.7034	19.7034	4.6900e-003	0.0000	19.8206
Total	**0.0105**	**0.1979**	**0.1535**	**2.3000e-004**		**7.2800e-003**	**7.2800e-003**		**7.2800e-003**	**7.2800e-003**	**0.0000**	**19.7034**	**19.7034**	**4.6900e-003**	**0.0000**	**19.8206**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0346	0.0102	1.2000e-004	3.1600e-003	4.0000e-005	3.2000e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	11.7703	11.7703	6.5000e-004	0.0000	11.7865
Worker	7.8900e-003	5.3900e-003	0.0636	2.1000e-004	0.0235	1.7000e-004	0.0237	6.2400e-003	1.5000e-004	6.3900e-003	0.0000	19.0003	19.0003	4.5000e-004	0.0000	19.0114
Total	**8.8900e-003**	**0.0400**	**0.0737**	**3.3000e-004**	**0.0267**	**2.1000e-004**	**0.0269**	**7.1500e-003**	**1.9000e-004**	**7.3400e-003**	**0.0000**	**30.7706**	**30.7706**	**1.1000e-003**	**0.0000**	**30.7980**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0130**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.4500e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	3.0000e-005	0.0000	1.3313
Total	**5.5000e-004**	**3.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3306**	**1.3306**	**3.0000e-005**	**0.0000**	**1.3313**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.3100e-003	0.2012	0.1730	2.3000e-004		6.6700e-003	6.6700e-003		6.6700e-003	6.6700e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	2.6200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0119**	**0.2012**	**0.1730**	**2.3000e-004**		**6.6700e-003**	**6.6700e-003**		**6.6700e-003**	**6.6700e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.4500e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3306	1.3306	3.0000e-005	0.0000	1.3313
Total	**5.5000e-004**	**3.8000e-004**	**4.4500e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3306**	**1.3306**	**3.0000e-005**	**0.0000**	**1.3313**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1142
Total	**0.9174**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.1065**	**5.1065**	**3.1000e-004**	**0.0000**	**5.1142**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6800e-003	2.5200e-003	0.0297	1.0000e-004	0.0110	8.0000e-005	0.0111	2.9100e-003	7.0000e-005	2.9900e-003	0.0000	8.8703	8.8703	2.1000e-004	0.0000	8.8756
Total	**3.6800e-003**	**2.5200e-003**	**0.0297**	**1.0000e-004**	**0.0110**	**8.0000e-005**	**0.0111**	**2.9100e-003**	**7.0000e-005**	**2.9900e-003**	**0.0000**	**8.8703**	**8.8703**	**2.1000e-004**	**0.0000**	**8.8756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.1065	5.1065	3.1000e-004	0.0000	5.1141
Total	**0.9174**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.1065**	**5.1065**	**3.1000e-004**	**0.0000**	**5.1141**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6800e-003	2.5200e-003	0.0297	1.0000e-004	0.0110	8.0000e-005	0.0111	2.9100e-003	7.0000e-005	2.9900e-003	0.0000	8.8703	8.8703	2.1000e-004	0.0000	8.8756
Total	**3.6800e-003**	**2.5200e-003**	**0.0297**	**1.0000e-004**	**0.0110**	**8.0000e-005**	**0.0111**	**2.9100e-003**	**7.0000e-005**	**2.9900e-003**	**0.0000**	**8.8703**	**8.8703**	**2.1000e-004**	**0.0000**	**8.8756**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Implement NEV Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4199	2.0800	5.3023	0.0215	1.8850	0.0154	1.9004	0.5051	0.0144	0.5194	0.0000	2,022.1476	2,022.1476	0.0898	0.0000	2,024.3916
Unmitigated	0.4392	2.1897	5.7967	0.0238	2.1049	0.0170	2.1220	0.5640	0.0158	0.5798	0.0000	2,240.5629	2,240.5629	0.0980	0.0000	2,243.0127

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,268.28	1,495.26	1371.24	4,494,970	4,025,246
Day-Care Center	392.87	51.23	48.10	428,674	383,877
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	249.78	63.35	27.04	616,338	551,931
Parking Lot	0.00	0.00	0.00		
Total	1,910.92	1,609.84	1,446.38	5,539,982	4,961,054

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Enclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Day-Care Center	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Enclosed Parking Structure	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
General Office Building	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Parking Lot	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

Boulders Mixed Use Project - South Coast AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	145.5691	145.5691	8.9700e-003	1.8600e-003	146.3463
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	229.6848	229.6848	0.0142	2.9300e-003	230.9112
NaturalGas Mitigated	6.9100e-003	0.0594	0.0281	3.8000e-004		4.7700e-003	4.7700e-003		4.7700e-003	4.7700e-003	0.0000	68.3539	68.3539	1.3100e-003	1.2500e-003	68.7601
NaturalGas Unmitigated	7.4300e-003	0.0639	0.0302	4.1000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4988	73.4988	1.4100e-003	1.3500e-003	73.9355

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.23048e+006	6.6300e-003	0.0567	0.0241	3.6000e-004		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	65.6630	65.6630	1.2600e-003	1.2000e-003	66.0532
Day-Care Center	57502.5	3.1000e-004	2.8200e-003	2.3700e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	3.0686	3.0686	6.0000e-005	6.0000e-005	3.0868
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	89335.2	4.8000e-004	4.3800e-003	3.6800e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7673	4.7673	9.0000e-005	9.0000e-005	4.7956
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.4200e-003**	**0.0639**	**0.0302**	**4.1000e-004**		**5.1200e-003**	**5.1200e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**73.4988**	**73.4988**	**1.4100e-003**	**1.3500e-003**	**73.9355**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.14434e+006	6.1700e-003	0.0527	0.0224	3.4000e-004		4.2600e-003	4.2600e-003		4.2600e-003	4.2600e-003	0.0000	61.0666	61.0666	1.1700e-003	1.1200e-003	61.4294
Day-Care Center	53477.3	2.9000e-004	2.6200e-003	2.2000e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8538	2.8538	5.0000e-005	5.0000e-005	2.8707
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	83081.7	4.5000e-004	4.0700e-003	3.4200e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4336	4.4336	8.0000e-005	8.0000e-005	4.4599
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.9100e-003**	**0.0594**	**0.0281**	**3.8000e-004**		**4.7700e-003**	**4.7700e-003**		**4.7700e-003**	**4.7700e-003**	**0.0000**	**68.3539**	**68.3539**	**1.3000e-003**	**1.2500e-003**	**68.7601**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	354185	75.6093	4.6600e-003	9.6000e-004	76.0130
Day-Care Center	47932.5	10.2324	6.3000e-004	1.3000e-004	10.2870
Enclosed Parking Structure	469476	100.2210	6.1800e-003	1.2800e-003	100.7562
General Office Building	173264	36.9874	2.2800e-003	4.7000e-004	37.1849
Parking Lot	31080	6.6348	4.1000e-004	8.0000e-005	6.6702
Total		**229.6848**	**0.0142**	**2.9200e-003**	**230.9112**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	211414	45.1314	2.7800e-003	5.8000e-004	45.3724
Day-Care Center	27578.9	5.8874	3.6000e-004	8.0000e-005	5.9188
Enclosed Parking Structure	338081	72.1715	4.4500e-003	9.2000e-004	72.5569
General Office Building	97061.2	20.7201	1.2800e-003	2.6000e-004	20.8307
Parking Lot	7770	1.6587	1.0000e-004	2.0000e-005	1.6676
Total		**145.5690**	**8.9700e-003**	**1.8600e-003**	**146.3463**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1439	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487
Unmitigated	1.1439	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9795					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0731	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487
Total	**1.1439**	**0.0279**	**2.4181**	**1.3000e-004**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**3.9534**	**3.9534**	**3.8100e-003**	**0.0000**	**4.0487**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9795					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0731	0.0279	2.4181	1.3000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	3.9534	3.9534	3.8100e-003	0.0000	4.0487
Total	**1.1439**	**0.0279**	**2.4181**	**1.3000e-004**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**3.9534**	**3.9534**	**3.8100e-003**	**0.0000**	**4.0487**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	79.6663	0.5306	0.0134	96.9143
Unmitigated	94.0913	0.6629	0.0166	115.6219

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	15.246 / 9.61164	70.0114	0.5008	0.0126	86.2749
Day-Care Center	0.353839 / 0.909872	3.2537	0.0117	3.1000e-004	3.6399
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	4.57664 / 2.80504	20.8261	0.1503	3.7700e-003	25.7072
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**94.0912**	**0.6629**	**0.0166**	**115.6219**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	12.1968 / 9.02533	59.1777	0.4008	0.0101	72.2054
Day-Care Center	0.283071 / 0.854369	2.9030	9.4000e-003	2.5000e-004	3.2135
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	3.66132 / 2.63393	17.5856	0.1203	3.0300e-003	21.4954
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**79.6663**	**0.5306**	**0.0134**	**96.9143**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.2219	0.4268	0.0000	17.8920
Unmitigated	28.8876	1.7072	0.0000	71.5679

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	107.64	21.8500	1.2913	0.0000	54.1323
Day-Care Center	10.72	2.1761	0.1286	0.0000	5.3911
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	23.95	4.8616	0.2873	0.0000	12.0445
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**28.8876**	**1.7072**	**0.0000**	**71.5679**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	26.91	5.4625	0.3228	0.0000	13.5331
Day-Care Center	2.68	0.5440	0.0322	0.0000	1.3478
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	5.9875	1.2154	0.0718	0.0000	3.0111
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.2219**	**0.4268**	**0.0000**	**17.8920**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Boulders Mixed Use Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	25.75	1000sqft	0.59	25,745.00	0
Day-Care Center	8.25	1000sqft	0.19	8,250.00	0
Enclosed Parking Structure	207.00	Space	1.86	82,800.00	0
Parking Lot	222.00	Space	2.00	88,800.00	0
Apartments Mid Rise	234.00	Dwelling Unit	5.50	234,000.00	669

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	470.63	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2019 Sustainability Report.

Land Use - 234 multi-family DU. 3-story office building including lobby, corridoor, apartment leasing, and common areas 25,745 sf. Daycare Center 8,250 sf. 207 covered garage and 222 carport/open parking for total 429 spaces. Gross lot 10.14 acres.

Construction Phase - Construction would begin in December 2021 and completed in April 2023. Grading was extended for balanced 20,600 cy of cut/fill work. Architectural coatings phase extended.

Off-road Equipment - Additional grader added.

Grading -

Vehicle Trips - Multi-Family Residential 1,269 ADT (5.42). General Office Building 247 ADT (9.7). Daycare 393 ADT (47.62). Total 1,909 ADT.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

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Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Woodstoves - No wood burning stoves or fireplaces would be incorporated on-site.

Energy Use - Comply with 2019 Title 24 Building Energy Efficiency Standards. Excludes non-Title 24 intensity factors from all land use types, and reduce Title 24 NG intensity by 40 percent for Apts.

Construction Off-road Equipment Mitigation - All off-road equiptment over 50 HP will utilize Tier 2 engines. Water exposed areas at least three times daily during construction.

Mobile Land Use Mitigation - The project is a high-density development 24.6 DU/acre. Transit bus station located within 0.5 miles of the project site. NEV being implimented with 41 EV chagring stalls.

Area Mitigation - No hearths.

Energy Mitigation - Exceeds 2016 Title 24 by 7 percent for 2019 Title 24, LED or other efficient lighting in 75 percent of the luminaires, and Energy Star appliances in apartment land use subtypes.

Water Mitigation - 2010 CALGreen Code requires a 20% reduction in water use. . Project would utilize low-flow water features and efficienct irrigation system.

Waste Mitigation - State CalRecycle 75 percent initiative of solid waste generated be source reduced, recycled or composted.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	40.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.49	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	1.79	0.00
tblEnergyUse	T24NG	8,764.08	5,258.45
tblFireplaces	NumberGas	198.90	0.00
tblFireplaces	NumberNoFireplace	23.40	0.00

tblFireplaces	NumberWood	11.70	0.00
tblLandUse	LandUseSquareFeet	25,750.00	25,745.00
tblLandUse	LotAcreage	6.16	5.50
tblProjectCharacteristics	CO2IntensityFactor	702.44	470.63
tblVehicleEF	LDA	243.88	251.56
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	256.98	265.07
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	239.64	247.19
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDT1	310.15	319.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	325.67	335.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	304.96	314.57
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT2	344.86	355.73
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	362.72	374.15
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	338.93	349.61
tblVehicleEF	LDT2	73.12	75.42
tblVehicleTrips	WD_TR	6.65	5.42
tblVehicleTrips	WD_TR	74.06	47.62
tblVehicleTrips	WD_TR	11.03	9.70
tblWoodstoves	NumberCatalytic	11.70	0.00
tblWoodstoves	NumberNoncatalytic	11.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9642	40.5464	21.8324	0.0400	18.2675	2.0459	20.3134	9.9840	1.8823	11.8663	0.0000	3,884.9895	3,884.9895	1.1974	0.0000	3,914.9239
2022	2.8580	21.5803	26.4039	0.0688	6.7200	0.9420	7.6621	3.4120	0.8667	4.2786	0.0000	6,838.3467	6,838.3467	0.9329	0.0000	6,857.6811
2023	46.0542	18.9869	25.4878	0.0674	3.1944	0.7239	3.9183	0.8557	0.6808	1.5366	0.0000	6,690.6135	6,690.6135	0.7506	0.0000	6,709.3794
Maximum	**46.0542**	**40.5464**	**26.4039**	**0.0688**	**18.2675**	**2.0459**	**20.3134**	**9.9840**	**1.8823**	**11.8663**	**0.0000**	**6,838.3467**	**6,838.3467**	**1.1974**	**0.0000**	**6,857.6811**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.2856	33.7707	23.6381	0.0400	7.2470	0.9477	8.1947	3.9263	0.9475	4.8739	0.0000	3,884.9895	3,884.9895	1.1974	0.0000	3,914.9239
2022	2.4035	29.2916	28.1132	0.0688	3.1944	0.8952	4.0895	1.3578	0.8932	2.1314	0.0000	6,838.3467	6,838.3467	0.9329	0.0000	6,857.6811
2023	46.0542	27.8867	27.2986	0.0674	3.1944	0.8806	4.0750	0.8557	0.8789	1.7346	0.0000	6,690.6135	6,690.6135	0.7506	0.0000	6,709.3794
Maximum	**46.0542**	**33.7707**	**28.1132**	**0.0688**	**7.2470**	**0.9477**	**8.1947**	**3.9263**	**0.9475**	**4.8739**	**0.0000**	**6,838.3467**	**6,838.3467**	**1.1974**	**0.0000**	**6,857.6811**

Boulders Mixed Use Project - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.93**	**-12.13**	**-7.22**	**0.00**	**51.61**	**26.63**	**48.71**	**56.92**	**20.71**	**50.57**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Energy	0.0407	0.3501	0.1653	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9371	443.9371	8.5100e-003	8.1400e-003	446.5752
Mobile	3.0768	13.7333	39.3328	0.1594	13.7893	0.1097	13.8990	3.6891	0.1019	3.7910		16,541.6796	16,541.6796	0.7009		16,559.2025
Total	**9.5697**	**14.3062**	**58.8425**	**0.1626**	**13.7893**	**0.2449**	**14.0342**	**3.6891**	**0.2372**	**3.9263**	**0.0000**	**17,020.4793**	**17,020.4793**	**0.7430**	**8.1400e-003**	**17,041.4807**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Energy	0.0379	0.3256	0.1538	2.0600e-003		0.0262	0.0262		0.0262	0.0262		412.8615	412.8615	7.9100e-003	7.5700e-003	415.3150
Mobile	2.9501	13.0808	35.8564	0.1438	12.3483	0.0994	12.4477	3.3036	0.0924	3.3960		14,931.1089	14,931.1089	0.6412		14,947.1387
Total	**9.4402**	**13.6292**	**55.3545**	**0.1469**	**12.3483**	**0.2327**	**12.5810**	**3.3036**	**0.2257**	**3.5292**	**0.0000**	**15,378.8330**	**15,378.8330**	**0.6827**	**7.5700e-003**	**15,398.1567**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.35**	**4.73**	**5.93**	**9.66**	**10.45**	**4.99**	**10.35**	**10.45**	**4.85**	**10.11**	**0.00**	**9.65**	**9.65**	**8.12**	**7.00**	**9.64**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2021	12/14/2021	5	10	
2	Grading	Grading	12/15/2021	3/8/2022	5	60	
3	Building Construction	Building Construction	3/9/2022	1/24/2023	5	230	
4	Paving	Paving	1/25/2023	2/21/2023	5	20	
5	Architectural Coating	Architectural Coating	2/22/2023	4/18/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30

Acres of Paving: 3.86

Residential Indoor: 473,850; Residential Outdoor: 157,950; Non-Residential Indoor: 50,993; Non-Residential Outdoor: 16,998; Striped Parking Area: 10,296 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	252.00	59.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**7.0458**	**0.9462**	**7.9920**	**3.8730**	**0.9462**	**4.8191**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0411	0.5651	1.6700e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		166.1105	166.1105	4.4700e-003		166.2222
Total	**0.0633**	**0.0411**	**0.5651**	**1.6700e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**166.1105**	**166.1105**	**4.4700e-003**		**166.2222**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.5554**	**0.7725**	**3.3279**	**1.3133**	**0.7725**	**2.0858**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0411	0.5651	1.6700e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		166.1105	166.1105	4.4700e-003		166.2222
Total	**0.0633**	**0.0411**	**0.5651**	**1.6700e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**166.1105**	**166.1105**	**4.4700e-003**		**166.2222**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0371	0.5225	1.6100e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		160.1586	160.1586	4.0400e-003		160.2595
Total	**0.0594**	**0.0371**	**0.5225**	**1.6100e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**160.1586**	**160.1586**	**4.0400e-003**		**160.2595**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**2.5554**	**0.7725**	**3.3279**	**1.3133**	**0.7725**	**2.0858**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0371	0.5225	1.6100e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		160.1586	160.1586	4.0400e-003		160.2595
Total	**0.0594**	**0.0371**	**0.5225**	**1.6100e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**160.1586**	**160.1586**	**4.0400e-003**		**160.2595**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1540	5.3415	1.2620	0.0149	0.3776	9.8200e-003	0.3874	0.1087	9.3900e-003	0.1181		1,593.3488	1,593.3488	0.0936		1,595.6890
Worker	0.9978	0.6232	8.7785	0.0270	2.8168	0.0201	2.8369	0.7470	0.0186	0.7656		2,690.6643	2,690.6643	0.0678		2,692.3599
Total	**1.1518**	**5.9646**	**10.0405**	**0.0419**	**3.1944**	**0.0300**	**3.2243**	**0.8557**	**0.0279**	**0.8837**		**4,284.0131**	**4,284.0131**	**0.1614**		**4,288.0489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2517	23.3270	18.0727	0.0269		0.8652	0.8652		0.8652	0.8652	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.2517**	**23.3270**	**18.0727**	**0.0269**		**0.8652**	**0.8652**		**0.8652**	**0.8652**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1540	5.3415	1.2620	0.0149	0.3776	9.8200e-003	0.3874	0.1087	9.3900e-003	0.1181		1,593.3488	1,593.3488	0.0936		1,595.6890
Worker	0.9978	0.6232	8.7785	0.0270	2.8168	0.0201	2.8369	0.7470	0.0186	0.7656		2,690.6643	2,690.6643	0.0678		2,692.3599
Total	**1.1518**	**5.9646**	**10.0405**	**0.0419**	**3.1944**	**0.0300**	**3.2243**	**0.8557**	**0.0279**	**0.8837**		**4,284.0131**	**4,284.0131**	**0.1614**		**4,288.0489**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1149	4.0382	1.1370	0.0144	0.3776	4.5400e-003	0.3821	0.1087	4.3400e-003	0.1131		1,545.0195	1,545.0195	0.0816		1,547.0601
Worker	0.9382	0.5639	8.1067	0.0260	2.8168	0.0196	2.8364	0.7470	0.0181	0.7651		2,590.3840	2,590.3840	0.0612		2,591.9133
Total	**1.0530**	**4.6021**	**9.2438**	**0.0404**	**3.1944**	**0.0242**	**3.2185**	**0.8557**	**0.0224**	**0.8781**		**4,135.4036**	**4,135.4036**	**0.1428**		**4,138.9733**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2295	23.2846	18.0549	0.0269		0.8565	0.8565		0.8565	0.8565	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.2295**	**23.2846**	**18.0549**	**0.0269**		**0.8565**	**0.8565**		**0.8565**	**0.8565**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1149	4.0382	1.1370	0.0144	0.3776	4.5400e-003	0.3821	0.1087	4.3400e-003	0.1131		1,545.0195	1,545.0195	0.0816		1,547.0601
Worker	0.9382	0.5639	8.1067	0.0260	2.8168	0.0196	2.8364	0.7470	0.0181	0.7651		2,590.3840	2,590.3840	0.0612		2,591.9133
Total	**1.0530**	**4.6021**	**9.2438**	**0.0404**	**3.1944**	**0.0242**	**3.2185**	**0.8557**	**0.0224**	**0.8781**		**4,135.4036**	**4,135.4036**	**0.1428**		**4,138.9733**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2947**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0336	0.4825	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		154.1895	154.1895	3.6400e-003		154.2806
Total	**0.0558**	**0.0336**	**0.4825**	**1.5500e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**154.1895**	**154.1895**	**3.6400e-003**		**154.2806**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1931**	**20.1146**	**17.2957**	**0.0228**		**0.6670**	**0.6670**		**0.6670**	**0.6670**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0336	0.4825	1.5500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		154.1895	154.1895	3.6400e-003		154.2806
Total	**0.0558**	**0.0336**	**0.4825**	**1.5500e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**154.1895**	**154.1895**	**3.6400e-003**		**154.2806**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**45.8681**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1861	0.1119	1.6085	5.1600e-003	0.5589	3.8900e-003	0.5628	0.1482	3.5800e-003	0.1518		513.9651	513.9651	0.0121		514.2685
Total	**0.1861**	**0.1119**	**1.6085**	**5.1600e-003**	**0.5589**	**3.8900e-003**	**0.5628**	**0.1482**	**3.5800e-003**	**0.1518**		**513.9651**	**513.9651**	**0.0121**		**514.2685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**45.8681**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1861	0.1119	1.6085	5.1600e-003	0.5589	3.8900e-003	0.5628	0.1482	3.5800e-003	0.1518		513.9651	513.9651	0.0121		514.2685
Total	**0.1861**	**0.1119**	**1.6085**	**5.1600e-003**	**0.5589**	**3.8900e-003**	**0.5628**	**0.1482**	**3.5800e-003**	**0.1518**		**513.9651**	**513.9651**	**0.0121**		**514.2685**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Implement NEV Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9501	13.0808	35.8564	0.1438	12.3483	0.0994	12.4477	3.3036	0.0924	3.3960		14,931.1089	14,931.1089	0.6412		14,947.1387
Unmitigated	3.0768	13.7333	39.3328	0.1594	13.7893	0.1097	13.8990	3.6891	0.1019	3.7910		16,541.6796	16,541.6796	0.7009		16,559.2025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,268.28	1,495.26	1371.24	4,494,970	4,025,246
Day-Care Center	392.87	51.23	48.10	428,674	383,877
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	249.78	63.35	27.04	616,338	551,931
Parking Lot	0.00	0.00	0.00		
Total	1,910.92	1,609.84	1,446.38	5,539,982	4,961,054

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Enclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Day-Care Center	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Enclosed Parking Structure	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
General Office Building	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Parking Lot	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0379	0.3256	0.1538	2.0600e-003		0.0262	0.0262		0.0262	0.0262		412.8615	412.8615	7.9100e-003	7.5700e-003	415.3150
NaturalGas Unmitigated	0.0407	0.3501	0.1653	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9371	443.9371	8.5100e-003	8.1400e-003	446.5752

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3371.17	0.0364	0.3107	0.1322	1.9800e-003		0.0251	0.0251		0.0251	0.0251		396.6083	396.6083	7.6000e-003	7.2700e-003	398.9652
Day-Care Center	157.541	1.7000e-003	0.0155	0.0130	9.0000e-005		1.1700e-003	1.1700e-003		1.1700e-003	1.1700e-003		18.5343	18.5343	3.6000e-004	3.4000e-004	18.6444
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	244.754	2.6400e-003	0.0240	0.0202	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003		28.7946	28.7946	5.5000e-004	5.3000e-004	28.9657
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0407**	**0.3501**	**0.1653**	**2.2100e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.9371**	**443.9371**	**8.5100e-003**	**8.1400e-003**	**446.5752**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.13519	0.0338	0.2889	0.1230	1.8400e-003		0.0234	0.0234		0.0234	0.0234		368.8457	368.8457	7.0700e-003	6.7600e-003	371.0376
Day-Care Center	0.146513	1.5800e-003	0.0144	0.0121	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.2369	17.2369	3.3000e-004	3.2000e-004	17.3393
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.227621	2.4500e-003	0.0223	0.0188	1.3000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003		26.7790	26.7790	5.1000e-004	4.9000e-004	26.9381
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0378**	**0.3256**	**0.1538**	**2.0600e-003**		**0.0262**	**0.0262**		**0.0262**	**0.0262**		**412.8615**	**412.8615**	**7.9100e-003**	**7.5700e-003**	**415.3150**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Unmitigated	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5846	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.8626	34.8626	0.0336		35.7030
Total	**6.4522**	**0.2228**	**19.3444**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.8626**	**34.8626**	**0.0336**	**0.0000**	**35.7030**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5846	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.8626	34.8626	0.0336		35.7030
Total	**6.4522**	**0.2228**	**19.3444**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.8626**	**34.8626**	**0.0336**	**0.0000**	**35.7030**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Boulders Mixed Use Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	25.75	1000sqft	0.59	25,745.00	0
Day-Care Center	8.25	1000sqft	0.19	8,250.00	0
Enclosed Parking Structure	207.00	Space	1.86	82,800.00	0
Parking Lot	222.00	Space	2.00	88,800.00	0
Apartments Mid Rise	234.00	Dwelling Unit	5.50	234,000.00	669

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	470.63	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor is based on SCE 2019 Sustainability Report.

Land Use - 234 multi-family DU. 3-story office building including lobby, corridoor, apartment leasing, and common areas 25,745 sf. Daycare Center 8,250 sf. 207 covered garage and 222 carport/open parking for total 429 spaces. Gross lot 10.14 acres.

Construction Phase - Construction would begin in December 2021 and completed in April 2023. Grading was extended for balanced 20,600 cy of cut/fill work. Architectural coatings phase extended.

Off-road Equipment - Additional grader added.

Grading -

Vehicle Trips - Multi-Family Residential 1,269 ADT (5.42). General Office Building 247 ADT (9.7). Daycare 393 ADT (47.62). Total 1,909 ADT.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Vehicle Emission Factors - CARB's EMFAC2014 Off-Model Adjustment Factors were applied to GHG EFs gasoline powered vehicles to account for SAFE Vehicle Rule. All criteria EF values are too small to use adjustment factors.

Woodstoves - No wood burning stoves or fireplaces would be incorporated on-site.

Energy Use - Comply with 2019 Title 24 Building Energy Efficiency Standards. Excludes non-Title 24 intensity factors from all land use types, and reduce Title 24 NG intensity by 40 percent for Apts.

Construction Off-road Equipment Mitigation - All off-road equiptment over 50 HP will utilize Tier 2 engines. Water exposed areas at least three times daily during construction.

Mobile Land Use Mitigation - The project is a high-density development 24.6 DU/acre. Transit bus station located within 0.5 miles of the project site. NEV being implimented with 41 EV chagring stalls.

Area Mitigation - No hearths.

Energy Mitigation - Exceeds 2016 Title 24 by 7 percent for 2019 Title 24, LED or other efficient lighting in 75 percent of the luminaires, and Energy Star appliances in apartment land use subtypes.

Water Mitigation - 2010 CALGreen Code requires a 20% reduction in water use. . Project would utilize low-flow water features and efficienct irrigation system.

Waste Mitigation - State CalRecycle 75 percent initiative of solid waste generated be source reduced, recycled or composted.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	40.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.49	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	1.79	0.00
tblEnergyUse	T24NG	8,764.08	5,258.45
tblFireplaces	NumberGas	198.90	0.00
tblFireplaces	NumberNoFireplace	23.40	0.00

tblFireplaces	NumberWood	11.70	0.00
tblLandUse	LandUseSquareFeet	25,750.00	25,745.00
tblLandUse	LotAcreage	6.16	5.50
tblProjectCharacteristics	CO2IntensityFactor	702.44	470.63
tblVehicleEF	LDA	243.88	251.56
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	256.98	265.07
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDA	239.64	247.19
tblVehicleEF	LDA	52.52	54.17
tblVehicleEF	LDT1	310.15	319.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	325.67	335.92
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT1	304.96	314.57
tblVehicleEF	LDT1	65.72	67.79
tblVehicleEF	LDT2	344.86	355.73
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	362.72	374.15
tblVehicleEF	LDT2	73.12	75.42
tblVehicleEF	LDT2	338.93	349.61
tblVehicleEF	LDT2	73.12	75.42
tblVehicleTrips	WD_TR	6.65	5.42
tblVehicleTrips	WD_TR	74.06	47.62
tblVehicleTrips	WD_TR	11.03	9.70
tblWoodstoves	NumberCatalytic	11.70	0.00
tblWoodstoves	NumberNoncatalytic	11.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9712	40.5510	21.7636	0.0399	18.2675	2.0459	20.3134	9.9840	1.8823	11.8663	0.0000	3,872.0771	3,872.0771	1.1970	0.0000	3,902.0024
2022	2.9614	21.6178	25.6507	0.0667	6.7200	0.9420	7.6621	3.4120	0.8667	4.2786	0.0000	6,617.5915	6,617.5915	0.9326	0.0000	6,636.9809
2023	46.0726	19.0140	24.7509	0.0653	3.1944	0.7241	3.9185	0.8557	0.6810	1.5368	0.0000	6,478.4107	6,478.4107	0.7517	0.0000	6,497.2041
Maximum	**46.0726**	**40.5510**	**25.6507**	**0.0667**	**18.2675**	**2.0459**	**20.3134**	**9.9840**	**1.8823**	**11.8663**	**0.0000**	**6,617.5915**	**6,617.5915**	**1.1970**	**0.0000**	**6,636.9809**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.2927	33.7753	23.5694	0.0399	7.2470	0.9477	8.1947	3.9263	0.9475	4.8739	0.0000	3,872.0771	3,872.0771	1.1970	0.0000	3,902.0024
2022	2.5069	29.3291	27.3601	0.0667	3.1944	0.8955	4.0899	1.3578	0.8935	2.1314	0.0000	6,617.5915	6,617.5915	0.9326	0.0000	6,636.9809
2023	46.0726	27.9138	26.5618	0.0653	3.1944	0.8808	4.0752	0.8557	0.8791	1.7348	0.0000	6,478.4107	6,478.4107	0.7517	0.0000	6,497.2041
Maximum	**46.0726**	**33.7753**	**27.3601**	**0.0667**	**7.2470**	**0.9477**	**8.1947**	**3.9263**	**0.9475**	**4.8739**	**0.0000**	**6,617.5915**	**6,617.5915**	**1.1970**	**0.0000**	**6,636.9809**

Boulders Mixed Use Project - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.91**	**-12.11**	**-7.38**	**0.00**	**51.61**	**26.62**	**48.71**	**56.92**	**20.70**	**50.57**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Energy	0.0407	0.3501	0.1653	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9371	443.9371	8.5100e-003	8.1400e-003	446.5752
Mobile	2.9100	13.9556	36.7781	0.1508	13.7893	0.1102	13.8995	3.6891	0.1024	3.7915		15,666.9368	15,666.9368	0.7015		15,684.4737
Total	**9.4030**	**14.5285**	**56.2878**	**0.1541**	**13.7893**	**0.2454**	**14.0347**	**3.6891**	**0.2377**	**3.9268**	**0.0000**	**16,145.7365**	**16,145.7365**	**0.7436**	**8.1400e-003**	**16,166.7519**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Energy	0.0379	0.3256	0.1538	2.0600e-003		0.0262	0.0262		0.0262	0.0262		412.8615	412.8615	7.9100e-003	7.5700e-003	415.3150
Mobile	2.7869	13.2643	33.6904	0.1361	12.3483	0.0999	12.4482	3.3036	0.0929	3.3965		14,136.1381	14,136.1381	0.6435		14,152.2246
Total	**9.2770**	**13.8126**	**53.1886**	**0.1392**	**12.3483**	**0.2332**	**12.5815**	**3.3036**	**0.2262**	**3.5297**	**0.0000**	**14,583.8622**	**14,583.8622**	**0.6850**	**7.5700e-003**	**14,603.2425**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.34**	**4.93**	**5.51**	**9.68**	**10.45**	**4.98**	**10.35**	**10.45**	**4.84**	**10.11**	**0.00**	**9.67**	**9.67**	**7.88**	**7.00**	**9.67**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2021	12/14/2021	5	10	
2	Grading	Grading	12/15/2021	3/8/2022	5	60	
3	Building Construction	Building Construction	3/9/2022	1/24/2023	5	230	
4	Paving	Paving	1/25/2023	2/21/2023	5	20	
5	Architectural Coating	Architectural Coating	2/22/2023	4/18/2023	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30

Acres of Paving: 3.86

Residential Indoor: 473,850; Residential Outdoor: 157,950; Non-Residential Indoor: 50,993; Non-Residential Outdoor: 16,998; Striped Parking Area: 10,296 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	252.00	59.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**7.0458**	**0.9462**	**7.9920**	**3.8730**	**0.9462**	**4.8191**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0450	0.5078	1.5600e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		155.3502	155.3502	4.1600e-003		155.4543
Total	**0.0692**	**0.0450**	**0.5078**	**1.5600e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**155.3502**	**155.3502**	**4.1600e-003**		**155.4543**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.5554**	**0.7725**	**3.3279**	**1.3133**	**0.7725**	**2.0858**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0450	0.5078	1.5600e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		155.3502	155.3502	4.1600e-003		155.4543
Total	**0.0692**	**0.0450**	**0.5078**	**1.5600e-003**	**0.1677**	**1.2300e-003**	**0.1689**	**0.0445**	**1.1400e-003**	**0.0456**		**155.3502**	**155.3502**	**4.1600e-003**		**155.4543**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0651	0.0406	0.4687	1.5000e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		149.7805	149.7805	3.7600e-003		149.8745
Total	**0.0651**	**0.0406**	**0.4687**	**1.5000e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**149.7805**	**149.7805**	**3.7600e-003**		**149.8745**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**2.5554**	**0.7725**	**3.3279**	**1.3133**	**0.7725**	**2.0858**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0651	0.0406	0.4687	1.5000e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		149.7805	149.7805	3.7600e-003		149.8745
Total	**0.0651**	**0.0406**	**0.4687**	**1.5000e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**149.7805**	**149.7805**	**3.7600e-003**		**149.8745**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1621	5.3201	1.4130	0.0145	0.3776	0.0101	0.3878	0.1087	9.7000e-003	0.1184		1,546.9459	1,546.9459	0.1005		1,549.4576
Worker	1.0930	0.6820	7.8743	0.0252	2.8168	0.0201	2.8369	0.7470	0.0186	0.7656		2,516.3120	2,516.3120	0.0632		2,517.8911
Total	**1.2551**	**6.0021**	**9.2873**	**0.0397**	**3.1944**	**0.0303**	**3.2247**	**0.8557**	**0.0283**	**0.8840**		**4,063.2580**	**4,063.2580**	**0.1636**		**4,067.3487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2517	23.3270	18.0727	0.0269		0.8652	0.8652		0.8652	0.8652	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.2517**	**23.3270**	**18.0727**	**0.0269**		**0.8652**	**0.8652**		**0.8652**	**0.8652**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1621	5.3201	1.4130	0.0145	0.3776	0.0101	0.3878	0.1087	9.7000e-003	0.1184		1,546.9459	1,546.9459	0.1005		1,549.4576
Worker	1.0930	0.6820	7.8743	0.0252	2.8168	0.0201	2.8369	0.7470	0.0186	0.7656		2,516.3120	2,516.3120	0.0632		2,517.8911
Total	**1.2551**	**6.0021**	**9.2873**	**0.0397**	**3.1944**	**0.0303**	**3.2247**	**0.8557**	**0.0283**	**0.8840**		**4,063.2580**	**4,063.2580**	**0.1636**		**4,067.3487**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1210	4.0123	1.2494	0.0140	0.3776	4.7600e-003	0.3824	0.1087	4.5500e-003	0.1133		1,500.7338	1,500.7338	0.0870		1,502.9083
Worker	1.0308	0.6169	7.2575	0.0243	2.8168	0.0196	2.8364	0.7470	0.0181	0.7651		2,422.4670	2,422.4670	0.0569		2,423.8897
Total	**1.1518**	**4.6292**	**8.5069**	**0.0383**	**3.1944**	**0.0244**	**3.2188**	**0.8557**	**0.0226**	**0.8783**		**3,923.2008**	**3,923.2008**	**0.1439**		**3,926.7980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2295	23.2846	18.0549	0.0269		0.8565	0.8565		0.8565	0.8565	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.2295**	**23.2846**	**18.0549**	**0.0269**		**0.8565**	**0.8565**		**0.8565**	**0.8565**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1210	4.0123	1.2494	0.0140	0.3776	4.7600e-003	0.3824	0.1087	4.5500e-003	0.1133		1,500.7338	1,500.7338	0.0870		1,502.9083
Worker	1.0308	0.6169	7.2575	0.0243	2.8168	0.0196	2.8364	0.7470	0.0181	0.7651		2,422.4670	2,422.4670	0.0569		2,423.8897
Total	**1.1518**	**4.6292**	**8.5069**	**0.0383**	**3.1944**	**0.0244**	**3.2188**	**0.8557**	**0.0226**	**0.8783**		**3,923.2008**	**3,923.2008**	**0.1439**		**3,926.7980**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2947**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0614	0.0367	0.4320	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		144.1945	144.1945	3.3900e-003		144.2792
Total	**0.0614**	**0.0367**	**0.4320**	**1.4500e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**144.1945**	**144.1945**	**3.3900e-003**		**144.2792**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.2620					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1931**	**20.1146**	**17.2957**	**0.0228**		**0.6670**	**0.6670**		**0.6670**	**0.6670**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0614	0.0367	0.4320	1.4500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		144.1945	144.1945	3.3900e-003		144.2792
Total	**0.0614**	**0.0367**	**0.4320**	**1.4500e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**144.1945**	**144.1945**	**3.3900e-003**		**144.2792**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**45.8681**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2045	0.1224	1.4400	4.8200e-003	0.5589	3.8900e-003	0.5628	0.1482	3.5800e-003	0.1518		480.6482	480.6482	0.0113		480.9305
Total	**0.2045**	**0.1224**	**1.4400**	**4.8200e-003**	**0.5589**	**3.8900e-003**	**0.5628**	**0.1482**	**3.5800e-003**	**0.1518**		**480.6482**	**480.6482**	**0.0113**		**480.9305**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**45.8681**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2045	0.1224	1.4400	4.8200e-003	0.5589	3.8900e-003	0.5628	0.1482	3.5800e-003	0.1518		480.6482	480.6482	0.0113		480.9305
Total	**0.2045**	**0.1224**	**1.4400**	**4.8200e-003**	**0.5589**	**3.8900e-003**	**0.5628**	**0.1482**	**3.5800e-003**	**0.1518**		**480.6482**	**480.6482**	**0.0113**		**480.9305**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Implement NEV Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7869	13.2643	33.6904	0.1361	12.3483	0.0999	12.4482	3.3036	0.0929	3.3965		14,136.1381	14,136.1381	0.6435		14,152.2246
Unmitigated	2.9100	13.9556	36.7781	0.1508	13.7893	0.1102	13.8995	3.6891	0.1024	3.7915		15,666.9368	15,666.9368	0.7015		15,684.4737

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,268.28	1,495.26	1371.24	4,494,970	4,025,246
Day-Care Center	392.87	51.23	48.10	428,674	383,877
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	249.78	63.35	27.04	616,338	551,931
Parking Lot	0.00	0.00	0.00		
Total	1,910.92	1,609.84	1,446.38	5,539,982	4,961,054

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Enclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Day-Care Center	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Enclosed Parking Structure	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
General Office Building	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845
Parking Lot	0.550809	0.042355	0.203399	0.115606	0.014562	0.005806	0.021810	0.035336	0.002134	0.001736	0.004891	0.000712	0.000845

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0379	0.3256	0.1538	2.0600e-003		0.0262	0.0262		0.0262	0.0262		412.8615	412.8615	7.9100e-003	7.5700e-003	415.3150
NaturalGas Unmitigated	0.0407	0.3501	0.1653	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.9371	443.9371	8.5100e-003	8.1400e-003	446.5752

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3371.17	0.0364	0.3107	0.1322	1.9800e-003		0.0251	0.0251		0.0251	0.0251		396.6083	396.6083	7.6000e-003	7.2700e-003	398.9652
Day-Care Center	157.541	1.7000e-003	0.0155	0.0130	9.0000e-005		1.1700e-003	1.1700e-003		1.1700e-003	1.1700e-003		18.5343	18.5343	3.6000e-004	3.4000e-004	18.6444
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	244.754	2.6400e-003	0.0240	0.0202	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003		28.7946	28.7946	5.5000e-004	5.3000e-004	28.9657
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0407**	**0.3501**	**0.1653**	**2.2100e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.9371**	**443.9371**	**8.5100e-003**	**8.1400e-003**	**446.5752**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.13519	0.0338	0.2889	0.1230	1.8400e-003		0.0234	0.0234		0.0234	0.0234		368.8457	368.8457	7.0700e-003	6.7600e-003	371.0376
Day-Care Center	0.146513	1.5800e-003	0.0144	0.0121	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.2369	17.2369	3.3000e-004	3.2000e-004	17.3393
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.227621	2.4500e-003	0.0223	0.0188	1.3000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003		26.7790	26.7790	5.1000e-004	4.9000e-004	26.9381
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0378**	**0.3256**	**0.1538**	**2.0600e-003**		**0.0262**	**0.0262**		**0.0262**	**0.0262**		**412.8615**	**412.8615**	**7.9100e-003**	**7.5700e-003**	**415.3150**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030
Unmitigated	6.4522	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.8626	34.8626	0.0336	0.0000	35.7030

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5846	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.8626	34.8626	0.0336		35.7030
Total	**6.4522**	**0.2228**	**19.3444**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.8626**	**34.8626**	**0.0336**	**0.0000**	**35.7030**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5846	0.2228	19.3444	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.8626	34.8626	0.0336		35.7030
Total	**6.4522**	**0.2228**	**19.3444**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.8626**	**34.8626**	**0.0336**	**0.0000**	**35.7030**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation