

BELLA VISTA RESIDENTIAL PROJECT

AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Mendocino County, California

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Project: 20-186

Introduction

The purpose of this report is to evaluate the air quality and greenhouse gas impacts associated with the proposed residential development at 3000 South State Street, which is approximately 0.45 miles from the City of Ukiah limits. The project proposes to develop 171 residences along with parks, landscaped areas, and a water detention basin. The site includes approximately 48.8 acres of land that are mostly undeveloped, containing out of production grape vines, vegetation, and a wooded hillside at the west end. The proposed project represents a modification to the approved Garden's Gate residential project, a 199 lot and subdivision that includes 2.3 acres of open space and park area divided between a Neighborhood Park and a Community Park.

Project Description

In 2006 a residential project, known as Garden's Gate, was approved at the project site. The approval consisted of a 199-lot Vested Tentative Subdivision Map, Development Agreement, Phasing Plan, Affordable Housing Agreement, and the certification of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). The EIR included an air quality analysis and greenhouse gas (GHG) emissions assessment.

The EIR found air quality impacts to be less than significant if Mitigation Measure 3.6-A.1 is implemented to control construction period emissions. Project impacts in terms of GHG emissions were found to be significant and unavoidable because the project would use more energy and thereby generate GHG emissions that would adversely affect the global climate. Mitigation measure 3.6-F.1 was identified to reduce GHG emissions. With this measure, annual GHG emissions from the project were estimated at 2,114 tons of CO_{2e} per year (GHG emissions expressed as equivalent to carbon dioxide). Mitigation measures addressing air quality and GHG emissions identified in the EIR that would apply to the project include the following:

MM 3.6-A.1 *The project applicant and construction contractor shall for all construction project phases prepare and implement a dust control program to limit construction emissions of PM₁₀. The program shall include at least the following provisions from MCAQMD Rule 1-430 Fugitive Dust. Because the site is over one acre in size, a Grading Permit must be approved by MCAQMD, and MCAQMD may require additional mitigations.*

- *Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.*
- *The use of water or chemicals for control of dust in the demolition of existing buildings or structures.*
- *All visibly dry disturbed soil road surfaces shall be watered to minimize fugitive dust emissions.*
- *All unpaved surfaces, unless otherwise treated with suitable chemicals or oils, shall have a posted speed limit of 10 miles per hour.*

- *Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.*
- *Asphalt, oil, water, or suitable chemicals shall be applied on materials stockpiles, and other surfaces that can give rise to dust emissions.*
- *All earthmoving activities shall cease when sustained winds exceed 15 miles per hour.*
- *The operator shall take reasonable precautions to prevent the entry of unauthorized vehicles onto the site during non-work hours.*
- *The operator shall keep a daily log of activities to control fugitive dust.*

MM 3.6-F.1 *The project shall minimize the emission of greenhouse gases by including at least the following:*

- *Install solar hot water heaters with a back-up electric water heater.*
- *The project shall be constructed to incorporate the 2010 Title 24 building standards (or whatever standards have been adopted at the time that building permits are issued).*
- *The project shall include a photovoltaic (PV) solar electricity system that will be owned and operated by the Homeowner's Association for the benefit of the future residents. The system will be sized sufficiently so that it totally offsets electrical use from project parks, recreational facilities, and other facilities owned or managed by the Homeowners Association.*
- *Project residential units shall be oriented for maximum solar access. Roofs shall be constructed to allow easy and efficient retrofitting with roof- top solar panels.*

The applicant, Guillon Inc., proposes to modify the subdivision into a diverse range of detached age-restricted cottage units and single-family homes, public right-of-way, parkland, and open space. The project site is designated as Suburban Residential (SR) in the County's General Plan and is zoned Suburban Residential and Rural Residential. The subdivision, totaling 48.8 acres on four existing parcels, proposes to create the following:

- 171 Total Residential Lots:
 - Single Family Residential: 132 (average lot size 6,219 square feet)
 - Age Restricted Residential: 39 (average lot size 4,907 square feet)
- Neighborhood Park: 1.96 acres
 - Linear Park: 0.57 Acres
 - Cottage Park: 0.24 Acres

In addition to roadways and sidewalks, the project would also include an approximately 930 linear feet (0.18 of a mile) Class I Bicycle Lane. The subdivision would also result in a 12.19-acre Remainder Parcel at the west end of the site that encompasses the portion of the site that is zoned Rural Residential (RRS). No development is currently proposed for that parcel, and it is not part of the proposed project.

Energy Efficiency and Conservation

All residences would be constructed in accordance with the most recent edition of Title 24 of the California Building Code (CBC). The CBC contains mandatory requirements that apply to residential buildings that will be a part of the project which include; high performance attics insulation and walls, high efficacy lighting, windows, water heating and HVAC systems. Specific energy conservation features include:

- Structures will incorporate natural cooling by utilizing window overhangs, awnings, front and rear patios, shade from neighboring structures, radiant heat-reflective barriers in the attic and appropriate tree plantings or a combination thereof.
- Structures will be constructed in compliance with solar requirements found in Title 24 of the California Building Code.
- Project will incorporate Energy Star Certified Appliances. At a minimum, the following appliances are recommended to be Energy Star rated: dishwasher and water heater.
- Natural lighting may be incorporated into the home through solar tubes and sky lights.
- Windows, sky lights and other fenestration will meet energy code requirements and will be Energy Star certified. These elements will have low U-factor (U-value) rating. U-factors is a rate of non-solar heat loss or gain through a while window assembling. The lower the U-factor, the greater a window's resistance to heat flow and the better its insulating value.
- Project will incorporate the use of low flow toilets and faucets that meet the standards as set forth by the California Energy Commission.
- All landscaping will be installed to AB 1881 (The Water Conservation in Landscaping Act of 2006) standards, which promotes water efficiency and conservation, using mulch, bubblers, and timed sprinkler systems.

Construction Grading and Dust

The proposed development will require the preparation of a detailed grading and erosion control plan subject to review and approval by the County prior to earth moving activities (Municipal Code section 18.70.060 – Grading Permit Requirements). Grading will be completed in compliance with County standards. Dust control rules and regulations as required by the Mendocino County Air Quality Management District (MCAQMD) will be adhered to (Rule 1-200, 1-400(a), 1-410, 1-420, 1-430). These regulations minimize fugitive dust particle during construction. Measures imposed by the District include, but not limited to:

1. All visibly dry disturbed soil surfaces shall be watered to minimize fugitive dust.
2. Installation of a “stabilized construction entrance/exit” as detailed in the Department of Transportation storm water handbook (TC-1) will be utilized.
3. Earth or other material tracked on to neighboring paved roads shall be removed promptly.
4. Dust generating activities will be limited during periods of high winds (over 15 mph).
5. Access of unauthorized vehicles onto the construction site during non-working hours shall be prevented.
6. A weekly log shall be kept of fugitive dust control measures that have been implemented.
7. Restrict idling of diesel engines on the site to less than 5 minutes.
8. All haul trucks transporting soil, sand or other loose materials off-site shall be covered.
9. All vehicle speeds on unpaved roads shall be limited to 15 mph.

10. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at access points.
11. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
12. Post a publicly visible sign with telephone number for the applicant's representative regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Additionally, measures to reduced diesel particulate matter emissions that could affect local receptors are incorporated into the project as follows:

All off road construction equipment with engines greater than 50 horsepower (hp) and operating on the site for more than two days or 20 hours shall meet, at a minimum, U.S. EPA particulate matter emission standards for Tier 4 engines or equivalent. In the event that such equipment is not available, the use of Tier 3 construction equipment is sufficient so long as it can be demonstrated to the County that similar Tier 4 construction equipment is not readily available.

In accordance with requirements from the Mendocino Solid Waste Authority, a Construction and Demolition Waste Management Plan (CWM) will be provided at the time the permit is issued by the Waste Authority (Ordinance 4301). The CWM will be submitted to the Solid Waste Authority prior to the start of construction related activities. The CWM will outline measure to capture and recycle materials that would otherwise end up in the waste stream.

GHG Reduction Measures

GHG emissions would be reduced based on the following features:

- No fireplaces;
- Include solar power for each of the residential lots (not quantified);
- No natural gas hookups;
- Include infrastructure to promote electric car charging (i.e., provide 220VAC outlets);
- Meet latest CalGreen Title 24 standards);
- Include energy efficient appliances;
- Include low-flow water fixtures; and
- Include water-efficient irrigation systems (drip systems).

Purpose of this Air Quality/GHG Study

In this analysis, the impacts from the proposed Bella Vista residential project are compared to the previously entitled Garden's Gate Subdivision project. Any new significant or significant impacts that are substantially worsened under the currently proposed project are identified. Mitigation measures to reduce impacts are updated in this analysis.

Air Quality Setting

Air Quality Regulatory Framework

Air quality and air pollution sources are regulated by Federal, State, regional, and local regulatory agencies. Air quality regulations provide the standards by which air quality is determined and institute controls on air pollution sources to improve air quality. The Federal Clean Air Act established the national ambient air quality standards and delegated the enforcement of air pollution control regulations to the states. In California, the California Air Resources Board (CARB) develops and enforces air regulations, but delegates the responsibility of stationary emission source regulation to local air pollution control agencies. In the project area, the Mendocino County Air Quality Management District (MCAQMD) is responsible for air pollution source regulation. Mobile sources of air pollutant emissions are regulated on a state-wide basis by the CARB. The air pollutants of concern and the roles of the agencies primarily responsible for managing the air quality within the project area and relevant air quality regulations are further discussed below.

Federal Air Quality Regulations

The Federal Clean Air Act (Federal Act) was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. Air quality is characterized by the presence of pollutants that fall into two basic categories; criteria air pollutants and toxic or hazardous air contaminants. Criteria air pollutants refer to a group of pollutants that the regulatory agencies have adopted ambient air quality standards and pollution management and control strategies. Toxic or hazardous air contaminants refer to a category of air pollutants that have potential adverse health effects but do not have an associated ambient air quality standard. These pollutants are called hazardous air pollutants (HAPs) in Federal law and toxic air pollutants (TACs) in California law.

Each state is divided into air basins based on topographic, geographic, and meteorological conditions. Each air basin is then assessed to determine if the area meets the National Ambient Air Quality Standards (NAAQS). Air basins or portions thereof have been classified as either “attainment” or “nonattainment” for each criteria air pollutant based on whether or not compliance with the standards has been achieved.

If an area does not meet the NAAQS over a set period of time, the United States Environmental Protection Agency (U.S. EPA) designates the area as a “nonattainment” area for that particular pollutant and sets deadlines for bringing the area into compliance with the standards. These deadlines vary by pollutant, the current level of air pollution in the air basin, and the ability of each region to meet the deadline. The U.S. EPA requires states that have areas that are not in compliance with the national standards to prepare and submit air quality plans showing how and when the standards will be met. These plans are referred to as State Implementation Plans (SIPs). If the states cannot show how the standards will be met, then they must show progress toward meeting the standards. Under severe cases, the U.S. EPA may impose a Federal plan to show progress in meeting the Federal standards. Since, as discussed below, the area meets all NAAQS, there is no SIP imposed on the North Coast Air Basin.

State Air Quality Regulations

Air pollution in California is regulated under the provisions of the California Clean Air Act (State Act). These statutes provide the basis for implementing the Federal Act. The CARB is responsible for establishing and reviewing the State standards, compiling the California SIP, securing approval of that plan from the U.S. EPA, and identifying toxic air contaminants. CARB also regulates mobile emission sources in California, such as construction equipment, trucks, and automobiles. The State Act divides implementation responsibility between the CARB and local or regional agencies called air quality management districts or air pollution control districts. The MCAQMD is the local air quality district for the project. The MCAQMD is responsible for bringing and/or maintaining air quality within Federal and State air quality standards. This includes the responsibility to monitor ambient air pollutant levels and to develop and implement attainment strategies to ensure that future emissions will be within standards.

The air districts are primarily responsible for implementing and enforcing Federal and State regulations for stationary sources at industrial and commercial facilities within their jurisdictions and for preparing the regional air quality plans that are required under the Federal Clean Air Act and California Clean Air Act. These regional air quality plans prepared by districts throughout the State are compiled by the CARB to form the California SIP. The local air districts also have the responsibility and authority to adopt transportation control measures and emission reduction programs for indirect and area-wide emission sources.

The CARB oversees air district regulation of stationary sources and is the agency primarily responsible for controlling air pollution from mobile sources in California. Regulations have been adopted at both U.S. EPA and CARB levels that set specific emission standards for vehicles. As older vehicles are retired and replaced with newer, cleaner vehicles (called “fleet turnover”), it is expected that the air quality will improve. Consistent with this notion, most air quality planning documents project reduced vehicle emissions in the future.

Criteria Air Pollutants

The California Clean Air Act outlines a program for areas in the State to attain the California Air Quality Standards (CAAQS) by the earliest practical date. The California Clean Air Act set more stringent air quality standards, as shown in Table 1, for most of the pollutants covered under the Federal standards. Additionally, California has adopted ambient air quality standards for vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates.

In a manner similar to the Federal requirements, the California Clean Air Act requires designation of attainment and nonattainment areas with respect to CAAQS. The California Clean Air Act also requires that local and regional air districts prepare a Clean Air Plan (CAP) if the State air quality standards for carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), or ozone (O₃) are violated in their district. These CAPs include information on existing air quality in the region, an inventory of current and forecasted future emissions, emission reductions required to meet the standards, and the control measures required to achieve the emission reduction. The CAP must show satisfactory progress in attaining the State air quality standards. The California Clean

Air Act requires that the State air quality standards be met as expeditiously as practicable but unlike the Federal Clean Air Act, does not set precise attainment date deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

Unlike for other pollutants an attainment plan is not required for areas that violate the State respirable particulate matter or particulates with an aerodynamic diameter of 10 micrometers (μm) or less (PM_{10}) standards. As discussed below, the State PM_{10} standards are exceeded in Mendocino County. While the MCAQMD is not required to prepare a PM_{10} attainment plan, the District is required to prevent significant deterioration of local air quality and make reasonable efforts toward achieving attainment status for all pollutants. However, the MCAQMD has prepared a Particulate Matter Attainment Plan, which lists PM_{10} control measures it considers cost-effective and developed a schedule for implementation of the plan. There are also standards for fine particulate matter, or particulates with an aerodynamic diameter of 2.5 μm or less ($\text{PM}_{2.5}$)

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed in Section 2.3.2.2. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel exhaust is the predominant cancer-causing TAC in California. CARB estimates that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM.¹ According to CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.² In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant

¹ CARB. *Summary: Diesel Particulate Matter Health Impacts*. https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm

² California Air Resources Board. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000.

component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of diesel particulate matter (DPM). Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations adopted in 2014 require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and PM_{2.5} emissions.³ This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road, or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and nitrogen oxides (NOx) emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NOx exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NOx. *Attachment 1* includes detailed community risk modeling methodology.

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by CARB. NOA is located in many parts of California and is commonly associated with ultramafic rocks. Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. When exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil. For individuals living in areas of NOA, there are many potential pathways for airborne exposure. Exposures to soil dust containing asbestos can occur under a variety of scenarios, including children playing in the dirt; dust raised from unpaved roads and driveways covered with crushed serpentinite; grading and earth disturbance associated with construction activity; quarrying; gardening; and other human activities. For homes built on asbestos outcroppings, asbestos can be tracked into the home and can also enter as fibers suspended in the air. People exposed to low levels of asbestos may be at elevated risk (e.g., above background rates) of lung cancer and

³ Title 13, California Code of Regulations Division 3: Air Resources Board Chapter 1: Motor Vehicle Pollution Control Devices

mesothelioma. The risk is proportional to the cumulative inhaled quantity of fibers, and also increases with the time since first exposure. Although there are a number of factors that influence the disease-causing potency of any given asbestos (such as fiber length and width, fiber type, and fiber chemistry), all forms are carcinogens.

Local Air Quality Policies and Regulations

Mendocino County General Plan Goals and Policies

The Mendocino County General Plan contains goals, policies, standards, and implementation programs pertinent to air quality. The following general plan policies regarding air quality are considered relevant to the proposed project:

- Policy RM-37: Public and private development shall not exceed Mendocino County Air Quality Management District emissions standards.
- Policy RM-38: The County shall work to reduce or mitigate particulate matter emissions resulting from development, including emissions from wood-burning devices.
- Policy RM-43: Reduce the effects of earth-moving, grading, clearing and construction activities on air quality.
- Policy RM-44: New development should be focused within and around community areas to reduce vehicle travel.
- Policy RM-45: Encourage the use of alternative fuels, energy sources and advanced technologies that result in fewer airborne pollutants.
- Policy RM-46: Reduce or eliminate exposure of persons, especially sensitive populations, to air toxics.
- Policy RM-47: Minimize the exposure of sensitive uses, such as residences, schools, day care, group homes or medical facilities to industrial uses, transportation facilities, or other sources of air toxics.

Mendocino County Air Quality Management District (MCAQMD) Regulations

The MCAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

Regulation 4 *Particulate Matter Reduction Measures* would apply to construction of the project. This Regulation contains general limitations associated with air emission source operations including those relating to public nuisance, visible emissions, particulate matter emissions, and fugitive dust.

Rule 1-400(a) Public Nuisance – This is a general requirement that is applicable to odors, as well as other air contaminants. Specifically, the rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Rule 1-410 Visible Emissions – This applies to any source at the facility and limits visible emissions to no more than 20 percent opacity for more than a 3-minute period in any one hour.

Rule 1-420 Particulate Matter – This rule imposes particulate matter emission rate limitations and is applicable to combustion and non-combustion sources. Combustion sources do not include mobile sources. The proposed project will have both combustion and non-combustion sources that would be subject to these requirements.

Rule 1-430 Fugitive Dust Emissions – This rule requires that (a) all reasonable precautions be taken to prevent particulate matter from becoming airborne and (b) specifies airborne dust control measures that would be required. The project would be subject to these requirements.

In addition, there are other MCAQMD rules and regulations, not detailed here, which may apply to the proposed project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

Existing Ambient Air Quality

Table 1 summarizes air quality data for monitoring stations in Ukiah, California. Data from 2017-2019 are the most recent available. The data reported in Table 1 show that the ambient air quality standards for PM_{2.5} were exceeded in 2017 and 2018. These high levels were the result of Northern California wildfires. Ozone concentrations measured in Ukiah were below the ambient air quality standards. Carbon monoxide, nitrogen dioxide, sulphur dioxide, and lead are not measured in the county due to the lack of emission sources. These pollutants have been measured at very low levels in the past.

Table 1. Maximum Measured Air Pollutant Concentrations Closest to the Project Site

Pollutant & Location	Averaging Period	Air Quality Standard		2017	2018	2019
		National	State			
Fine Particulate Matter (PM _{2.5})	24-Hour (µg/m ³)	35	-	127*	263*	21
	Annual (µg/m ³)	15	12	9.4	11.4	6.0
Ozone (O ₃)	1-Hour (ppm)	-	0.09	0.085	0.075	0.062
	8-Hour (ppm)	0.075	0.070	0.064	0.060	0.054

*Affected by wild fires

Notes: ppm = parts per million

µg/m³ = micrograms per cubic meter

Values reported in bold exceed ambient air quality standard

There are no nearby stations measuring other pollutants (i.e., NO₂, CO, SO₂, or Lead).

Attainment Status

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant, using the most recent three years of monitoring data. The Mendocino County as a whole does not meet State standards for PM₁₀, as designated by CARB.⁴ The air basin and County is considered attainment or unclassified for all other air pollutants. Unclassified typically means the region does not have concentrations of that pollutant that exceed ambient air quality standards.

Sensitive Receptors

Sensitive receptors are people who are particularly susceptible to the adverse effects of air pollution. The CARB has identified the following people who are most likely to be affected by air pollution: children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. The closest sensitive receptors to the project site are single family residences along the north side of Cobalt Lane and some rural residences to the west along S. State Street.

Greenhouse Gas Emissions and Global Climate Change

Climate change is caused by greenhouse gases (GHGs) emitted into the atmosphere around the world from a variety of sources, including the combustion of fuel for energy and transportation, cement manufacturing, and refrigerant emissions. GHGs are those gases that have the ability to trap heat in the atmosphere, a process that is analogous to the way a greenhouse traps heat. GHGs may be emitted as a result of human activities, as well as through natural processes. GHGs have been accumulating in the earth's atmosphere at a faster rate than has occurred historically. Increasing GHG concentrations in the atmosphere are leading to global climate change.

Carbon dioxide (CO₂) is the most important anthropogenic GHG because it comprises the majority of total GHG emissions emitted per year and it is very long-lived in the atmosphere. Common GHGs include carbon dioxide, methane, nitrous oxides, and halocarbons (a group of gases containing fluorine, chlorine, or bromine). Typically, when evaluating GHG emissions they are expressed as carbon dioxide equivalents, or CO₂e, which is a means of weighting the global warming potential (GWP) of the different gases relative to the global warming effect of CO₂, which has a GWP value of one. Other GHGs, such as methane and nitrous oxide which are commonly found in the atmosphere, but at much lower concentrations, have a GWP of 21 and 310, respectively. In the United States, CO₂ emissions account for about 85 percent of the CO₂e emissions, followed by methane at about eight percent and nitrous oxide at about five percent.

⁴ CARB. See <http://www.arb.ca.gov/desig/adm/adm.htm>, accessed August 24, 2016.

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). In 2007, the U.S. EPA identified CO₂ as an air pollutant as defined under the Clean Air Act, and that the U.S. EPA has the authority to regulate emissions of GHGs. The U.S. EPA has promulgated several GHG regulations, which for the most part, apply to larger facilities that emit large amounts of CO₂ or its equivalent in other regulated GHGs. These regulations include the Federal Mandatory Reporting of Greenhouse Gases (Mandatory Reporting Rule) and the Tailoring Rule. The Mandatory Reporting Rule, which requires reporting of CO₂ and other GHG emissions, applies to particular facility types. Land use projects are not identified as facilities that are subject to this rule.

State Regulations

In response to the increasing body of evidence that GHGs will continue to affect the global climate, the State has enacted key legislation and implemented regulations in an effort to reduce the State's contribution to climate change.

California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by the CARB will apply to 2009 and later model year vehicles. The CARB estimates that the regulation will reduce GHG emissions from light duty passenger vehicles in California by an estimated 18 percent in 2020 and by 27 percent in 2030.

In 2006, AB 32, the *California Global Warming Solutions Act of 2006* was adopted. AB 32 focuses on reducing GHG emissions in California. GHGs as defined under AB 32 include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. CARB approved the Climate Change Scoping Plan (Scoping Plan) in December 2008. The Scoping Plan outlines actions to obtain the goal set out in AB 32 of reducing emissions to 1990 levels by 2020. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health”. Most of the measures in the Scoping Plan were in place by 2012. The Scoping Plan's recommendations for reducing greenhouse gas emissions to 1990 levels by 2020 provide for emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, and Voluntary Early Actions and Reductions. CARB has also developed and approved a 1990 State GHG emissions inventory of 427 million metric tons of carbon dioxide equivalent (MMTCO₂e) in December 2007. In 2020, GHG emissions in California are required to be at or below 427 MMTCO₂e.

In 2014, CARB approved the first update to the AB 32 Scoping Plan that was adopted in late 2008. The Update describes California's progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the initial Scoping Plan and identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted

low carbon investments. Furthermore, this update defines CARB's climate change priorities for the next five years, and also sets the groundwork to reach the long-term GHG reduction goals.

Executive Order S-01-07, enacted in 2007, mandated a Low Carbon Fuel Standard for transportation fuels sold in California.

California Senate Bill 375, adopted in 2008, requires: (1) metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Executive Order B-30-15, which was signed by the Governor in 2015, established a California GHG reduction target of 40 percent below 1990 levels by 2030. On September 8, 2016, the California legislature passed SB 32 which requires CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. The bill noted that it would become operative only if AB 197 is enacted and becomes effective on or before January 1, 2017. AB 197 was enacted the same day.

Mendocino County General Plan Goals and Policies

Policy RM-50: Mendocino County acknowledges the real challenge of climate change and will implement existing strategies to reduce greenhouse gas emissions and incorporate future measures that the State adopts in the coming years.

Impact Assessment

Evaluation Criteria and Significance Thresholds

The project would cause a significant impact related to odor and air quality, as defined by the CEQA Guidelines (Appendix G), if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
4. Expose sensitive receptors to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

For GHG emissions, the project would have a significant effect if it would:

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

Criteria Pollutant and GHG Significance Thresholds

The Garden's Gate Subdivision Draft EIR used significant thresholds recommended by MCAQMD at the time of the analysis in 2008. These were identified as shown in Table 2.

Table 2. Thresholds Used for Approved Project

Pollutant	MCAQMD Significant Impact Threshold for Stationary Sources (lb/day)	MCAQMD Significant Impact Threshold for Indirect Sources (lb/day)
ROG	110	180
NO _x	110	42
CO	225	690
PM ₁₀	40	80
PM _{2.5}	No threshold	

Subsequently, MCAQMD has identified significance thresholds for use in evaluating project impacts under CEQA.⁵ The approach to MCAQMD thresholds for projects in Mendocino County is based on the Bay Area Air Quality Management District's (BAAQMD) Air Quality CEQA

⁵ MCAQMD. 2013. Advisory – District Interim CEQA Criteria and GHG Pollutant Thresholds. See http://www.co.mendocino.ca.us/aqmd/pdf_files/ceqa-criteria-and-ghg.pdf and http://www.co.mendocino.ca.us/aqmd/pdf_files/MCAQMDCEQARecomendations.pdf, accessed on August 24, 2016.

Guideline thresholds adopted in 2010. Significance thresholds used to evaluate air quality and GHG impacts from this project are described in Table 3. The District was contacted to confirm and clarify the thresholds and their application to this project, noting that the project includes indirect sources. For this project, which does not contain stationary sources, criteria pollutants and GHGs are compared against the *Indirect Source* thresholds.

Table 3. Current MCAQMD Significant Impact Thresholds

Criteria Pollutant and Precursors	Construction	Indirect Source	Project/Stationary Source
	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tons/year)
ROG	54	180	40
NO _x	54	42	40
PM ₁₀	82	82	15
PM _{2.5}	54	54	10
Fugitive Dust (PM ₁₀ /PM _{2.5})	Best Management Practices	same as above	
Local CO ^a	None	125 tons/year	
Greenhouse Gas Emissions		Projects Other than Stationary Sources	Stationary Sources
GHGs	None	1,100 MT of CO ₂ e/year OR 4.6 MT of CO ₂ e/Service Population/year ^b	10,000 MT of CO ₂ e/year

Notes: MT = metric tons, CO₂e = CO₂ equivalents. ^a MCAQMD's indirect permitting rules allow 125 ton/year of CO. ^b Service population = number of new residents + workers.

Toxic Air Contaminant Significance Thresholds

The operation of any project with the potential to expose sensitive receptors to substantial levels of TACs would have a potentially significant impact. MCAQMD recommends that health effects be evaluated for proposed projects that emit TACs where sensitive receptors are within a 1,000-foot radius from the project boundary (Zone of Influence). The following MCAQMD-recommended CEQA thresholds should be considered to have a significant impact.⁶

- An increase in cancer risk of greater than 10.0 cases in a million people
- An increase in the exposure to non-carcinogenic TACs that would result in a Hazard Index (Chronic or Acute) of greater than 1.0

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. This ratio of predicted exposure level to the reference exposure level is called the Hazard Index. This value represents the maximum concentration at which no adverse health effects to the respiratory system are anticipated to occur.

⁶ MCAQMD. 2010. *Adopted Air Quality CEQA Thresholds of Significance – June 2, 2010*. See http://www.co.mendocino.ca.us/aqmd/pdf_files/MCAQMDCEQARecomendations.pdf, accessed on August 24, 2016.

Greenhouse Gas Emissions

Note that the MCAQMD threshold for GHG is based upon BAAQMD’s recommended GHG threshold of 1,100 metric tons or 4.6 metric tons per capita. This threshold was developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32 goals.

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

MBAQMD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (ROG and NOx), PM₁₀ and PM_{2.5} and were applied to both construction period and operational period emissions.

Both construction and operational emissions were computed using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod). The project is planned to be constructed over several years, with the earliest construction start date of 2021. Construction impacts were modeled using CalEEMod default assumptions. The model output from CalEEMod along with construction inputs are included as *Attachment 2*.

CalEEMod Modeling Assumptions

The land uses inputs and construction schedule for the construction phasing was input to CalEEMod as shown in Table 4.

Table 4. CalEEMod Construction Modeling Assumptions

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	2.77	Acre	0.00	120,661.20	0
Retirement Community	39.00	Dw elling Unit	0.00	43,200.00	112
Single Family Housing	132.00	Dw elling Unit	36.60	210,600.00	378

Construction Period Emissions

Under a worst-case condition where construction is assumed to occur all at once, construction would begin in 2021 and be completed in early 2025, a total of 45 months or 1,000 workdays. This schedule assumed that the entire project was constructed all at once in 6 phases: Demolition, Site Preparation, Grading, Trenching, Exterior Building Construction, Paving, and Interior Building Construction. The schedule assumed 22 workdays per month or 260 days per year. Architectural coatings were assumed to be applied during the last building construction phase of 310 days, as not all homes would be constructed and painted during one period. Equipment type, quantity, number of days in use, average hours of use per day (of use) were based on CalEEMod default assumptions.

Construction worker and vendor travel is based on the CalEEMod default values, which assign a daily rate for each phase. CalEEMod also computes the number of haul trips that are based on the

amount of soil material to be imported or exported from the site. Since this is anticipated to be a balanced or nearly balanced site, no soil haul truck trips were included in the modeling. Note that since this is residential development in a built-out area, there would be very little unpaved roadway travel for workers and vendors. The inputs to CalEEMod were adjusted to represent 100 percent travel on paved roadways.

Emissions Controls

The project description for the updated project includes diesel powered construction equipment that would meet U.S. EPA Tier 4 engines standards for particulate matter emissions. Where that equipment is not available, equipment meeting Tier 3 standards would be used. Since Tier 4 equipment has been available since about 2012 or earlier (depending on size based on horsepower), construction equipment assumed in the modeling would meet Tier 4 standards for particulate matter emissions.

Construction Fugitive Dust

During grading and construction activities, dust would be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions and meteorological conditions. Nearby areas could be adversely affected by dust generated during construction activities.

The project description for the updated Project includes control measures to reduce fugitive dust from construction activities. The Project would be subject to requirements of MCAQMD Regulation 1, Rule 1-430. Projects requiring grading of more than 1 acre, such as this project, will require an application for a Large Grading Operation Permit from the District in accordance with District Regulation 1, Rule 1-200.

CalEEMod provided construction emissions in tons per year. Average daily emissions for each year were computed by dividing the total emissions by the number of workdays for each year. Construction emissions from full build out of the project are shown in Table 5.

Table 5. Construction Period Emissions Modeled Using CalEEMod

Description	ROG Emissions	NO_x Emissions	CO Emissions	PM₁₀ Emissions	PM_{2.5} Emissions
Maximum Daily Average Project Emissions	26.85 lbs/day*	16.73 lbs/day	31.17 lbs/day	12.65 lbs/day	1.91 lbs/day
<i>Approved Garden's Gate Subdivision</i>	15.29 lbs/day	51.38 lbs/day	76.92 lbs/day	59.96 lbs/day	14.54 lbs/day
<i>MCAQMD Thresholds used in Garden's Gate Subdivision DEIR</i>	110 lbs/day	110lbs/day	225lbs/day	40lbs/day	54lbs/day
<i>Current MCAQAMD Thresholds</i>	180 lbs/day	42lbs/day	680lbs/day	82lbs/day	54lbs/day
Significant?	No	No	No	No	No

Note: *Average daily emissions were computed for ROG since homes would be painted over several years and not all at one time. Total building construction emissions were divided by 310 building construction workdays.

According to maps provided by MCAQMD, the project site is not in an area identified as possibly containing naturally occurring asbestos; therefore, no additional dust control measures or special permits would be required during project grading activities.⁷

This impact is considered less-than-significant with activities carried out in conformance with MCAQMD rules and regulations. In addition, the project would incorporate specific controls to reduce construction period emissions, required by the Garden's Gate Subdivision EIR (MM 3.6-A.1), along with updated measures to further reductions. Implementation of *Mitigation Measures AQ-1* to ensure dust emissions are properly controlled. In addition, exhaust control measures are included in the project to reduce NO_x and particulate matter (i.e., PM₁₀ and PM_{2.5} exhaust) emissions.

Operational Emissions

CalEEMod provided emissions for operation that primarily includes traffic and energy usage (i.e., natural gas usage). Some adjustments to the model were made to represent this particular project:

1. Trip generation rates used in the traffic analysis were used for each different type of residential land use. The trip generation rates were assumed to represent weekday trips. CalEEMod predicts annual emissions using Saturday and Sunday trips. So, the Saturday and Sunday trip rates were computed by applying a ratio of the CalEEMod default Saturday to Weekday and Sunday to Weekday rates to the weekday rates. The total trips predicted by CalEEMod are similar to those predicted by W-Trans for the project on weekdays and slight higher on Saturdays and lower on Sundays.
2. Vehicle Fleet Mix assumed by CalEEMod was modified to be more representative of residential land uses. The default trip generation assigned by CalEEMod is reflective of all travel in Mendocino County and includes a relatively high percentage of truck traffic (i.e., 13.7 percent heavy-duty trucks). The fleet mix was adjusted to reflect that of a more urban fleet mix that would reflect the residential nature of the project. The default vehicle mix for the Bay Area air basin was used to be reflective of a residential development. This fleet mix is comprised of 6.5 percent heavy-duty trucks.
3. The CalEEMod default assumptions for wood burning was adjusted to reflect that there would be no woodstoves or fireplaces for the proposed project.
4. The proposed project will not include natural gas appliances

Table 6 provides a summary of the operational emissions. Since the site is undeveloped, there are no existing emissions from the project site. Therefore, the modeled emissions shown in Table 6 represent net-new emissions caused by the project when compared to existing conditions. Project emissions are compared to the approved project emissions reported in the 2006 EIR to identify and substantial increase over the proposed project. The 2006 project was modeled with CalEEMod to provide an appropriate comparison. Total daily and annual emissions from operation of the project

⁷ MCAQMD. 2013. Maps – Areas that may contain Naturally Occurring Asbestos in the Ukiah Valley. Accessed August 4, 2017. See <http://www.co.mendocino.ca.us/aqmd/natural-occurring-asbestos.html>

would not exceed any of the significance thresholds and the difference between the proposed project and the previously approved project is not substantial. The proposed project would have lower emissions than the previously approved project. The impact is considered a *less-than-significant*.

Table 6. Operation Period Emissions

Description	ROG Emissions	NOx Emissions	CO Emissions	PM₁₀ Emissions	PM_{2.5} Emissions
Project Build Out	1.94 tons/yr.	2.04 tons/yr.	7.11 tons/yr.	1.49 tons/yr.	0.42 tons/yr.
Bella Vista Average Daily Emissions	10.64 lbs/day	11.20 lbs/day	38.97 lbs/day	8.18 lbs/day	2.27 lbs/day
Bella Vista Maximum Daily Emissions	11.08 lbs/day	11.55 lbs/day	47.08 lbs/day	9.11 lbs/day	2.55 lbs/day
<i>Approved Garden's Gate Subdivision</i>	<i>31.44 lbs/day</i>	<i>23.19 lbs/day</i>	<i>204.8 lbs/day</i>	<i>23.87 lbs/day</i>	<i>4.70 lbs/day</i>
<i>Project Difference</i>	<i>-20 lbs/day</i>	<i>-11 lbs/day</i>	<i>-155 lbs/day</i>	<i>-15 lbs/day</i>	<i>-2 lbs/day</i>
<i>MCQMD Thresholds</i>	<i>180 lbs/day</i>	<i>42 lbs/day</i>	<i>680 lbs/day</i>	<i>82 lbs/day</i>	<i>54 lbs/day</i>
Significant?	No	No	No	No	No

Note: Average daily emissions assume 365 days operation per year.

Impact: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As described above, emissions of air pollutants or their precursors associated with the project were computed and compared to relevant significance thresholds. These include precursors to ozone, carbon monoxide (or CO), and particulate matter in the form of PM₁₀ and PM_{2.5}. Emissions of these pollutants or precursors that would exceed the thresholds are considered to contribute substantially to an existing or projected air quality violation.

As described above, emissions of ozone precursors, CO, and particulate matter would not exceed the significance thresholds. Increased intersection congestion can lead to increased localized CO concentrations (hot spots) in the vicinity of the intersection. Typically there needs to be a substantial increase in the number of vehicles accessing an intersection and a decrease in the intersection level of service (LOS) in order for there to be elevated CO concentrations of concern. The project would not cause or contribute to CO exceedances since the traffic at affected intersections would be well below the BAAQMD screening criteria of 44,000 vehicles per hour per intersection.⁸ Note that the North Coast Air Basin, as a whole, is considered attainment for CO and has not recorded an exceedance of a standard.

Since the project would have emissions that do not exceed the significance thresholds and traffic would not cause or contribute to exceedances of the CO ambient air quality standards, this impact is considered *less-than-significant*.

⁸ BAAQMD. 2017. BAAQMD CEQA Air Quality Guidelines. May.

Impact: Expose sensitive receptors to substantial pollutant concentrations from construction activities?

The proposed project would be a temporary source of air pollutant and TAC emissions during construction. The project would be subject to MCAQMD rules and regulations pertaining to construction and construction contractors would be subject to CARB requirements regarding emissions from construction fleets. All off-road vehicles used for the construction, regardless of time spent on site, must be registered with CARB and portable diesel-powered equipment that is 50 horsepower or greater used during the construction must be either registered with the CARB Portable Equipment Registration Program (PERP). In addition, the project description for the updated project would include newer, Tier 4 construction equipment, that has the lowest diesel particulate matter emissions. These measures are meant to reduce PM_{2.5} and TAC emissions associated with diesel exhaust.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 5) that construction exhaust air pollutant emissions would not contribute substantially to existing or projected air quality violations, construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risks associated with construction emissions are cancer risk and exposure to PM_{2.5}. A health risk assessment of the project construction activities was conducted to evaluate the potential health effects to nearby sensitive receptors from construction emissions of DPM and PM_{2.5}.⁹ Thresholds recommended by BAAQMD and used by MCAQMD were used to judge impacts.

Construction Period Emissions

The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and EMFAC2017 was used to estimate exhaust emissions from on-road vehicles. Total DPM emissions from the construction site over the 5-year construction period was estimated to be 0.041 tons (81 pounds). The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of a one mile was used to represent vehicle travel while at or near the construction site. It was assumed emissions from on-road vehicles traveling at or near the site would occur at the construction site. Controlled fugitive PM_{2.5} dust emissions were estimated to be 0.184 tons (369 pounds) using the same methods and assumptions used to estimate site DPM emissions.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and PM_{2.5} concentrations at sensitive receptors (i.e., residents) in the vicinity of the project construction area. A single area source encompassing the entire project site was used for the modeling. DPM and PM_{2.5} concentrations were computed at nearby sensitive receptors (residential) at receptor heights of 1.5 meters. To represent the construction equipment exhaust emissions, an emission release height of 19.7 feet (6 meters) was used. The elevated source height reflects the height of the equipment

⁹ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 6.6 feet (2 meters) was used. Emissions from the construction equipment and on-site vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when most construction activity is expected.

The modeling used a five-year data set (2009-2013) of hourly meteorological data from the Ukiah Airport that was prepared for use with the AERMOD model by CARB. Annual DPM and PM_{2.5} concentrations from construction activities during the construction period (2021 through 2025) were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. Due to the topography of the surrounding area, terrain elevations were used in the modeling. Digital elevation data from the United States Geological Survey (USGS) were used to obtain the terrain elevations for the modeling. The maximum cancer risks and PM_{2.5} impacts occurred at residences just southeast of the project site.

Project Construction Community Risk Impacts

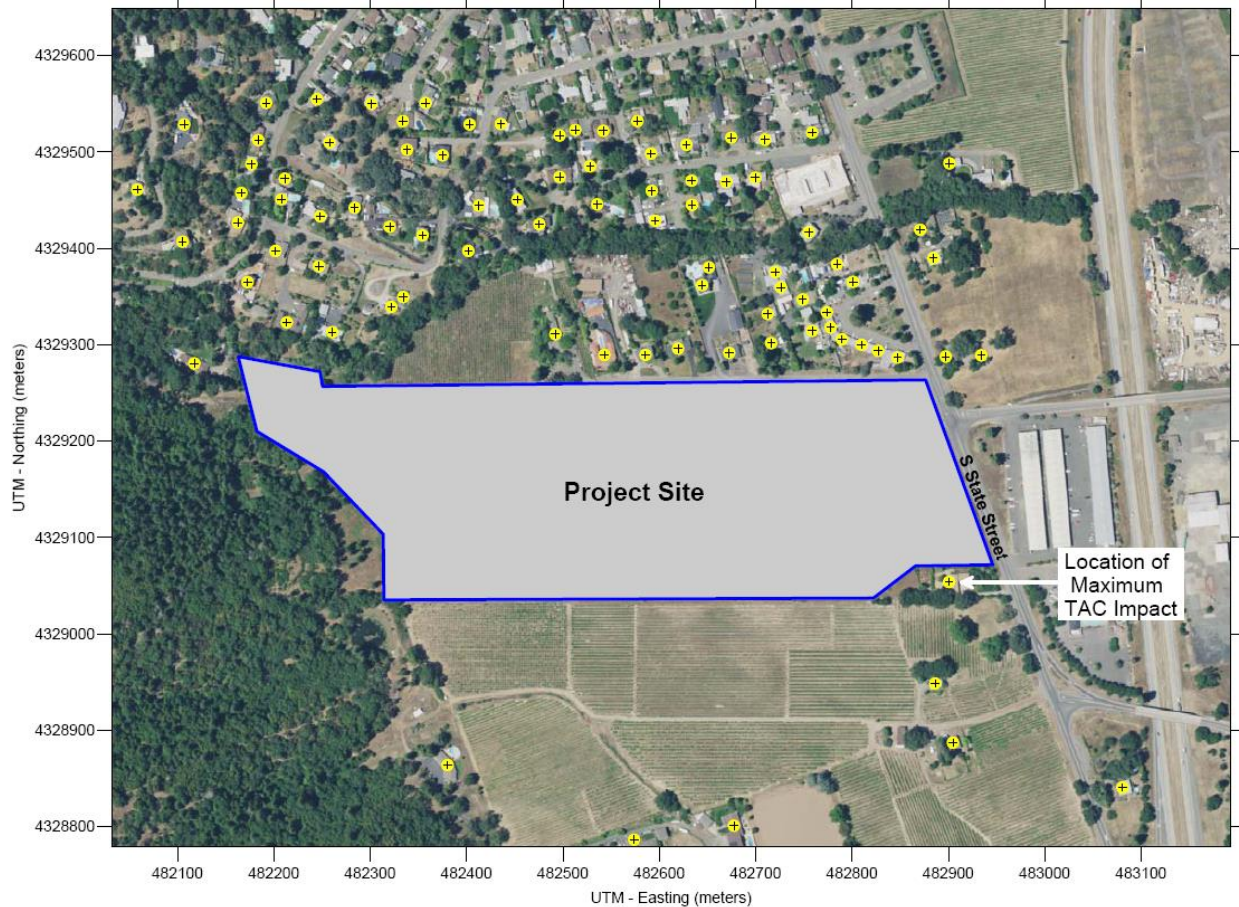
The maximum modeled annual DPM and PM_{2.5} concentrations, and thus the maximally exposed individuals (MEIs), were identified as those at a residence adjacent to the southeast corner of the project site (as shown in Figure 1). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum annual PM_{2.5} concentrations were also calculated and identified. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the construction cancer risk calculations.

Results indicate the unmitigated maximum increased cancer risks and maximum annual PM_{2.5} concentrations from construction would not exceed the BAAQMD-recommended single-source thresholds of greater than 10.0 per million for cancer risk, greater than 0.3 µg/m³ for annual PM_{2.5} concentrations and a Hazard Index (HI) greater than 1.0. Table 7 summarizes the maximum cancer risks, PM_{2.5} concentrations, and HIs for project related construction activities affecting the off-site residential MEI.

Table 7. Construction Risk Impacts at the Off-site Residential MEI

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction	1.6 (infant/child exposure)	0.08	0.01
<i>BAAQMD Recommended Single-Source Threshold</i>	<i>>10.0</i>	<i>>0.3</i>	<i>>1.0</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>

Figure 1. Project Site, Modeled Sensitive Receptors, and Location of Maximum TAC Impact



Since construction equipment is a source of TAC emissions that can be reduced substantially through the use best management practices and newer diesel equipment, the impact is considered *potentially significant*. Compliance with District and CARB requirements, along with implementation of project measures intended to reduce construction period emissions is expected to result in *less-than-significant* impacts with respect to health risks. Operation of the project would not be expected to cause long-term emissions of TACs or PM_{2.5} that would be localized and cause health risk impacts.

GHG EMISSIONS

GHG emissions associated with the project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project were predicted using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines that MCAQMD recommends.¹⁰

CalEEMod Modeling

The CalEEMod model (version 2016.3.2) was used to predict air pollutant emissions associated with the project, as described under *Air Quality Impact 1*. The CalEEMod modeling is described in the discussion associated with *Impact 1*.

Indirect Emissions from Electricity

For GHG emissions, CalEEMod predicts emissions associated with electricity usage that are based on the expected electricity consumption of the new residences combined with the anticipated emissions rate reported for the utility company providing the electricity.

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards.¹¹ GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO₂ per megawatt of electricity delivered in the year 2017.¹²

Water and Wastewater

The CalEEMod default rates were used for water consumption. The project is anticipated to provide low-flow water fixtures, drought-tolerant landscape, and drip irrigation systems.

Solid Waste

The CalEEMod default rates were used for residential solid waste production. The project is anticipated to be subject to local recycling programs that would reduce waste.

¹⁰ BAAQMD, 2011. *Op cit*. BAAQMD updated these guidelines in May 2017 and these can be found at this website: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, Accessed on August 11, 2017.

¹¹ An update to CalEEMod to include new 2019 Title 24 standards that include more energy efficient buildings has not been completed at the time of this analysis.

¹² PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Construction Emissions

GHG emissions associated with construction of the maximum land uses under rezoning were computed to range from about 400 to 600 metric tons of CO₂e per year under the modeled construction scenario. The total construction period emissions were computed as 1,019 metric tons. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor MCAQMD have an adopted threshold of significance for construction-related GHG. Best management practices assumed to be incorporated into construction of the proposed rezoning project include, but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

Following construction, emissions would occur on a nearly continuous basis as the project operates through traffic generation, energy usage, water usage, and waste generation. The CalEEMod model was used to predict annual emissions associated with operation of the fully-developed project. The operational emissions were assumed to be at the highest levels in 2026 if built out and fully occupied by that time.¹³ Table 8 reports the annual emissions resulting from operation of the project and compares these emissions to the approved project. The proposed project emissions are reflective of the GHG reduction features that the project would include. Proposed project emissions would be over 450 metric tons per year lower than the approved project. The effectiveness of these measures is included in the CalEEMod modeling as “Mitigated” model output and are included in Table 8.

Since the Proposed Project would have fewer residential units, causing less traffic, GHG emissions would be less than those identified for the Garden’s Gate Subdivision. In addition, the Proposed Project would include addition features to reduced GHG emissions that were not included in the Garden’s Gate project.

Table 8. Annual Project GHG Emissions (CO₂e) in Metric Tons

Source Category	Approved Garden’s Gate Subdivision	2026 Proposed Project Emissions
Area	--	2
Energy Consumption	--	108
Mobile	--	1,447
Solid Waste Generation	--	93
Water Usage	--	13
Total Emissions	2,114	1,663
Difference		-451
<i>MCAQMD Threshold</i>		<i>1,100</i>
<i>Significant?</i>		<i>No</i>

¹³ Note that the provided construction schedule indicates that the project would not be completed until mid-2025 at the earliest.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute increased cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod modeling assumptions and output for project construction and operational criteria air pollutant and GHG emissions.

Attachment 3 is the construction health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction and operation. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 1: Health Risk Calculation Methodology

Health Risk Assessment Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.¹⁴ These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.¹⁵ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. For CEQA assessments, MCAQMD follows procedures used by the Bay Area Air Quality Management District (BAAQMD). The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.¹⁶ Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools

¹⁴ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

¹⁵ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

¹⁶ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

$$\text{Cancer Risk (per million)} = \text{CPF} \times \text{Inhalation Dose} \times \text{ASF} \times \text{ED/AT} \times \text{FAH} \times 10^6$$

Where:

- CPF = Cancer potency factor (mg/kg-day)⁻¹
- ASF = Age sensitivity factor for specified age group
- ED = Exposure duration (years)
- AT = Averaging time for lifetime cancer risk (years)
- FAH = Fraction of time spent at home (unitless)

$$\text{Inhalation Dose} = C_{\text{air}} \times \text{DBR}^* \times A \times (\text{EF}/365) \times 10^{-6}$$

Where:

- C_{air} = concentration in air (µg/m³)
- DBR = daily breathing rate (L/kg body weight-day)
- 8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
- A = Inhalation absorption factor
- EF = Exposure frequency (days/year)
- 10⁻⁶ = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	Exposure Type →	Infant		Child	Adult
	Age Range →	3 rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80 th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95 th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Annual PM_{2.5} Concentrations

While not a TAC, fine particulate matter (PM_{2.5}) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for PM_{2.5} (project level and cumulative) are in terms of an increase in the annual average concentration. When considering PM_{2.5} impacts, the contribution from all sources of PM_{2.5} emissions should be included. For projects with potential impacts from nearby local roadways, the PM_{2.5} impacts should include those from vehicle exhaust emissions, PM_{2.5} generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Output and Assumptions

Summary of CalEEMod Output – Criteria Pollutants and GHG

Bella Vista							
<i>Unmitigated</i>	ROG	NOX	CO	PM10	PM2.5	CO2e	
Year	Annual Emissions (Tons)					MT	
Construction							
2021	0.1024	1.4724	2.7428	0.5252	0.1681	402	
2022	0.2477	2.0667	3.3739	1.6439	0.2059	548	
2023	0.2317	1.923	3.2312	1.639	0.2029	539	
2024	0.6893	1.7445	2.9258	1.3023	0.1612	470	
2025	3.4729	0.0302	0.066	0.0505	0.00695	10	
Total Construction Emissions							
Tons	4.74	7.24	12.34	5.16	0.75	1019	
Average Daily Emissions (lbs)							
Pounds/Workdays	Average Daily Emissions (lbs)					Workdays	
2021	1.16	16.73	31.17	5.97	1.91		176
2022	1.91	15.90	25.95	12.65	1.58		260
2023	1.78	14.79	24.86	12.61	1.56		260
2024	5.30	13.42	22.51	10.02	1.24		260
2025	138.92	1.21	2.64	2.02	0.28		50
ROG	26.85						1006
Bella Vista							
<i>Unmitigated</i>	ROG	NOX		Total PM10	Total PM2.5		
Operational Emissions (Tons)							
Tons/year	1.94	2.04	7.11	1.49	0.42		
Average Daily Emissions (Pounds Per Day)							
Scenario	Pounds Per Day						
Project Average Daily	10.64	11.20	38.97	8.18	2.27		
Project Max. Day	11.08	12.38	49.56	9.11	2.55		
Approved Daily	31.44	23.19	204.80	23.87	4.70		
Difference	-20.36	-10.81	-155.24	-14.76	-2.15		

Category	CO2e				
	Project 2026	Approved Project			
Area	2	--			
Energy	108	--			
Mobile	1,447	--			
Waste	93	--			
Water	13	--			
TOTAL	1,663	2,114			
Net GHG Emissions		-451			0

Bella Vista, Ukiah - Mendocino County AQMD Air District, Annual

**Bella Vista, Ukiah
Mendocino County AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	2.77	Acre	0.00	120,661.20	0
Retirement Community	39.00	Dwelling Unit	0.00	43,200.00	112
Single Family Housing	132.00	Dwelling Unit	36.60	210,600.00	378

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	86
Climate Zone	1			Operational Year	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 CO2 Factor Rate

Land Use - Provided project description land uses. 36.6 acres to be disturbed. Square footage estimated 12/10/20 email

Construction Phase - Default Const schedule. Added trenching

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment quantities provided

Off-road Equipment -

- Off-road Equipment -
- Off-road Equipment - Equipment quantities provided
- Off-road Equipment - Trenching added
- Off-road Equipment - added this equipment
- Trips and VMT - added asphalt trips assuming 10cy/load 2,780 cy. Cement part fo vendor trips
- On-road Fugitive Dust - Assum mostly paved travel
- Demolition - provided information
- Grading - Default values
- Vehicle Trips - Trip gen from traffic 12/3/2020 email (W-Trans)
- Road Dust - Assumed paved travel
- Woodstoves - No fireplaces
- Energy Use - No natural gas
- Water And Wastewater - all WTP
- Energy Mitigation -
- Water Mitigation -
- Construction Off-road Equipment Mitigation - BMPs and Tier 4i (>50hp)

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	T24NG	9,200.58	0.00
tblEnergyUse	T24NG	10,517.50	0.00
tblFireplaces	FireplaceWoodMass	4,992.00	0.00
tblFireplaces	FireplaceWoodMass	4,992.00	0.00
tblFireplaces	NumberGas	1.95	0.00
tblFireplaces	NumberGas	39.60	0.00
tblFireplaces	NumberWood	1.95	0.00
tblFireplaces	NumberWood	46.20	0.00
tblFleetMix	HHD	0.07	0.03
tblFleetMix	HHD	0.07	0.03
tblFleetMix	HHD	0.07	0.03
tblFleetMix	LDA	0.52	0.58
tblFleetMix	LDA	0.52	0.58
tblFleetMix	LDA	0.52	0.58
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04

tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003
tbIFleetMix	SBUS	1.0590e-003	9.0600e-004
tbIFleetMix	SBUS	1.0590e-003	9.0600e-004
tbIFleetMix	SBUS	1.0590e-003	9.0600e-004
tbIFleetMix	UBUS	1.1270e-003	2.0110e-003
tbIFleetMix	UBUS	1.1270e-003	2.0110e-003
tbIFleetMix	UBUS	1.1270e-003	2.0110e-003

tblLandUse	LandUseSquareFeet	39,000.00	43,200.00
tblLandUse	LandUseSquareFeet	237,600.00	210,600.00
tblLandUse	LotAcreage	2.77	0.00
tblLandUse	LotAcreage	7.80	0.00
tblLandUse	LotAcreage	42.86	36.60
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblRoadDust	RoadPercentPave	55	100
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.03	4.00

tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.95	4.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	2.40	4.27
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	4,896.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,896.00	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	0.3413	3.4126	2.4009	4.5400e-003	0.9815	0.1561	1.1376	0.3263	0.1441	0.4704	0.0000	399.0840	399.0840	0.1160	0.0000	401.9827
2022	0.3711	2.7031	3.1479	6.1500e-003	2.5573	0.1094	2.6668	0.2824	0.1030	0.3853	0.0000	545.7423	545.7423	0.0862	0.0000	547.8984
2023	0.3394	2.4057	2.9958	6.0500e-003	2.5541	0.0928	2.6469	0.2820	0.0873	0.3693	0.0000	536.6487	536.6487	0.0821	0.0000	538.7018

EIR ADDENDUM APPENDIX H

2024	0.7819	2.0115	2.6650	5.2800e-003	2.0293	0.0758	2.1051	0.2240	0.0710	0.2950	0.0000	468.4641	468.4641	0.0803	0.0000	470.4703
2025	3.4729	0.0302	0.0660	1.1000e-004	0.0775	1.2700e-003	0.0788	8.5100e-003	1.2700e-003	9.7800e-003	0.0000	9.7386	9.7386	5.2000e-004	0.0000	9.7515
Maximum	3.4729	3.4126	3.1479	6.1500e-003	2.5573	0.1561	2.6668	0.3263	0.1441	0.4704	0.0000	545.7423	545.7423	0.1160	0.0000	547.8984

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	0.1024	1.4724	2.7428	4.5400e-003	0.5131	0.0121	0.5252	0.1561	0.0120	0.1681	0.0000	399.0836	399.0836	0.1160	0.0000	401.9822
2022	0.2477	2.0667	3.3739	6.1500e-003	1.6272	0.0167	1.6439	0.1894	0.0165	0.2059	0.0000	545.7419	545.7419	0.0862	0.0000	547.8980
2023	0.2317	1.9230	3.2312	6.0500e-003	1.6252	0.0139	1.6390	0.1891	0.0138	0.2029	0.0000	536.6483	536.6483	0.0821	0.0000	538.7014
2024	0.6893	1.7445	2.9258	5.2800e-003	1.2912	0.0111	1.3023	0.1502	0.0110	0.1612	0.0000	468.4638	468.4638	0.0803	0.0000	470.4700
2025	3.4729	0.0302	0.0660	1.1000e-004	0.0493	1.2700e-003	0.0505	5.6800e-003	1.2700e-003	6.9500e-003	0.0000	9.7386	9.7386	5.2000e-004	0.0000	9.7515
Maximum	3.4729	2.0667	3.3739	6.1500e-003	1.6272	0.0167	1.6439	0.1894	0.0165	0.2059	0.0000	545.7419	545.7419	0.1160	0.0000	547.8980

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	10.60	31.49	-9.44	0.00	37.73	87.36	40.23	38.53	86.58	51.30	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	5-1-2021	7-31-2021	1.2221	0.4897
2	8-1-2021	10-31-2021	1.6272	0.6226
3	11-1-2021	1-31-2022	1.1889	0.6819
4	2-1-2022	4-30-2022	0.7501	0.5644
5	5-1-2022	7-31-2022	0.7673	0.5753
6	8-1-2022	10-31-2022	0.7714	0.5795

7	11-1-2022	1-31-2023	0.7529	0.5753
8	2-1-2023	4-30-2023	0.6741	0.5297
9	5-1-2023	7-31-2023	0.6895	0.5402
10	8-1-2023	10-31-2023	0.6932	0.5440
11	11-1-2023	1-31-2024	0.6867	0.5484
12	2-1-2024	4-30-2024	0.6418	0.5275
13	5-1-2024	7-31-2024	0.6492	0.5323
14	8-1-2024	10-31-2024	0.5624	0.4785
15	11-1-2024	1-31-2025	2.3815	2.3790
16	2-1-2025	4-30-2025	1.8249	1.8249
		Highest	2.3815	2.3790

**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	1.4275	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	127.4918	127.4918	0.0176	3.6400e-003	129.0175
Mobile	0.5149	2.0302	5.8486	0.0158	1.4722	0.0137	1.4859	0.3952	0.0128	0.4080	0.0000	1,445.9873	1,445.9873	0.0593	0.0000	1,447.4694
Waste						0.0000	0.0000		0.0000	0.0000	37.4518	0.0000	37.4518	2.2133	0.0000	92.7853
Water						0.0000	0.0000		0.0000	0.0000	3.9418	9.1845	13.1263	0.0148	8.8300e-003	16.1299
Total	1.9423	2.0448	7.1172	0.0159	1.4722	0.0207	1.4929	0.3952	0.0198	0.4150	41.3937	1,584.7377	1,626.1314	2.3071	0.0125	1,687.5258

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	1.4275	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	106.2267	106.2267	0.0147	3.0400e-003	107.4979
Mobile	0.5149	2.0302	5.8486	0.0158	1.4722	0.0137	1.4859	0.3952	0.0128	0.4080	0.0000	1,445.9873	1,445.9873	0.0593	0.0000	1,447.4694
Waste						0.0000	0.0000		0.0000	0.0000	37.4518	0.0000	37.4518	2.2133	0.0000	92.7853
Water						0.0000	0.0000		0.0000	0.0000	3.1535	7.8260	10.9795	0.0119	7.0800e-003	13.3881
Total	1.9423	2.0448	7.1172	0.0159	1.4722	0.0207	1.4929	0.3952	0.0198	0.4150	40.6053	1,562.1142	1,602.7195	2.3012	0.0101	1,663.2644

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	1.43	1.44	0.25	18.85	1.44

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	7/9/2021	5	50	
2	Site Preparation	Site Preparation	7/10/2021	8/20/2021	5	30	
3	Grading	Grading	8/21/2021	12/3/2021	5	75	
4	Trenching/Utilities	Trenching	12/4/2021	1/14/2022	5	30	Overlaps
5	Building Construction	Building Construction	12/4/2021	10/4/2024	5	740	
6	Paving	Paving	10/5/2024	12/20/2024	5	55	
7	Architectural Coating	Architectural Coating	12/21/2024	3/7/2025	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 513,945; Residential Outdoor: 171,315; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition		0		97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation		0		187	0.41
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching/Utilities	Excavators	1	8.00	158	0.38
Trenching/Utilities	Tractors/Loaders/Backhoes	1	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
Demolition	6	15.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching/Utilities	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	126.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					9.8000e-004	0.0000	9.8000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0791	0.7860	0.5391	9.7000e-004		0.0388	0.0388		0.0360	0.0360	0.0000	85.0020	85.0020	0.0239	0.0000	85.6001
Total	0.0791	0.7860	0.5391	9.7000e-004	9.8000e-004	0.0388	0.0398	1.5000e-004	0.0360	0.0362	0.0000	85.0020	85.0020	0.0239	0.0000	85.6001

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	4.0000e-005	1.2500e-003	2.3000e-004	0.0000	1.0900e-003	1.0000e-005	1.0900e-003	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	0.3393	0.3393	1.0000e-005	0.0000	0.3395
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	2.9700e-003	2.4700e-003	0.0209	3.0000e-005	0.0485	3.0000e-005	0.0485	5.3200e-003	3.0000e-005	5.3400e-003	0.0000	2.5805	2.5805	1.8000e-004	0.0000	2.5849
Total	3.0100e-003	3.7200e-003	0.0212	3.0000e-005	0.0496	4.0000e-005	0.0496	5.4400e-003	4.0000e-005	5.4700e-003	0.0000	2.9198	2.9198	1.9000e-004	0.0000	2.9245

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					4.4000e-004	0.0000	4.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0214	0.3591	0.6122	9.7000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	85.0019	85.0019	0.0239	0.0000	85.6000
Total	0.0214	0.3591	0.6122	9.7000e-004	4.4000e-004	5.6600e-003	6.1000e-003	7.0000e-005	5.6600e-003	5.7300e-003	0.0000	85.0019	85.0019	0.0239	0.0000	85.6000

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	4.0000e-005	1.2500e-003	2.3000e-004	0.0000	6.9000e-004	1.0000e-005	7.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.3393	0.3393	1.0000e-005	0.0000	0.3395
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	2.9700e-003	2.4700e-003	0.0209	3.0000e-005	0.0308	3.0000e-005	0.0308	3.5500e-003	3.0000e-005	3.5800e-003	0.0000	2.5805	2.5805	1.8000e-004	0.0000	2.5849
Total	3.0100e-003	3.7200e-003	0.0212	3.0000e-005	0.0315	4.0000e-005	0.0315	3.6300e-003	4.0000e-005	3.6700e-003	0.0000	2.9198	2.9198	1.9000e-004	0.0000	2.9245

3.3 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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	0.0583	0.6075	0.3173	5.7000e-004	0.2710	0.0307	0.3017	0.1490	0.0282	0.1772	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591

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	2.1400e-003	1.7800e-003	0.0151	2.0000e-005	0.0349	2.0000e-005	0.0349	3.8300e-003	2.0000e-005	3.8500e-003	0.0000	1.8580	1.8580	1.3000e-004	0.0000	1.8612
Total	2.1400e-003	1.7800e-003	0.0151	2.0000e-005	0.0349	2.0000e-005	0.0349	3.8300e-003	2.0000e-005	3.8500e-003	0.0000	1.8580	1.8580	1.3000e-004	0.0000	1.8612

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					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0105	0.1824	0.3444	5.7000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	0.0105	0.1824	0.3444	5.7000e-004	0.1220	9.3000e-004	0.1229	0.0670	9.3000e-004	0.0680	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590

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	2.1400e-003	1.7800e-003	0.0151	2.0000e-005	0.0222	2.0000e-005	0.0222	2.5600e-003	2.0000e-005	2.5800e-003	0.0000	1.8580	1.8580	1.3000e-004	0.0000	1.8612
Total	2.1400e-003	1.7800e-003	0.0151	2.0000e-005	0.0222	2.0000e-005	0.0222	2.5600e-003	2.0000e-005	2.5800e-003	0.0000	1.8580	1.8580	1.3000e-004	0.0000	1.8612

3.4 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					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1572	1.7400	1.1579	2.3300e-003		0.0745	0.0745		0.0685	0.0685	0.0000	204.3562	204.3562	0.0661	0.0000	206.0085
Total	0.1572	1.7400	1.1579	2.3300e-003	0.3253	0.0745	0.3997	0.1349	0.0685	0.2034	0.0000	204.3562	204.3562	0.0661	0.0000	206.0085

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	5.9500e-003	4.9500e-003	0.0419	6.0000e-005	0.0969	6.0000e-005	0.0970	0.0106	5.0000e-005	0.0107	0.0000	5.1610	5.1610	3.5000e-004	0.0000	5.1699
Total	5.9500e-003	4.9500e-003	0.0419	6.0000e-005	0.0969	6.0000e-005	0.0970	0.0106	5.0000e-005	0.0107	0.0000	5.1610	5.1610	3.5000e-004	0.0000	5.1699

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					0.1464	0.0000	0.1464	0.0607	0.0000	0.0607	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0379	0.7227	1.3771	2.3300e-003		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	204.3559	204.3559	0.0661	0.0000	206.0083
Total	0.0379	0.7227	1.3771	2.3300e-003	0.1464	3.8100e-003	0.1502	0.0607	3.8100e-003	0.0645	0.0000	204.3559	204.3559	0.0661	0.0000	206.0083

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	5.9500e-003	4.9500e-003	0.0419	6.0000e-005	0.0616	6.0000e-005	0.0616	7.1000e-003	5.0000e-005	7.1600e-003	0.0000	5.1610	5.1610	3.5000e-004	0.0000	5.1699
Total	5.9500e-003	4.9500e-003	0.0419	6.0000e-005	0.0616	6.0000e-005	0.0616	7.1000e-003	5.0000e-005	7.1600e-003	0.0000	5.1610	5.1610	3.5000e-004	0.0000	5.1699

3.5 Trenching/Utilities - 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					
Off-Road	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262
Total	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262

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	4.0000e-004	3.3000e-004	2.7900e-003	0.0000	6.4600e-003	0.0000	6.4600e-003	7.1000e-004	0.0000	7.1000e-004	0.0000	0.3441	0.3441	2.0000e-005	0.0000	0.3447
Total	4.0000e-004	3.3000e-004	2.7900e-003	0.0000	6.4600e-003	0.0000	6.4600e-003	7.1000e-004	0.0000	7.1000e-004	0.0000	0.3441	0.3441	2.0000e-005	0.0000	0.3447

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	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261
Total	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261

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	4.0000e-004	3.3000e-004	2.7900e-003	0.0000	4.1100e-003	0.0000	4.1100e-003	4.7000e-004	0.0000	4.8000e-004	0.0000	0.3441	0.3441	2.0000e-005	0.0000	0.3447
Total	4.0000e-004	3.3000e-004	2.7900e-003	0.0000	4.1100e-003	0.0000	4.1100e-003	4.7000e-004	0.0000	4.8000e-004	0.0000	0.3441	0.3441	2.0000e-005	0.0000	0.3447

3.5 Trenching/Utilities - 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	1.8400e-003	0.0173	0.0275	4.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638
Total	1.8400e-003	0.0173	0.0275	4.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638

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	1.9000e-004	1.5000e-004	1.2600e-003	0.0000	3.2300e-003	0.0000	3.2300e-003	3.5000e-004	0.0000	3.6000e-004	0.0000	0.1668	0.1668	1.0000e-005	0.0000	0.1671
Total	1.9000e-004	1.5000e-004	1.2600e-003	0.0000	3.2300e-003	0.0000	3.2300e-003	3.5000e-004	0.0000	3.6000e-004	0.0000	0.1668	0.1668	1.0000e-005	0.0000	0.1671

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	6.7000e-004	0.0182	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638
Total	6.7000e-004	0.0182	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638

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	1.9000e-004	1.5000e-004	1.2600e-003	0.0000	2.0500e-003	0.0000	2.0500e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.1668	0.1668	1.0000e-005	0.0000	0.1671
Total	1.9000e-004	1.5000e-004	1.2600e-003	0.0000	2.0500e-003	0.0000	2.0500e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.1668	0.1668	1.0000e-005	0.0000	0.1671

3.6 Building Construction - 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					
Off-Road	0.0190	0.1743	0.1658	2.7000e-004		9.5900e-003	9.5900e-003		9.0100e-003	9.0100e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034
Total	0.0190	0.1743	0.1658	2.7000e-004		9.5900e-003	9.5900e-003		9.0100e-003	9.0100e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034

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	1.9800e-003	0.0452	0.0143	1.1000e-004	0.0337	1.9000e-004	0.0338	3.8200e-003	1.8000e-004	4.0100e-003	0.0000	10.1879	10.1879	4.8000e-004	0.0000	10.1999
Worker	9.9900e-003	8.3100e-003	0.0703	1.0000e-004	0.1628	1.0000e-004	0.1629	0.0179	9.0000e-005	0.0180	0.0000	8.6705	8.6705	5.9000e-004	0.0000	8.6854
Total	0.0120	0.0535	0.0846	2.1000e-004	0.1965	2.9000e-004	0.1968	0.0217	2.7000e-004	0.0220	0.0000	18.8584	18.8584	1.0700e-003	0.0000	18.8853

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	7.9200e-003	0.1076	0.1810	2.7000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034

Total	7.9200e-003	0.1076	0.1810	2.7000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034
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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	1.9800e-003	0.0452	0.0143	1.1000e-004	0.0216	1.9000e-004	0.0217	2.6100e-003	1.8000e-004	2.8000e-003	0.0000	10.1879	10.1879	4.8000e-004	0.0000	10.1999
Worker	9.9900e-003	8.3100e-003	0.0703	1.0000e-004	0.1035	1.0000e-004	0.1036	0.0119	9.0000e-005	0.0120	0.0000	8.6705	8.6705	5.9000e-004	0.0000	8.6854
Total	0.0120	0.0535	0.0846	2.1000e-004	0.1250	2.9000e-004	0.1253	0.0145	2.7000e-004	0.0148	0.0000	18.8584	18.8584	1.0700e-003	0.0000	18.8853

3.6 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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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	0.0238	0.5577	0.1694	1.3900e-003	0.4375	2.2100e-003	0.4397	0.0497	2.1200e-003	0.0518	0.0000	131.4122	131.4122	5.9600e-003	0.0000	131.5611
Worker	0.1234	0.0979	0.8225	1.2200e-003	2.1166	1.1700e-003	2.1178	0.2323	1.0800e-003	0.2334	0.0000	109.2861	109.2861	6.9300e-003	0.0000	109.4593
Total	0.1472	0.6556	0.9919	2.6100e-003	2.5541	3.3800e-003	2.5575	0.2820	3.2000e-003	0.2852	0.0000	240.6982	240.6982	0.0129	0.0000	241.0204

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	0.0996	1.3928	2.3495	3.5000e-003		0.0132	0.0132		0.0132	0.0132	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.0996	1.3928	2.3495	3.5000e-003		0.0132	0.0132		0.0132	0.0132	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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	0.0238	0.5577	0.1694	1.3900e-003	0.2802	2.2100e-003	0.2824	0.0340	2.1200e-003	0.0361	0.0000	131.4122	131.4122	5.9600e-003	0.0000	131.5611
Worker	0.1234	0.0979	0.8225	1.2200e-003	1.3450	1.1700e-003	1.3461	0.1552	1.0800e-003	0.1562	0.0000	109.2861	109.2861	6.9300e-003	0.0000	109.4593
Total	0.1472	0.6556	0.9919	2.6100e-003	1.6252	3.3800e-003	1.6285	0.1891	3.2000e-003	0.1923	0.0000	240.6982	240.6982	0.0129	0.0000	241.0204

3.6 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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383

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	0.0178	0.4470	0.1467	1.3700e-003	0.4375	7.1000e-004	0.4382	0.0497	6.7000e-004	0.0504	0.0000	129.5422	129.5422	4.2500e-003	0.0000	129.6484
Worker	0.1172	0.0886	0.7374	1.1800e-003	2.1166	1.0900e-003	2.1177	0.2323	1.0100e-003	0.2333	0.0000	105.7603	105.7603	6.1900e-003	0.0000	105.9150
Total	0.1350	0.5357	0.8841	2.5500e-003	2.5541	1.8000e-003	2.5559	0.2820	1.6800e-003	0.2837	0.0000	235.3025	235.3025	0.0104	0.0000	235.5634

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	0.0967	1.3873	2.3471	3.5000e-003		0.0121	0.0121		0.0121	0.0121	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	0.0967	1.3873	2.3471	3.5000e-003		0.0121	0.0121		0.0121	0.0121	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380

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	0.0178	0.4470	0.1467	1.3700e-003	0.2802	7.1000e-004	0.2809	0.0340	6.7000e-004	0.0347	0.0000	129.5422	129.5422	4.2500e-003	0.0000	129.6484
Worker	0.1172	0.0886	0.7374	1.1800e-003	1.3450	1.0900e-003	1.3461	0.1552	1.0100e-003	0.1562	0.0000	105.7603	105.7603	6.1900e-003	0.0000	105.9150
Total	0.1350	0.5357	0.8841	2.5500e-003	1.6252	1.8000e-003	1.6270	0.1891	1.6800e-003	0.1908	0.0000	235.3025	235.3025	0.0104	0.0000	235.5634

3.6 Building Construction - 2024

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	0.1472	1.3444	1.6167	2.7000e-003		0.0613	0.0613		0.0577	0.0577	0.0000	231.8491	231.8491	0.0548	0.0000	233.2198
Total	0.1472	1.3444	1.6167	2.7000e-003		0.0613	0.0613		0.0577	0.0577	0.0000	231.8491	231.8491	0.0548	0.0000	233.2198

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	0.0130	0.3367	0.1048	1.0400e-003	0.3365	5.1000e-004	0.3370	0.0382	4.9000e-004	0.0387	0.0000	98.9397	98.9397	3.1700e-003	0.0000	99.0191
Worker	0.0853	0.0618	0.5145	8.7000e-004	1.6282	7.9000e-004	1.6290	0.1787	7.3000e-004	0.1794	0.0000	78.5900	78.5900	4.2200e-003	0.0000	78.6955
Total	0.0983	0.3985	0.6194	1.9100e-003	1.9647	1.3000e-003	1.9660	0.2169	1.2200e-003	0.2182	0.0000	177.5298	177.5298	7.3900e-003	0.0000	177.7146

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	0.0726	1.0632	1.8041	2.7000e-003		8.5300e-003	8.5300e-003		8.5300e-003	8.5300e-003	0.0000	231.8488	231.8488	0.0548	0.0000	233.2195

Total	0.0726	1.0632	1.8041	2.7000e-003		8.5300e-003	8.5300e-003		8.5300e-003	8.5300e-003	0.0000	231.8488	231.8488	0.0548	0.0000	233.2195
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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	0.0130	0.3367	0.1048	1.0400e-003	0.2155	5.1000e-004	0.2160	0.0261	4.9000e-004	0.0266	0.0000	98.9397	98.9397	3.1700e-003	0.0000	99.0191
Worker	0.0853	0.0618	0.5145	8.7000e-004	1.0346	7.9000e-004	1.0354	0.1193	7.3000e-004	0.1201	0.0000	78.5900	78.5900	4.2200e-003	0.0000	78.6955
Total	0.0983	0.3985	0.6194	1.9100e-003	1.2501	1.3000e-003	1.2514	0.1455	1.2200e-003	0.1467	0.0000	177.5298	177.5298	7.3900e-003	0.0000	177.7146

3.7 Paving - 2024

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	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0730	55.0730	0.0178	0.0000	55.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0730	55.0730	0.0178	0.0000	55.5183

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	2.7900e-003	2.0200e-003	0.0168	3.0000e-005	0.0533	3.0000e-005	0.0533	5.8500e-003	2.0000e-005	5.8700e-003	0.0000	2.5729	2.5729	1.4000e-004	0.0000	2.5763
Total	2.7900e-003	2.0200e-003	0.0168	3.0000e-005	0.0533	3.0000e-005	0.0533	5.8500e-003	2.0000e-005	5.8700e-003	0.0000	2.5729	2.5729	1.4000e-004	0.0000	2.5763

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	9.1900e-003	0.2761	0.4756	6.3000e-004		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	55.0729	55.0729	0.0178	0.0000	55.5182
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1900e-003	0.2761	0.4756	6.3000e-004		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	55.0729	55.0729	0.0178	0.0000	55.5182

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	2.7900e-003	2.0200e-003	0.0168	3.0000e-005	0.0339	3.0000e-005	0.0339	3.9100e-003	2.0000e-005	3.9300e-003	0.0000	2.5729	2.5729	1.4000e-004	0.0000	2.5763
Total	2.7900e-003	2.0200e-003	0.0168	3.0000e-005	0.0339	3.0000e-005	0.0339	3.9100e-003	2.0000e-005	3.9300e-003	0.0000	2.5729	2.5729	1.4000e-004	0.0000	2.5763

3.8 Architectural Coating - 2024

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	0.5053					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949
Total	0.5059	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949

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	5.9000e-004	4.3000e-004	3.5700e-003	1.0000e-005	0.0113	1.0000e-005	0.0113	1.2400e-003	1.0000e-005	1.2500e-003	0.0000	0.5458	0.5458	3.0000e-005	0.0000	0.5465
Total	5.9000e-004	4.3000e-004	3.5700e-003	1.0000e-005	0.0113	1.0000e-005	0.0113	1.2400e-003	1.0000e-005	1.2500e-003	0.0000	0.5458	0.5458	3.0000e-005	0.0000	0.5465

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	0.5053					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949
Total	0.5059	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949

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	5.9000e-004	4.3000e-004	3.5700e-003	1.0000e-005	7.1800e-003	1.0000e-005	7.1900e-003	8.3000e-004	1.0000e-005	8.3000e-004	0.0000	0.5458	0.5458	3.0000e-005	0.0000	0.5465
Total	5.9000e-004	4.3000e-004	3.5700e-003	1.0000e-005	7.1800e-003	1.0000e-005	7.1900e-003	8.3000e-004	1.0000e-005	8.3000e-004	0.0000	0.5458	0.5458	3.0000e-005	0.0000	0.5465

3.8 Architectural Coating - 2025

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	3.4649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-003	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362
Total	3.4690	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362

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	3.8400e-003	2.6900e-003	0.0226	4.0000e-005	0.0775	4.0000e-005	0.0776	8.5100e-003	3.0000e-005	8.5400e-003	0.0000	3.6108	3.6108	1.8000e-004	0.0000	3.6154
Total	3.8400e-003	2.6900e-003	0.0226	4.0000e-005	0.0775	4.0000e-005	0.0776	8.5100e-003	3.0000e-005	8.5400e-003	0.0000	3.6108	3.6108	1.8000e-004	0.0000	3.6154

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	3.4649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	4.1000e-003	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362
Total	3.4690	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362

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	3.8400e-003	2.6900e-003	0.0226	4.0000e-005	0.0493	4.0000e-005	0.0493	5.6800e-003	3.0000e-005	5.7200e-003	0.0000	3.6108	3.6108	1.8000e-004	0.0000	3.6154
Total	3.8400e-003	2.6900e-003	0.0226	4.0000e-005	0.0493	4.0000e-005	0.0493	5.6800e-003	3.0000e-005	5.7200e-003	0.0000	3.6108	3.6108	1.8000e-004	0.0000	3.6154

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5149	2.0302	5.8486	0.0158	1.4722	0.0137	1.4859	0.3952	0.0128	0.4080	0.0000	1,445.9873	1,445.9873	0.0593	0.0000	1,447.4694
Unmitigated	0.5149	2.0302	5.8486	0.0158	1.4722	0.0137	1.4859	0.3952	0.0128	0.4080	0.0000	1,445.9873	1,445.9873	0.0593	0.0000	1,447.4694

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Retirement Community	166.53	156.00	156.00	468,039	468,039
Single Family Housing	1,246.08	1,308.12	1,137.84	3,547,700	3,547,700
Total	1,412.61	1,464.12	1,293.84	4,015,739	4,015,739

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Retirement Community	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.582811	0.037485	0.193775	0.108307	0.014136	0.005301	0.018855	0.027301	0.002669	0.002011	0.005732	0.000906	0.000708
Retirement Community	0.582811	0.037485	0.193775	0.108307	0.014136	0.005301	0.018855	0.027301	0.002669	0.002011	0.005732	0.000906	0.000708
Single Family Housing	0.582811	0.037485	0.193775	0.108307	0.014136	0.005301	0.018855	0.027301	0.002669	0.002011	0.005732	0.000906	0.000708

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	106.2267	106.2267	0.0147	3.0400e-003	107.4979
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	127.4918	127.4918	0.0176	3.6400e-003	129.0175
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
City Park	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
Retirement Community	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
Single Family Housing	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		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

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
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Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Retirement Community	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
Single Family Housing	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		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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	193042	18.3881	2.5400e-003	5.3000e-004	18.6081
Single Family Housing	1.14539e+006	109.1037	0.0151	3.1200e-003	110.4093
Total		127.4918	0.0176	3.6500e-003	129.0175

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	158390	15.0873	2.0800e-003	4.3000e-004	15.2679

Single Family Housing	956800	91.1394	0.0126	2.6000e-003	92.2300
Total		106.2267	0.0147	3.0300e-003	107.4979

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4275	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237
Unmitigated	1.4275	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237

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	0.3970					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9924					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	0.0381	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237
Total	1.4275	0.0146	1.2685	7.0000e-005		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000	2.1237

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	0.3970						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9924						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
Landscaping	0.0381	0.0146	1.2685	7.0000e-005			7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000
Total	1.4275	0.0146	1.2685	7.0000e-005			7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	2.0741	2.0741	1.9900e-003	0.0000

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	10.9795	0.0119	7.0800e-003	13.3881
Unmitigated	13.1263	0.0148	8.8300e-003	16.1299

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.3004	1.1003	1.5000e-004	3.0000e-005	1.1135
Retirement Community	2.54101 / 1.60194	2.7428	3.3500e-003	2.0100e-003	3.4248
Single Family Housing	8.60033 / 5.42195	9.2832	0.0113	6.8000e-003	11.5916
Total		13.1263	0.0148	8.8400e-003	16.1299

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 3.09908	1.0332	1.4000e-004	3.0000e-005	1.0456
Retirement Community	2.03281 / 1.50422	2.2685	2.6900e-003	1.6100e-003	2.8150

Single Family Housing	6.88027 / 5.09121	7.6779	9.1000e-003	5.4400e-003	9.5276
Total		10.9795	0.0119	7.0800e-003	13.3881

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.4518	2.2133	0.0000	92.7853
Unmitigated	37.4518	2.2133	0.0000	92.7853

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.24	0.0487	2.8800e-003	0.0000	0.1207
Retirement Community	17.94	3.6417	0.2152	0.0000	9.0221
Single Family Housing	166.32	33.7615	1.9952	0.0000	83.6426

Total		37.4518	2.2133	0.0000	92.7853
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Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
City Park	0.24	0.0487	2.8800e-003	0.0000	0.1207
Retirement Community	17.94	3.6417	0.2152	0.0000	9.0221
Single Family Housing	166.32	33.7615	1.9952	0.0000	83.6426
Total		37.4518	2.2133	0.0000	92.7853

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Attachment 3. Construction Health Risk Assessment

CalEEMod Emissions Modeling

The health risk assessment used the on-site construction emissions produced by CalEEMod. Since localized emissions are used in the health risk assessment, the worker and truck trip travel lengths for construction activity were set to one mile. Otherwise, annual emissions used in this modeling are the same as those contained in Attachment 2.

Construction HRA

Uncontrolled		Controlled	
PM10 Exhaust	PM2.5 fug	PM10 Exhaust	PM2.5 fug
Annual Emissions (Tons)			
Construction			
0.1557	0.2881	0.0074	0.1305
0.1069	0.0285	0.0119	0.0191
0.0913	0.0284	0.0114	0.0191
0.0747	0.0225	0.0098	0.0152
0.0012	0.0008	0.0001	0.0005
Total (tons)		0.0405	0.1844
Total (pounds)		81.04	368.86

Health Risk Results

Maximum Impacts at Construction MEI Location - With Controls

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
	Exhaust PM10/DPM (µg/m³)	Fugitive PM2.5 (µg/m³)	Child	Adult		
	2021	0.0031	0.0731	0.55	0.01	0.001
2022	0.0050	0.0107	0.83	0.01	0.001	0.02
2023	0.0048	0.0107	0.14	0.01	0.001	0.02
2024	0.0041	0.0085	0.12	0.01	0.001	0.01
2025	0.0000	0.0003	0.00	0.00	0.000	0.00
Total	-	-	1.6	0.05	-	-
Maximum	0.0050	0.0731	-	-	0.001	0.08

Bella Vista Ukiah, CA

DPM Construction Emissions and Modeling Emission Rates - With Controls

Emissions Model	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
2021	Construction	0.0074	DPM	14.7	0.00447	5.64E-04	146,136	3.86E-09
2022	Construction	0.0119	DPM	23.8	0.00725	9.13E-04	146,136	6.25E-09
2023	Construction	0.0114	DPM	22.8	0.00694	8.75E-04	146,136	5.98E-09
2024	Construction	0.0098	DPM	19.5	0.00595	7.49E-04	146,136	5.13E-09
2025	Construction	0.0001	DPM	0.2	0.00006	7.67E-06	146,136	5.25E-11
Total		0.0405		81.0	0.0247	0.0031		

Modeled Operation Hours

hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Controls

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions			Modeled Area (m ²)	PM2.5 Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
2021	Construction	FUG	0.1305	261.0	0.07945	1.00E-02	146,136	6.85E-08
2022	Construction	FUG	0.0191	38.2	0.01163	1.47E-03	146,136	1.00E-08
2023	Construction	FUG	0.0191	38.2	0.01163	1.47E-03	146,136	1.00E-08
2024	Construction	FUG	0.0152	30.4	0.00925	1.17E-03	146,136	7.98E-09
2025	Construction	FUG	0.0005	1.1	0.00032	4.07E-05	146,136	2.78E-10
Total			0.1844	368.9	0.1123	0.0141		

Modeled Operation Hours

hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

Bella Vista Ukiah, CA

Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - With Controls

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m ³)
	Exhaust PM10/DPM (µg/m ³)	Fugitive PM2.5 (µg/m ³)	Child	Adult		
	2021	0.0031	0.0731	0.55	0.01	0.001
2022	0.0050	0.0107	0.83	0.01	0.001	0.02
2023	0.0048	0.0107	0.14	0.01	0.001	0.02
2024	0.0041	0.0085	0.12	0.01	0.001	0.01
2025	0.0000	0.0003	0.00	0.00	0.000	0.00
Total	-	-	1.6	0.05	-	-
Maximum	0.0050	0.0731	-	-	0.001	0.08

Bella Vista Ukiah, CA - Controlled Emissions
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹
 ASF = Age sensitivity factor for specified age group
 ED = Exposure duration (years)
 AT = Averaging time for lifetime cancer risk (years)
 FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor			
			Year	Annual			Year	Annual				
0	0.25	-0.25 - 0*	2021	0.0031	10	0.04	2021	-	-	-		
1	1	0 - 1	2021	0.0031	10	0.51	2021	0.0031	1	0.01	0.0731	0.076
2	1	1 - 2	2022	0.0050	10	0.83	2022	0.0050	1	0.01	0.0107	0.016
3	1	2 - 3	2023	0.0048	3	0.14	2023	0.0048	1	0.01	0.0107	0.015
4	1	3 - 4	2024	0.0041	3	0.12	2024	0.0041	1	0.01	0.0085	0.013
5	1	4 - 5	2025	0.00004	3	0.00	2025	0.00004	1	0.00	0.0003	0.000
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						1.6				0.05		

* Third trimester of pregnancy

Bella Vista, Ukiah - construction HRA - Mendocino County AQMD Air District, Annual

**Bella Vista, Ukiah - construction HRA
Mendocino County AQMD Air District, Annual**

Used for construction HRA with 1 mile worker and truck travel lengths

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	2.77	Acre	0.00	120,661.20	0
Retirement Community	39.00	Dwelling Unit	0.00	43,200.00	112
Single Family Housing	132.00	Dwelling Unit	36.60	210,600.00	378

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	86
Climate Zone	1			Operational Year	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	210	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 CO2 Factor Rate
 Land Use - Provided project description land uses. 36.6 acres to be disturbed. Square footage estimated 12/10/20 email
 Construction Phase - Default Const schedule. Added trenching
 Off-road Equipment -
 Off-road Equipment -
 Off-road Equipment - Equipment quantities provided
 Off-road Equipment -

- Off-road Equipment -
- Off-road Equipment - Equipment quantities provided
- Off-road Equipment - Trenching added
- Off-road Equipment - added this equipment
- Trips and VMT - added asphalt trips assuming 10cy/load 2,780 cy. Cement part of vendor trips
- On-road Fugitive Dust - Assum mostly paved travel
- Demolition - provided information
- Grading - Default values
- Vehicle Trips - Trip gen from traffic 12/3/2020 email (W-Trans)
- Road Dust - Assumed paved travel
- Woodstoves - No fireplaces
- Energy Use - No natural gas
- Water And Wastewater - all WTP
- Energy Mitigation -
- Water Mitigation -
- Construction Off-road Equipment Mitigation - BMPs and Tier 4i

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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	6.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	T24NG	9,200.58	0.00
tblEnergyUse	T24NG	10,517.50	0.00
tblFireplaces	FireplaceWoodMass	4,992.00	0.00
tblFireplaces	FireplaceWoodMass	4,992.00	0.00
tblFireplaces	NumberGas	1.95	0.00
tblFireplaces	NumberGas	39.60	0.00
tblFireplaces	NumberWood	1.95	0.00
tblFireplaces	NumberWood	46.20	0.00
tblFleetMix	HHD	0.07	0.03
tblFleetMix	HHD	0.07	0.03
tblFleetMix	HHD	0.07	0.03

tbIFleetMix	LDA	0.52	0.58
tbIFleetMix	LDA	0.52	0.58
tbIFleetMix	LDA	0.52	0.58
tbIFleetMix	LDT1	0.04	0.04
tbIFleetMix	LDT1	0.04	0.04
tbIFleetMix	LDT1	0.04	0.04
tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LDT2	0.20	0.19
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD1	0.03	0.01
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	LHD2	4.4860e-003	5.3010e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MCY	4.6960e-003	5.7320e-003
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MDV	0.12	0.11
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MH	7.1700e-004	7.0800e-004
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	MHD	0.02	0.02
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003
tbIFleetMix	OBUS	1.7520e-003	2.6690e-003

tblFleetMix	SBUS	1.0590e-003	9.0600e-004
tblFleetMix	SBUS	1.0590e-003	9.0600e-004
tblFleetMix	SBUS	1.0590e-003	9.0600e-004
tblFleetMix	UBUS	1.1270e-003	2.0110e-003
tblFleetMix	UBUS	1.1270e-003	2.0110e-003
tblFleetMix	UBUS	1.1270e-003	2.0110e-003
tblLandUse	LandUseSquareFeet	39,000.00	43,200.00
tblLandUse	LandUseSquareFeet	237,600.00	210,600.00
tblLandUse	LotAcreage	2.77	0.00
tblLandUse	LotAcreage	7.80	0.00
tblLandUse	LotAcreage	42.86	36.60
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	HaulingPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	VendorPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00

tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblOnRoadDust	WorkerPercentPave	55.00	99.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblRoadDust	RoadPercentPave	55	100
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.03	4.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.95	4.00
tblVehicleTrips	WD_TR	1.89	0.00

tblVehicleTrips	WD_TR	2.40	4.27
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	4,896.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,896.00	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	0.3255	3.3797	2.2871	4.2800e-003	0.6343	0.1557	0.7900	0.2881	0.1438	0.4319	0.0000	375.6855	375.6855	0.1149	0.0000	378.5571
2022	0.2741	2.4137	2.4981	4.1600e-003	0.2565	0.1069	0.3634	0.0285	0.1006	0.1290	0.0000	362.5199	362.5199	0.0800	0.0000	364.5202
2023	0.2496	2.1914	2.4188	4.1200e-003	0.2562	0.0913	0.3475	0.0284	0.0859	0.1144	0.0000	358.4586	358.4586	0.0767	0.0000	360.3753
2024	0.7137	1.8549	2.2468	3.8000e-003	0.2030	0.0747	0.2777	0.0225	0.0700	0.0925	0.0000	331.4527	331.4527	0.0764	0.0000	333.3624
2025	3.4702	0.0280	0.0498	8.0000e-005	7.1800e-003	1.2400e-003	8.4300e-003	7.9000e-004	1.2400e-003	2.0300e-003	0.0000	6.5613	6.5613	3.7000e-004	0.0000	6.5706

Maximum	3.4702	3.3797	2.4981	4.2800e-003	0.6343	0.1557	0.7900	0.2881	0.1438	0.4319	0.0000	375.6855	375.6855	0.1149	0.0000	378.5571
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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	0.0774	1.4209	2.6313	4.2800e-003	0.2923	7.3500e-003	0.2997	0.1305	7.3500e-003	0.1379	0.0000	375.6851	375.6851	0.1149	0.0000	378.5566
2022	0.1205	1.8031	2.6983	4.1600e-003	0.1634	0.0119	0.1753	0.0191	0.0119	0.0310	0.0000	362.5195	362.5195	0.0800	0.0000	364.5198
2023	0.1145	1.7400	2.6307	4.1200e-003	0.1632	0.0114	0.1745	0.0191	0.0113	0.0305	0.0000	358.4583	358.4583	0.0767	0.0000	360.3749
2024	0.6015	1.6154	2.4910	3.8000e-003	0.1293	9.7700e-003	0.1391	0.0152	9.7600e-003	0.0249	0.0000	331.4524	331.4524	0.0764	0.0000	333.3621
2025	3.4674	0.0260	0.0503	8.0000e-005	4.5700e-003	1.0000e-004	4.6700e-003	5.3000e-004	1.0000e-004	6.3000e-004	0.0000	6.5613	6.5613	3.7000e-004	0.0000	6.5706
Maximum	3.4674	1.8031	2.6983	4.2800e-003	0.2923	0.0119	0.2997	0.1305	0.0119	0.1379	0.0000	375.6851	375.6851	0.1149	0.0000	378.5566

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	12.95	33.06	-10.54	0.00	44.53	90.58	55.61	49.90	89.94	70.79	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	5-1-2021	7-31-2021	1.2163	0.4570
2	8-1-2021	10-31-2021	1.6204	0.6158
3	11-1-2021	1-31-2022	1.1149	0.6065
4	2-1-2022	4-30-2022	0.6525	0.4657
5	5-1-2022	7-31-2022	0.6748	0.4818
6	8-1-2022	10-31-2022	0.6746	0.4816
7	11-1-2022	1-31-2023	0.6549	0.4769
8	2-1-2023	4-30-2023	0.5968	0.4534

9	5-1-2023	7-31-2023	0.6172	0.4690
10	8-1-2023	10-31-2023	0.6171	0.4688
11	11-1-2023	1-31-2024	0.6046	0.4679
12	2-1-2024	4-30-2024	0.5682	0.4567
13	5-1-2024	7-31-2024	0.5812	0.4672
14	8-1-2024	10-31-2024	0.5124	0.4305
15	11-1-2024	1-31-2025	2.3753	2.3695
16	2-1-2025	4-30-2025	1.8220	1.8195
		Highest	2.3753	2.3695

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	7/9/2021	5	50	
2	Site Preparation	Site Preparation	7/10/2021	8/20/2021	5	30	
3	Grading	Grading	8/21/2021	12/3/2021	5	75	
4	Trenching/Utilities	Trenching	12/4/2021	1/14/2022	5	30	Overlaps
5	Building Construction	Building Construction	12/4/2021	10/4/2024	5	740	
6	Paving	Paving	10/5/2024	12/20/2024	5	55	
7	Architectural Coating	Architectural Coating	12/21/2024	3/7/2025	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 513,945; Residential Outdoor: 171,315; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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Demolition		0		97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation		0		187	0.41
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching/Utilities	Excavators	1	8.00	158	0.38
Trenching/Utilities	Tractors/Loaders/Backhoes	1	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
Demolition	6	15.00	0.00	9.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

Trenching/Utilities	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	126.00	38.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					9.8000e-004	0.0000	9.8000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0791	0.7860	0.5391	9.7000e-004		0.0388	0.0388		0.0360	0.0360	0.0000	85.0020	85.0020	0.0239	0.0000	85.6001
Total	0.0791	0.7860	0.5391	9.7000e-004	9.8000e-004	0.0388	0.0398	1.5000e-004	0.0360	0.0362	0.0000	85.0020	85.0020	0.0239	0.0000	85.6001

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	1.0000e-005	4.9000e-004	8.0000e-005	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0676	0.0676	1.0000e-005	0.0000	0.0679

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	9.3000e-004	5.0000e-004	5.8300e-003	0.0000	4.4900e-003	1.0000e-005	4.5000e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	0.3088	0.3088	3.0000e-005	0.0000	0.3097
Total	9.4000e-004	9.9000e-004	5.9100e-003	0.0000	4.5400e-003	1.0000e-005	4.5600e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	0.3764	0.3764	4.0000e-005	0.0000	0.3775

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					4.4000e-004	0.0000	4.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.3389	0.6169	9.7000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	85.0019	85.0019	0.0239	0.0000	85.6000
Total	0.0146	0.3389	0.6169	9.7000e-004	4.4000e-004	1.5400e-003	1.9800e-003	7.0000e-005	1.5400e-003	1.6100e-003	0.0000	85.0019	85.0019	0.0239	0.0000	85.6000

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	1.0000e-005	4.9000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0676	0.0676	1.0000e-005	0.0000	0.0679
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	9.3000e-004	5.0000e-004	5.8300e-003	0.0000	2.8500e-003	1.0000e-005	2.8600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.3088	0.3088	3.0000e-005	0.0000	0.3097
Total	9.4000e-004	9.9000e-004	5.9100e-003	0.0000	2.8800e-003	1.0000e-005	2.9000e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.3764	0.3764	4.0000e-005	0.0000	0.3775

3.3 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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	0.0583	0.6075	0.3173	5.7000e-004	0.2710	0.0307	0.3017	0.1490	0.0282	0.1772	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591

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	6.7000e-004	3.6000e-004	4.1900e-003	0.0000	3.2300e-003	0.0000	3.2400e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.2223	0.2223	3.0000e-005	0.0000	0.2230
Total	6.7000e-004	3.6000e-004	4.1900e-003	0.0000	3.2300e-003	0.0000	3.2400e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.2223	0.2223	3.0000e-005	0.0000	0.2230

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
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Category	tons/yr										MT/yr					
	Fugitive Dust					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0105	0.1824	0.3444	5.7000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	0.0105	0.1824	0.3444	5.7000e-004	0.1220	9.3000e-004	0.1229	0.0670	9.3000e-004	0.0680	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590

Mitigated Construction Off-Site

Category	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
	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	6.7000e-004	3.6000e-004	4.1900e-003	0.0000	2.0600e-003	0.0000	2.0600e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.2223	0.2223	3.0000e-005	0.0000	0.2230
Total	6.7000e-004	3.6000e-004	4.1900e-003	0.0000	2.0600e-003	0.0000	2.0600e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.2223	0.2223	3.0000e-005	0.0000	0.2230

3.4 Grading - 2021

Unmitigated Construction On-Site

Category	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
	tons/yr										MT/yr					
Fugitive Dust					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1572	1.7400	1.1579	2.3300e-003		0.0745	0.0745		0.0685	0.0685	0.0000	204.3562	204.3562	0.0661	0.0000	206.0085

Total	0.1572	1.7400	1.1579	2.3300e-003	0.3253	0.0745	0.3997	0.1349	0.0685	0.2034	0.0000	204.3562	204.3562	0.0661	0.0000	206.0085
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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	1.8500e-003	9.9000e-004	0.0117	1.0000e-005	8.9800e-003	1.0000e-005	8.9900e-003	9.9000e-004	1.0000e-005	1.0000e-003	0.0000	0.6176	0.6176	7.0000e-005	0.0000	0.6193
Total	1.8500e-003	9.9000e-004	0.0117	1.0000e-005	8.9800e-003	1.0000e-005	8.9900e-003	9.9000e-004	1.0000e-005	1.0000e-003	0.0000	0.6176	0.6176	7.0000e-005	0.0000	0.6193

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					0.1464	0.0000	0.1464	0.0607	0.0000	0.0607	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0379	0.7227	1.3771	2.3300e-003		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	204.3559	204.3559	0.0661	0.0000	206.0083
Total	0.0379	0.7227	1.3771	2.3300e-003	0.1464	3.8100e-003	0.1502	0.0607	3.8100e-003	0.0645	0.0000	204.3559	204.3559	0.0661	0.0000	206.0083

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	1.8500e-003	9.9000e-004	0.0117	1.0000e-005	5.7100e-003	1.0000e-005	5.7200e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	0.6176	0.6176	7.0000e-005	0.0000	0.6193
Total	1.8500e-003	9.9000e-004	0.0117	1.0000e-005	5.7100e-003	1.0000e-005	5.7200e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	0.6176	0.6176	7.0000e-005	0.0000	0.6193

3.5 Trenching/Utilities - 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					
Off-Road	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262
Total	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262

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	1.2000e-004	7.0000e-005	7.8000e-004	0.0000	6.0000e-004	0.0000	6.0000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0412	0.0412	0.0000	0.0000	0.0413
Total	1.2000e-004	7.0000e-005	7.8000e-004	0.0000	6.0000e-004	0.0000	6.0000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0412	0.0412	0.0000	0.0000	0.0413

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	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261
Total	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261

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	1.2000e-004	7.0000e-005	7.8000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0412	0.0412	0.0000	0.0000	0.0413
Total	1.2000e-004	7.0000e-005	7.8000e-004	0.0000	3.8000e-004	0.0000	3.8000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0412	0.0412	0.0000	0.0000	0.0413

3.5 Trenching/Utilities - 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	1.8400e-003	0.0173	0.0275	4.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638
Total	1.8400e-003	0.0173	0.0275	4.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638

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	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0200	0.0200	0.0000	0.0000	0.0200
Total	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0200	0.0200	0.0000	0.0000	0.0200

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	6.7000e-004	0.0182	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638
Total	6.7000e-004	0.0182	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6344	3.6344	1.1800e-003	0.0000	3.6638

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	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0200	0.0200	0.0000	0.0000	0.0200
Total	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0200	0.0200	0.0000	0.0000	0.0200

3.6 Building Construction - 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					
Off-Road	0.0190	0.1743	0.1658	2.7000e-004		9.5900e-003	9.5900e-003		9.0100e-003	9.0100e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034

Total	0.0190	0.1743	0.1658	2.7000e-004		9.5900e-003	9.5900e-003		9.0100e-003	9.0100e-003	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034
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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	1.0500e-003	0.0274	9.5400e-003	4.0000e-005	4.6200e-003	5.0000e-005	4.6700e-003	5.3000e-004	5.0000e-005	5.8000e-004	0.0000	3.4477	3.4477	4.2000e-004	0.0000	3.4583
Worker	3.1100e-003	1.6700e-003	0.0196	1.0000e-005	0.0151	2.0000e-005	0.0151	1.6600e-003	2.0000e-005	1.6800e-003	0.0000	1.0375	1.0375	1.2000e-004	0.0000	1.0404
Total	4.1600e-003	0.0291	0.0291	5.0000e-005	0.0197	7.0000e-005	0.0198	2.1900e-003	7.0000e-005	2.2600e-003	0.0000	4.4852	4.4852	5.4000e-004	0.0000	4.4988

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	5.3300e-003	0.1091	0.1787	2.7000e-004		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034
Total	5.3300e-003	0.1091	0.1787	2.7000e-004		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	23.1637	23.1637	5.5900e-003	0.0000	23.3034

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	1.0500e-003	0.0274	9.5400e-003	4.0000e-005	2.9600e-003	5.0000e-005	3.0100e-003	3.6000e-004	5.0000e-005	4.1000e-004	0.0000	3.4477	3.4477	4.2000e-004	0.0000	3.4583
Worker	3.1100e-003	1.6700e-003	0.0196	1.0000e-005	9.5900e-003	2.0000e-005	9.6100e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	1.0375	1.0375	1.2000e-004	0.0000	1.0404
Total	4.1600e-003	0.0291	0.0291	5.0000e-005	0.0126	7.0000e-005	0.0126	1.4700e-003	7.0000e-005	1.5400e-003	0.0000	4.4852	4.4852	5.4000e-004	0.0000	4.4988

3.6 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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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	0.0126	0.3467	0.1132	4.7000e-004	0.0600	6.1000e-004	0.0607	6.8500e-003	5.8000e-004	7.4300e-003	0.0000	44.5345	44.5345	5.3000e-003	0.0000	44.6669
Worker	0.0379	0.0197	0.2298	1.5000e-004	0.1961	2.2000e-004	0.1964	0.0216	2.1000e-004	0.0218	0.0000	13.0882	13.0882	1.3700e-003	0.0000	13.1224
Total	0.0504	0.3664	0.3430	6.2000e-004	0.2562	8.3000e-004	0.2570	0.0284	7.9000e-004	0.0292	0.0000	57.6226	57.6226	6.6700e-003	0.0000	57.7893

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	0.0694	1.4186	2.3236	3.5000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.0694	1.4186	2.3236	3.5000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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	0.0126	0.3467	0.1132	4.7000e-004	0.0385	6.1000e-004	0.0391	4.7000e-003	5.8000e-004	5.2800e-003	0.0000	44.5345	44.5345	5.3000e-003	0.0000	44.6669
Worker	0.0379	0.0197	0.2298	1.5000e-004	0.1247	2.2000e-004	0.1249	0.0144	2.1000e-004	0.0146	0.0000	13.0882	13.0882	1.3700e-003	0.0000	13.1224
Total	0.0504	0.3664	0.3430	6.2000e-004	0.1632	8.3000e-004	0.1640	0.0191	7.9000e-004	0.0199	0.0000	57.6226	57.6226	6.6700e-003	0.0000	57.7893

3.6 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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383

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	9.6800e-003	0.3035	0.0999	4.7000e-004	0.0600	1.6000e-004	0.0602	6.8500e-003	1.5000e-004	7.0000e-003	0.0000	44.4357	44.4357	3.7600e-003	0.0000	44.5296
Worker	0.0355	0.0179	0.2071	1.4000e-004	0.1961	2.1000e-004	0.1963	0.0216	2.0000e-004	0.0218	0.0000	12.6767	12.6767	1.2300e-003	0.0000	12.7074
Total	0.0452	0.3214	0.3071	6.1000e-004	0.2562	3.7000e-004	0.2565	0.0284	3.5000e-004	0.0288	0.0000	57.1125	57.1125	4.9900e-003	0.0000	57.2370

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	0.0694	1.4186	2.3236	3.5000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	0.0694	1.4186	2.3236	3.5000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380

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	9.6800e-003	0.3035	0.0999	4.7000e-004	0.0385	1.6000e-004	0.0387	4.7000e-003	1.5000e-004	4.8500e-003	0.0000	44.4357	44.4357	3.7600e-003	0.0000	44.5296
Worker	0.0355	0.0179	0.2071	1.4000e-004	0.1247	2.1000e-004	0.1249	0.0144	2.0000e-004	0.0146	0.0000	12.6767	12.6767	1.2300e-003	0.0000	12.7074
Total	0.0452	0.3214	0.3071	6.1000e-004	0.1632	3.7000e-004	0.1635	0.0191	3.5000e-004	0.0195	0.0000	57.1125	57.1125	4.9900e-003	0.0000	57.2370

3.6 Building Construction - 2024

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	0.1472	1.3444	1.6167	2.7000e-003		0.0613	0.0613		0.0577	0.0577	0.0000	231.8491	231.8491	0.0548	0.0000	233.2198

Total	0.1472	1.3444	1.6167	2.7000e-003		0.0613	0.0613		0.0577	0.0577	0.0000	231.8491	231.8491	0.0548	0.0000	233.2198
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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	6.9800e-003	0.2314	0.0710	3.6000e-004	0.0462	1.1000e-004	0.0463	5.2700e-003	1.1000e-004	5.3800e-003	0.0000	33.8354	33.8354	2.8300e-003	0.0000	33.9062
Worker	0.0255	0.0125	0.1449	1.1000e-004	0.1509	1.5000e-004	0.1510	0.0166	1.4000e-004	0.0167	0.0000	9.4275	9.4275	8.4000e-004	0.0000	9.4484
Total	0.0324	0.2439	0.2159	4.7000e-004	0.1971	2.6000e-004	0.1973	0.0219	2.5000e-004	0.0221	0.0000	43.2629	43.2629	3.6700e-003	0.0000	43.3546

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	0.0534	1.0912	1.7874	2.7000e-003		8.4600e-003	8.4600e-003		8.4600e-003	8.4600e-003	0.0000	231.8488	231.8488	0.0548	0.0000	233.2195
Total	0.0534	1.0912	1.7874	2.7000e-003		8.4600e-003	8.4600e-003		8.4600e-003	8.4600e-003	0.0000	231.8488	231.8488	0.0548	0.0000	233.2195

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	6.9800e-003	0.2314	0.0710	3.6000e-004	0.0296	1.1000e-004	0.0297	3.6100e-003	1.1000e-004	3.7200e-003	0.0000	33.8354	33.8354	2.8300e-003	0.0000	33.9062
Worker	0.0255	0.0125	0.1449	1.1000e-004	0.0959	1.5000e-004	0.0961	0.0111	1.4000e-004	0.0112	0.0000	9.4275	9.4275	8.4000e-004	0.0000	9.4484
Total	0.0324	0.2439	0.2159	4.7000e-004	0.1255	2.6000e-004	0.1258	0.0147	2.5000e-004	0.0150	0.0000	43.2629	43.2629	3.6700e-003	0.0000	43.3546

3.7 Paving - 2024

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	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0730	55.0730	0.0178	0.0000	55.5183
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0272	0.2619	0.4022	6.3000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	55.0730	55.0730	0.0178	0.0000	55.5183

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	8.3000e-004	4.1000e-004	4.7400e-003	0.0000	4.9400e-003	1.0000e-005	4.9400e-003	5.4000e-004	0.0000	5.5000e-004	0.0000	0.3086	0.3086	3.0000e-005	0.0000	0.3093
Total	8.3000e-004	4.1000e-004	4.7400e-003	0.0000	4.9400e-003	1.0000e-005	4.9400e-003	5.4000e-004	0.0000	5.5000e-004	0.0000	0.3086	0.3086	3.0000e-005	0.0000	0.3093

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	9.1900e-003	0.2761	0.4756	6.3000e-004		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	55.0729	55.0729	0.0178	0.0000	55.5182
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1900e-003	0.2761	0.4756	6.3000e-004		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	55.0729	55.0729	0.0178	0.0000	55.5182

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	8.3000e-004	4.1000e-004	4.7400e-003	0.0000	3.1400e-003	1.0000e-005	3.1400e-003	3.6000e-004	0.0000	3.7000e-004	0.0000	0.3086	0.3086	3.0000e-005	0.0000	0.3093
Total	8.3000e-004	4.1000e-004	4.7400e-003	0.0000	3.1400e-003	1.0000e-005	3.1400e-003	3.6000e-004	0.0000	3.7000e-004	0.0000	0.3086	0.3086	3.0000e-005	0.0000	0.3093

3.8 Architectural Coating - 2024
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	0.5053					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949
Total	0.5059	4.2700e-003	6.3400e-003	1.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949

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	1.8000e-004	9.0000e-005	1.0100e-003	0.0000	1.0500e-003	0.0000	1.0500e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0655	0.0655	1.0000e-005	0.0000	0.0656
Total	1.8000e-004	9.0000e-005	1.0100e-003	0.0000	1.0500e-003	0.0000	1.0500e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0655	0.0655	1.0000e-005	0.0000	0.0656

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	0.5053						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	1.9000e-004	3.7100e-003	6.4100e-003	1.0000e-005			1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949
Total	0.5055	3.7100e-003	6.4100e-003	1.0000e-005			1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.8936	0.8936	5.0000e-005	0.0000	0.8949

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	1.8000e-004	9.0000e-005	1.0100e-003	0.0000	6.7000e-004	0.0000	6.7000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0655	0.0655	1.0000e-005	0.0000	0.0656
Total	1.8000e-004	9.0000e-005	1.0100e-003	0.0000	6.7000e-004	0.0000	6.7000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0655	0.0655	1.0000e-005	0.0000	0.0656

3.8 Architectural Coating - 2025

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	3.4649						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	4.1000e-003	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362
Total	3.4690	0.0275	0.0434	7.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362

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	1.1400e-003	5.4000e-004	6.3500e-003	0.0000	7.1800e-003	1.0000e-005	7.1900e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	0.4335	0.4335	4.0000e-005	0.0000	0.4344
Total	1.1400e-003	5.4000e-004	6.3500e-003	0.0000	7.1800e-003	1.0000e-005	7.1900e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	0.4335	0.4335	4.0000e-005	0.0000	0.4344

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	3.4649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0254	0.0440	7.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362
Total	3.4662	0.0254	0.0440	7.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	6.1278	6.1278	3.3000e-004	0.0000	6.1362

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	1.1400e-003	5.4000e-004	6.3500e-003	0.0000	4.5700e-003	1.0000e-005	4.5700e-003	5.3000e-004	1.0000e-005	5.3000e-004	0.0000	0.4335	0.4335	4.0000e-005	0.0000	0.4344
Total	1.1400e-003	5.4000e-004	6.3500e-003	0.0000	4.5700e-003	1.0000e-005	4.5700e-003	5.3000e-004	1.0000e-005	5.3000e-004	0.0000	0.4335	0.4335	4.0000e-005	0.0000	0.4344