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APPENDIX A

AIR QUALITY/GREENHOUSE GAS IMPACT ANALYSIS REPORT

Stantec

Air Quality/Greenhouse Gas Impact Analysis Report

2014 Housing Element
Implementation H-IM37
Multifamily Rezoning Program:
Garden Apartments

April 13, 2018

Prepared for:

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EXECUTIVE SUMMARY

The following air quality and greenhouse gas analysis was prepared to evaluate whether the estimated criteria air pollutant and greenhouse gas emissions generated from the construction of the Garden Apartments Project (proposed project) in Humboldt County, California would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000, et seq.).

PROJECT SUMMARY

The proposed project would to rezone four adjacent parcels in the Myrtletown area, northeast of the City of Eureka, from CG (Commercial General) to RM (Residential Multifamily) (see Figure 1). The parcels have a total area of 2.2 acres and include APN numbers 016-152-020, 016-152-021, 016-152-022, and 016-222-001. The proposed project will demolish the existing buildings on the site and construct a 66 multi-family residential apartment development.

Summary of Analysis Results

Impact AIR-1:	The project would not conflict with or obstruct implementation of the applicable air quality plan. **Less Than Significant Impact With Mitigation.**
Impact AIR-2:	The project would violate air quality standards or contribute substantially to an existing or projected air quality violation. **Less Than Significant Impact With Mitigation.**
Impact AIR-3:	The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). **Less Than Significant Impact With Mitigation.**
Impact AIR-4:	The project would not expose sensitive receptors to substantial pollutant concentrations. **Less Than Significant Impact With Mitigation.**
Impact AIR-5:	The project would not create objectionable odors affecting a substantial number of people. **Less Than Significant Impact.**
Impact GHG-1:	The project would not generate direct and indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less Than Significant Impact.**

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less Than Significant Impact.**

Mitigation Measures Applied to the Project

MM AIR-1 During construction, the project shall use low-VOC paint defined as less than 50 grams per liter for all architectural coatings (painting) of buildings.

MM AIR-2 To reduce Reactive Organic Gases (ROG) emissions during operations, if fireplaces are included in the residences, they shall be equipped with only natural gas fireplaces.

MM AIR-3 The following dust control measures shall be implemented during construction:

1. All material excavated, stockpiled, or graded would be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.
2. All areas with vehicle traffic would be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
3. All on-site vehicle traffic would be limited to a speed of 15 miles per hour within the project site.
4. All land clearing, grading, earth moving, or excavation activities on a project would be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour.
5. All inactive portions of the development site would be covered, revegetated, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved non-toxic soil stabilizers (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.
6. All material transported off-site would be securely covered to prevent public nuisance, and there must be a minimum of two feet of freeboard in the bed of the transport vehicle.
7. Paved roads adjacent to the project would be swept at the end of each day or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud that may have resulted from activities at the project site.

1.0 INTRODUCTION

1.1 REPORT PURPOSE

The purpose of this Air Quality and Greenhouse Gas Impact Analysis Report (Report) is to analyze potential air quality and greenhouse gas (GHG) impacts that could occur with the construction of the Garden Apartments Project (proposed project) in Humboldt County, California. This assessment was conducted within the context of CEQA.

1.2 PROJECT DESCRIPTION

The proposed project would rezone four adjacent parcels in the Myrtletown area, northeast of the City of Eureka, from Commercial General (CG) to Residential Multifamily (RM) (see Figure 1). The proposed project parcels have a total area of 2.2 acres and include APN numbers 016-152-020, 016-152-021, 016-152-022, and 016-222-001. The proposed project parcels are part of a group of 64 parcels that have been identified for potential rezone as part of implementation measure H-IM37 of the 2014 Housing Element of the Humboldt County General Plan. The purpose of H-IM37 is to accommodate the housing need for extremely low, very low and low income households pursuant to Government Code Section 65583 (c)(1)(A), by rezoning parcels to multifamily designation.

The parcels are located in the Coastal Zone and within the Humboldt Bay Area Plan. The current General Plan designation (CG) would change to RM - Residential Medium Density; the current zoning designation (also CG) would change to RM - Multi-family Residential. Along with the proposed changes to the General Plan and zoning for the site, the County will be reviewing a coastal development permit for demolition of the existing structures and construction of the new multifamily housing development.

The scope of the proposed project is to demolish the existing structures and construct up to 66 apartment units and 1 community building; made up of 1- and 2-bedroom units. The proposed project site will have 87 parking spaces. New sewer, water, gas and electrical infrastructure will be installed to accommodate the proposed project, along with new sidewalk along Hubbard Lane. Landscaping will be planted throughout the property to enhance the visual components of the proposed project. Construction is anticipated to being in January 2019.

Figure 1 Project Location

2.0 AIR QUALITY

2.1 ENVIRONMENTAL SETTING

The proposed project is located within North Coast Air Basin (NCAB) which includes all of Humboldt, Del Norte, Trinity, and Mendocino counties, and a portion of Sonoma County. The North Coast Unified Air Quality Management District (NCUAQMD) regulates air quality in the Humboldt, Del Norte and Trinity County portions of the NCAB.

Air pollution in the NCAB can be attributed to both human-related (anthropogenic) and natural (nonanthropogenic) activities. Air pollution from significant anthropogenic activities in the NCAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. Air pollution within the NCAB is also influenced by topographical and meteorological conditions.

2.1.1 Climate and Topography

The following information is excerpted from the NCUAQMD Particulate Matter (PM10) Draft Attainment Plan prepared in 1995 and the revised Draft EIR for the County of Humboldt General Plan Update prepared in 2017.

In general, the climate of northern coastal California is characterized by cool summers and mild winters with frequent fog and significant amounts of rain. In coastal areas, the ocean helps to moderate temperatures year-round. Further inland, the summers are hotter and drier and the winters colder and snowier. At higher elevations in inland areas, it is cooler in the summers and snowier in the winter.

The average annual rainfall in the county ranges from 38 inches in Eureka to 141 inches in Honeydew. Approximately 90% of the annual precipitation falls between October and April. Higher rainfall in winter often influences high river levels. Winter snowfall is common at higher elevations. The dry season is between May and September. Average temperatures in Eureka range from around 40°F in the winter to around 50°F in the summer and average highs of 50°F in the winter and low 60°F in the summer.

In summer, warm ground surfaces draw cool air in from the coast, creating frequent thick fogs along the coast and making northwesterly winds common. In winter, precipitation is high, winter time surface wind directions are highly variable, and weather is more affected by oceanic storm patterns.

The topography within the NCAB is largely mountainous with fairly level terrain along the coast and in isolated mountain valleys. Elevation varies from seal level to over 9,000 feet. The mountain ranges generally run north to south, divided by deep canyons cut by the many rivers in the area. Within the NCAB, the physical topography can affect atmospheric conditions. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to drive the movement and dispersal of air pollutants. As a

result of the region's topography and atmospheric conditions, inversions are common in the NCAB. Inversions are created when warm air traps cool air near the ground surface and prevents vertical dispersion of air. Humboldt County commonly experiences two types of inversions, vertical and horizontal, that affect the vertical depth of the atmosphere through which pollutants can be mixed. Vertical air movement is important in spreading pollutants through a thicker layer of air. Horizontal movement is important in spreading pollutants over a wider area. Upward dispersion of pollutants is hindered wherever the atmosphere is stable; that is, where warm air overlies cooler air below. During the summer, inversions are less prominent, and vertical dispersion of the air is good. However, during the cooler months between late fall and early spring, inversions last longer and are more geographically extensive; vertical dispersion is poor, and pollution may be trapped near the ground for several concurrent days.

2.1.2 Criteria Air Pollutants

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas, standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The air quality regulatory framework and ambient air quality standards are discussed in greater detail later in this report.

The following provides a summary discussion of the primary and secondary criteria air pollutants of primary concern. In general, primary pollutants are directly emitted into the atmosphere, and secondary pollutants are formed by chemical reactions in the atmosphere.

Ozone

Ozone (O_3) is a reactive gas consisting of three atoms of oxygen. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. While Ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 can adversely affect the human respiratory system.

Ozone, a colorless gas which is odorless at ambient levels, is the chief component of urban smog. Ozone is not directly emitted as a pollutant but is formed in the atmosphere when hydrocarbon and nitrogen oxides (NOx) precursor emissions react in the presence of sunlight. Meteorology and terrain play major roles in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and cloudless skies provide the optimum

conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often impacts a large area (California Air Resources Board [CARB] 2001, 2010).

Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Emissions of the ozone precursors ROG and NOx most commonly originate from motor vehicles, as well as commercial and industrial uses.

Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Long-term exposure to ozone is linked to aggravation of asthma and is likely to be one of many causes of asthma development. Long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from ozone exposure (U.S. EPA 2018a).

Reactive Organic Gases and Volatile Organic Compounds

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases, including Volatile Organic Compounds (VOCs) and ROGs. ROGs include all hydrocarbons except those exempted by ARB. Therefore, ROGs are a set of organic gases based on state rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by federal law.

Both VOCs and ROGs are emitted from incomplete combustion of hydrocarbons or other carbon- based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects related to hydrocarbons stem from ozone (see discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate national or California ambient air quality standards for ROG. Carcinogenic forms of ROG, such as benzene, are also considered toxic air contaminants (TACs).

Nitrogen Dioxide and Nitrogen Oxides

Nitrogen dioxide (NO_2) is one of a group of highly reactive gases known as "oxides of nitrogen (NO_x)." NO_2 is the component of greatest interest and the indicator for the larger group of NO_x. It forms quickly from emissions from cars, trucks and buses, powerplants, and off-road

equipment. NO_X is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

NO_X is emitted from solvents and combustion processes in which fuel is burned at high temperatures. Mobile sources (including on-road and off-road vehicles) and stationary sources such as electric utilities and industrial boilers, constitute a majority of the statewide NO_X emissions. To a lesser extent, area-wide sources, such as residential heaters, gas stoves, and managed burning and disposal, also contribute to total state-wide NO_X emissions (CARB 2010). NO_X is also linked to the formation of ground-level ozone and fine particle pollution (see discussion above for ozone and particulate pollution for additional discussion of health-related impacts).

Direct inhalation of NO_X can cause a wide range of health effects. NO_X can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_X can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_X can also impair visibility.

NO_X also contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins that are harmful to aquatic life).

Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates low pH conditions and levels of aluminum that are toxic to fish and other aquatic organisms. NO_X also contributes to haze and visibility impairment (U.S. EPA 2018a, CARB 2016a).

Particulate Matter

PM is a mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, sulfates, and organic compounds; and complex mixtures such as diesel exhaust and soil. $PM_{2.5}$ includes fine particles with a diameter of 2.5 microns or smaller and is a subset of PM_{10}. These particles come in many sizes and shapes and can be made up of hundreds of different chemicals. Some particles, known as primary particles are emitted directly from a

source, such as construction sites, unpaved roads, fields, smokestacks or fires. Others form in complicated reactions in the atmosphere of chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industries and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution in the country (U.S. EPA 2018a, CARB 2016a).

Area-wide sources account for about 65 and 83% of the statewide emissions of directly emitted $PM_{2.5}$ and PM_{10}, respectively. The major area-wide sources of $PM_{2.5}$ and PM_{10} are fugitive dust, especially dust from unpaved and paved roads, agricultural operations, and construction and demolition. Sources of PM_{10} include crushing or grinding operations, and dust stirred up by vehicles traveling on roads. Sources of $PM_{2.5}$ include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.

Exhaust emissions from mobile sources contribute only a very small portion of directly emitted $PM_{2.5}$ and PM_{10} emissions, but are a major source of the VOC and NO_X that form secondary particles (CARB 2013).

$PM_{2.5}$ and PM_{10} particles are small enough to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases; heart and lung disease; and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. $PM_{2.5}$ and PM_{10} can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis are especially vulnerable to the effect of PM_{10}. Non-health-related effects include reduced visibility and soiling of buildings.

Carbon Monoxide

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. CO is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive.

CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual

impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (EPA 2018a).

Sulfur Dioxide

Sulfur Dioxide (SO_2) is one of a group of highly reactive gases known as "oxides of sulfur (SO_X)." It is a colorless, irritating gas with a "rotten egg" smell that is formed primarily by the combustion of sulfur-containing fossil fuels. The largest source of SO_2 in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. Smaller sources of SO_2 emissions include: industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content. State and national ambient air quality standards for SO_2 are designed to protect against exposure to the entire group of sulfur oxides (SO_X). SO_2 is the component of greatest concern and is used as the indicator for the larger group of gaseous sulfur oxides.

High concentrations of SO_2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO_2 levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer term exposures to high concentrations of SO_2 in conjunction with high levels of particulate matter include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. The subgroups of the population that may be affected under these conditions include individuals with heart or lung disease, as well as the elderly and children.

Together, SO_2 and NO_X are the major precursors to acidic deposition (acid rain), which is associated with the acidification of soils, lakes, and streams and accelerated corrosion of buildings and monuments. SO_2 also is a major precursor to $PM_{2.5}$, which is a significant health concern, and a main contributor to poor visibility.

Lead

Lead (Pb) is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing. Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking,

and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. The effects of lead are the same regardless of the path of exposure. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles.

Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High level exposure in men can damage the organs responsible for sperm production.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood (Agency for Toxic Substances & Disease Registry [ATSDR] 2007).

Hydrogen Sulfide

Hydrogen Sulfide (H_2S) is a colorless gas with the odor of rotten eggs. H_2S occurs naturally and is also produced by human activities. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. It can also result during bacterial decomposition of sulfur-containing organic substances. Emissions of H_2S associated with human activities including various industrial activities, such as oil and gas production, refining, sewage treatment plants, food processing, and confined animal feeding operations.

Studies in humans suggest that the respiratory tract and nervous system are the most sensitive targets of H_2S toxicity. Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Respiratory distress or arrest has been observed in people exposed to very high concentrations of H_2S. Exposure to low concentrations of H_2S may cause headaches, poor memory, tiredness, and balance problems. Brief exposures to high concentrations of H_2S can cause loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in some individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. H_2S is extremely hazardous in high concentrations; especially in enclosed spaces. In some instances, exposure to high concentrations can cause death (ATSDR 2007b)

2.1.3 Odors

Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the state nor the federal governments have adopted rules or regulations for the control of odor sources. The NCUAQMD does not have an individual rule or regulation that specifically addresses odors; however, odors would be subject to NCUAQMD's Rule 104,A,1, Public Nuisance. Any actions related to odors would be based on citizen complaints to local governments and the NCUAQMD (NCUAQMD 2018a).

2.1.4 Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California Clean Air Act (CCAA) and are thus not subject to National or California ambient air quality standards (NAAQS and CAAQS,

respectively). Instead, the U.S. EPA and the CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (BACT) to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. The following provides a summary of the primary TACs of concern within the State of California and related health effects:

Diesel Particulate Matter

Diesel Particulate Matter (DPM) was identified as a TAC by the CARB in August 1998. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 42% of the statewide total, with an additional 55% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities (CARB 2013).

In October 2000, the CARB issued a report entitled: Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, which is commonly referred to as the Diesel Risk Reduction Plan (DRRP). The DRRP provides a mechanism for combating the DPM problem. The goal of the DRRP is to reduce concentrations of DPM by 85% by the year 2020, in comparison to year 2000 baseline emissions. The key elements of the DRRP are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel to protect new, and very effective, advanced technology emission control devices on diesel engines. When fully implemented, the DRPP will significantly reduce emissions from both old and new diesel fueled motor vehicles and from stationary sources that burn diesel fuel. In addition to these strategies, the CARB continues to promote the use of alternative fuels and electrification. As a result of these actions, DPM concentrations and associated health risks in future years are projected to decline (CARB 2013). In comparison to year 2010 inventory of statewide DPM emissions, CARB estimates that emissions of DPM in 2035 will be reduced by more than 50%.

DPM is typically composed of carbon particles ("soot", also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains

gaseous pollutants, including volatile organic compounds and NOx. NOx emissions from diesel engines are important because they can undergo chemical reactions in the atmosphere leading to formation of $PM_{2.5}$ and ozone.

In California, diesel exhaust particles have been identified as a carcinogen accounting for an estimated 70% of the total known cancer risks in California. DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over an estimated 70-year lifetime. Non- cancer health effects associated with exposure to DPM include premature death, exacerbated chronic heart and lung disease, including asthma, and decreased lung function in children. Short-term exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (CARB, 2016B).

Individuals most vulnerable to non-cancer health effects of DPM are children whose lungs are still developing and the elderly who often have chronic health problems. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to DPM (CARB, 2016B). In addition to its health effects, DPM significantly contributes to haze and reduced visibility.

2.1.5 Ambient Air Quality

The NCUAQMD operates several local air monitoring stations within the NCUAQMD's tri-county jurisdiction of Humboldt, Del Norte, and Trinity counties. Within Humboldt County, ambient air quality is monitored at the Eureka Downtown Station, Jacobs Station, and the Humboldt Hill Station. The Jacobs Station at 717 South Ave is the closest monitoring station located 2.6 miles west of the proposed project site. The Jacobs Station monitoring site showed no exceedances of federal or state ambient air quality standards.

Air Quality
April 13, 2018

Table 1 Ambient Air Quality Modeling Summary

Air Pollutant	Averaging Time	Item	2014	2015	2016
Ozone	1 Hour[a]	Max 1 Hour (ppm)	0.060	0.054	0.047
		Days > State Standard (0.09 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	0.050	0.045	0.045
		Days > State Standard (0.070 ppm)	0	0	0
		Days > National Standard (0.070 ppm)	0	0	0
		Days > National Standard (0.075 ppm)	0	0	0
Inhalable coarse particles (PM_{10})	Annual	Annual Average (µg/m³)	18.1	18.0	16.2
	24 hour	24 Hour (µg/m³)	104.7	54.9	53.6
		Days > State Standard (50 µg/m³)	ID	ID	ID
		Days > National Standard (150 µg/m³)	0	0	0
Fine particulate matter ($PM_{2.5}$)	Annual	Annual Average (µg/m³)	5.4	5.9	6.0
	24 Hour	24 Hour (µg/m³)	21.2	18.6	20.0
		Days > National Standard (35 µg/m³)	0	0	0

Notes:
> = exceed
ppm = parts per million
g/m3 = micrograms per cubic meter
a = The Federal 1 hour Ozone Standard was revoked in June 2005; California retained a 1 hour Ozone Standard
ID = insufficient data
max = maximum
Bold = exceedance
State Standard = CAAQS
National Standard = NAAQS

Sources: CARB, 2018a

2.1.6 Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses.

There are existing nearby residences adjacent to the project site that would be considered sensitive receptors. Additionally, the project itself would be considered a sensitive receptor.

2.2 REGULATORY SETTING

Air quality within the project area is regulated by several jurisdictions including the U.S. EPA, CARB, and the NCUAQMD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

2.2.1 Federal

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the U.S. EPA to establish NAAQS, and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 2.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include asbestos-containing building materials (ACBMs). NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBM associated with the demolition and renovation of structures.

2.2.2 State

California Air Resources Board

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing CAAQS, which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used. The CAAQS are summarized in Table 2.

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC.

Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

Portable Equipment Registration Program

Owners or operators of portable engines and certain other types of equipment can register their units under the CARB's Statewide Portable Equipment Registration Program (PERP). PERP allows registered equipment to be operated throughout California without having to obtain individual permits from local air districts. To qualify, equipment must meet eligibility requirements, including applicable emissions standards.

Table 2 National and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS [a]	NAAQS [b]	
			Primary [c]	Secondary [d]
Ozone	1 hour 8 hours	0.09 ppm 0.070 ppm	-- 0.070 ppm	-- 0.070 ppm
CO	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	-- --
NO_2	1 hour Annual Arithmetic Mean	0.18 ppm 0.030 ppm	0.100 ppm [e] 0.053 ppm	-- 0.053 ppm
SO_2	1 hour 3 hours 24 hours Annual Arithmetic Mean	0.25 ppm -- 0.040 ppm --	0.075 ppm [f] -- 0.014 ppm 0.030 ppm	-- 0.5 ppm -- --
PM_{10}	24 hours Annual Arithmetic Mean	50 µg/m³ 20 µg/m³	150 µg/m³ --	150 µg/m³ --
$PM_{2.5}$	24 hours Annual Arithmetic Mean	-- 12 µg/m³	35 µg/m³ 12 µg/m³	35 µg/m³ 15 µg/m³
Lead [g]	30-day Average Calendar Quarter Rolling 3-month Average	1.5 µg/m³ -- --	-- 1.5 µg/m³ 0.15 µg/m³	-- 1.5 µg/m³ 0.15 µg/m³
Visibility reducing particles (VRP) [g]	8 hours	[h]	--	--
Sulfates	24 hours	25 µg/m³	--	--
H_2S	1 hour	0.03 ppm (42 µg/m³)	--	--
Vinyl chloride	24 hours	0.01 ppm (26 µg/m³)	--	--

Notes:

ppm = parts per million

µg/m3 = micrograms per cubic meter

-- = No standard has been adopted for this averaging time

a = CAAQS for ozone, CO (except 8-hour Lake Tahoe), SO2 (1 and 24 hour), NO2, and particulate matter (PM10, PM2.5, and VRP), are values that are not to be exceeded. All others are not to be equaled or exceeded.

b = NAAQS (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard.

c = Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

d = Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

e = To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily

maximum concentrations at each site must not exceed 0.100 ppm.

f = To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 0.075 ppm.

g = CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

h = Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.

Source: CARB 2016c

Naturally-Occurring Asbestos Regulations

CARB has adopted two Airborne Toxic Control Measures (ATCMs) which regulates the control of Naturally Occurring Asbestos (NOA) associated with construction, surfacing, grading, mining, and quarrying activities. The NCUAQMD is responsible for enforcing Asbestos ATCMs. There are no known likely areas of NOA in the proposed project area (USGS 2011).

Regulatory Attainment Designations

Under the CCAA, CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for O_3, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The U.S. EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, U.S. EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards with the exception of the state 24-hour PM_{10} standard in Humboldt County only. The NCUAQMD has not exceeded the federal annual standard for particulate matter during the last five-year period. Primary sources of particulate matter generally include on-road vehicles (engine exhaust and dust from paved and unpaved roads), open burning of vegetation (both residential and commercial), residential wood stoves, and stationary industrial sources (NCUAQMD 2018b).

2.2.3 North Coast Unified Air Quality Management District

The NCUAQMD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the NCAB, within which the proposed project is located. Responsibilities of the NCUAQMD include, but are not limited to,

preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

Air Quality Plans

In 1995, the NCUAQMD adopted the Particulate Matter (PM_{10}) Attainment Plan. The PM_{10} Attainment Plan provides an increased understanding of the causes and major contributors of PM_{10} within the NCAB. The PM_{10} Attainment Plan also includes control strategies to reduce PM_{10} emissions from various sources. Control strategies include transportation control measures such as encouraging the use of public transit and promotion of alternatively powered fleets and vehicles. Land use control measures encourage mixed use or more dense development. The PM_{10} Attainment Plan also includes measures that limit residential burning as well as various measures to encourage the installation of U.S. EPA certified woodstoves (NCUAQMD 1995 and 2018b).

3.0 GREENHOUSE GASES

3.1 ENVIRONMENTAL SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

3.1.1 Greenhouse Gases

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Primary GHGs attributed to global climate change, are discussed in the following subsections.

Carbon Dioxide

Carbon dioxide (CO_2) is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere (U.S. EPA 2017a).

Methane

CH_4 is a colorless, odorless gas that is not flammable under most circumstances. CH_4 is the major component of natural gas, about 87% by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH_4 is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years (U.S. EPA 2017a).

Nitrous Oxide

N_2O is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years (U.S. EPA 2017a).

Hydrofluorocarbons

HFCs are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 260 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (U.S. EPA 2017a).

Perfluorocarbons

PFCs are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF4), perfluoroethane (C2F6), perfluoropropane (C3F8), perfluorobutane (C4F10), perfluorocyclobutane (C4F8), perfluoropentane (C5F12), and perfluorohexane (C6F14). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which releases CF4 and C2F6 as byproducts. The estimated atmospheric lifetimes for CF4 and C2F6 are 50,000 and 10,000 years, respectively (U.S. EPA 2017a).

Nitrogen Trifluoride

Nitrogen trifluoride (NF_3) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. NF_3 is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. In 2009, NF_3 was listed by California as a potential GHG to be listed and regulated under Assembly Bill (AB) 32 (Section 38505 Health and Safety Code).

Sulfur Hexafluoride

SF_6 is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF_6 is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80% of all SF_6 produced worldwide. Leaks of SF_6 occur from aging

equipment and during equipment maintenance and servicing. SF_6 has an atmospheric life of 3,200 years (U.S. EPA 2017a).

Black Carbon

Black carbon is the most strongly light-absorbing component of PM emitted from burning fuels such as coal, diesel, and biomass. Black carbon contributes to climate change both directly by absorbing sunlight and indirectly by depositing on snow and by interacting with clouds and affecting cloud formation. Black carbon is considered a short-lived species, which can vary spatially and, consequently, it is very difficult to quantify associated global-warming potentials. The main sources of black carbon in California are wildfires, off-road vehicles (locomotives, marine vessels, tractors, excavators, dozers, etc.), on-road vehicles (cars, trucks, and buses), fireplaces, agricultural waste burning, and prescribed burning (planned burns of forest or wildlands). California has been an international leader in reducing emissions of black carbon, including programs that target reducing PM from diesel engines and burning activities (CARB 2013).

3.1.2 Global Warming Potential

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential (GWP).

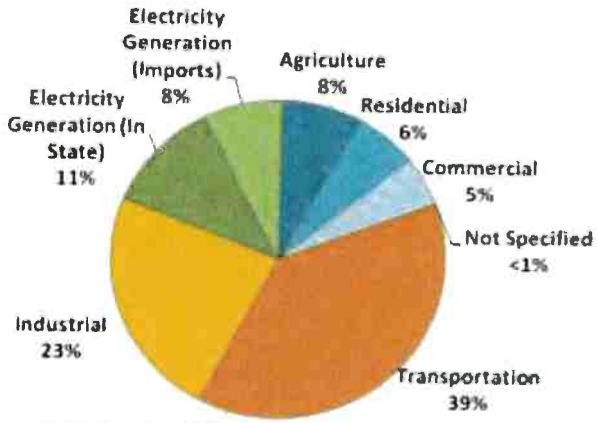
Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Based on a 100-year time horizon, Methane traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include NF_3, SF_6, PFCs, and black carbon.

3.1.3 Sources of Greenhouse Gas Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

California's GHG emissions inventory is depicted in Figure 2

Figure 2 GHG Emissions by Economic Sector



Source: California Air Resources Board, California Greenhouse Gas Emission Inventory - 2017 Edition. Website: https://www.arb.ca.gov/cc/inventory/data/data.htm

In 2015, GHG emissions within California totaled 440.4 million metric tons (MMT) of CO_2e. Within California, the transportation sector is the largest contributor, accounting for approximately 39% of the total statewide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 23%. Electricity generation totaled roughly 19% (CARB 2017a).

3.1.4 Effects of Global Climate Change

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snow pack is a principal supply of water for the state, providing roughly 50% of state's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the state's energy resources. An early exhaustion of the Sierra snowpack, may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and

biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

3.2 REGULATORY SETTING

3.2.1 Federal

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has held that the U.S. EPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency et al.*, twelve states and cities, including California, together with several environmental organizations sued to require the U.S. EPA to regulate GHGs as pollutants under the FCAA (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the FCAA's definition of a pollutant and the U.S. EPA had the authority to regulate GHGs.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the FCAA:

- **Endangerment Finding:** The current and projected concentrations of the six key GHGs - CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the U.S. EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the U.S. EPA to develop "...mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy...." The Reporting Rule applies to most entities that emit 25,000 metric tons of CO_2e ($MTCO_2e$) or more per year. Since 2010, facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the U.S. EPA to verify annual GHG emissions reports.

3.2.2 State

Assembly Bill 1493 (Pavley)

AB 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the CARB to develop and adopt the nation's first GHG emission standards for automobiles. These

standards are also known as Pavley Standards. The California Legislature declared in AB 1493 that global warming is a matter of increasing concern for public health and the environment. It cites several risks that California faces from climate change, including a reduction in the state's water supply, an increase in air pollution caused by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water, energy, and insurance prices. The bill also states that technological solutions to reduce GHG emissions would stimulate California's economy and provide jobs. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as the state is authorized to do under the CCAA, to allow the state to require reduced tailpipe emissions of CO_2. In late 2007, the U.S. EPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the state brought suit against the U.S. EPA related to this denial.

In January 2009, President Obama instructed the U.S. EPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the U.S. EPA granted California's waiver request, enabling the state to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

Senate Bills 1078 and 107 and Executive Orders S-14-08 and S-21-09 (California Renewables Portfolio Standard)

Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Schwarzenegger signed Executive Order (EO) S-14-08, which expanded the state's Renewable Portfolio Standard to 33% renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing E.O. S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33% renewable energy by 2020.

The 33% by 2020 goal was codified in April 2011 with SB X1-2, which was signed by Governor Edmund G. Brown, Jr. This new Renewable Portfolio Standard (RPS) preempts the CARB 33% Renewable Electricity Standard and applies to all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. Consequently, Pacific Gas & Electric (PG&E), who would be the electricity provider for the proposed projects, must meet the 33% goal by 2020. All of these entities must adopt the new RPS goals of 20% of retail sales from renewables by the end of 2013 and 25% by the end of 2016, with the 33% requirement being met by the end of 2020.

Executive Order No. S-3-05

EO S-3-05 (State of California) proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, to the 1990 level by 2020, and to 80% below the 1990 level by 2050.

The EO directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and state legislature describing (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) mitigation and adaptation plans to combat these impacts. To comply with the EO, the secretary of CalEPA created a Climate Action Team made up of members from various state agencies and commissions. The Climate Action Team released its first report in March 2006 and continues to release periodic reports on progress. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, N_2O, HFCs, perfluorocarbons, NF_3, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions (CARB 2017b).

Climate Change Scoping Plan

In October 2008, CARB published its Climate Change Proposed Scoping Plan, which is the state's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 $MTCO_2e$, or approximately

30% from the state's projected 2020 emissions level of 596 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 42 $MMTCO_2e$, or almost 10%, from 2002– 2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The largest proposed GHG reduction recommendations are from improving emissions standards for light-duty vehicles (estimated reductions of 31.7 $MMTCO_2e$), implementation of the Low Carbon Fuel Standard (15.0 $MMTCO_2e$) program, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 $MMTCO_2e$), and a renewable portfolio standard for electricity production (21.3 $MMTCO_2e$). The Scoping Plan identifies the local equivalent of AB 32 targets as a 15% reduction below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008.

A key component of the Scoping Plan is the Renewable Portfolio Standard, which is intended to increase the percentage of renewables in California's electricity mix to 33% by year 2020, resulting in a reduction of 21.3 $MMTCO_2e$. Sources of renewable energy include, but are not limited to, biomass, wind, solar, geothermal, hydroelectric, and anaerobic digestion. Increasing the use of renewables will decrease California's reliance on fossil fuels, thus reducing GHG emissions.

The Scoping Plan states that land use planning and urban growth decisions will play important roles in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. Meanwhile, CARB is also developing an additional protocol for community emissions. CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects approximately 5.0 $MMTCO_2e$ will be achieved associated with implementation of Senate Bill 375, which is discussed further below. The Climate Change Proposed Scoping Plan was approved by CARB on December 11, 2008.

The First Update to the Climate Change Scoping Plan was approved by CARB on May 22, 2014. CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target established in EO B-30-15 and SB32 (CARB 2014, CARB 2017).

Senate Bill 32

SB 32 was signed by Governor Brown on September 8, 2016. SB 32 effectively extends California's GHG emission-reduction goals from year 2020 to year 2030. This new emission-reduction target of 40% below 1990 levels by 2030 is intended to promote further GHG-reductions in support of the state's ultimate goal of reducing GHG emissions by 80% below 1990 levels by 2050. SB 32 also directs the CARB to update the Climate Change Scoping Plan to address this interim 2030 emission-reduction target.

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

SB 375 supports the state's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of developing more sustainable communities. Under SB 375, CARB sets regional targets for GHG emissions reductions associated with passenger vehicle use. Each of California's metropolitan planning organizations must prepare a "sustainable communities strategy" (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the identified GHG- reduction strategies.

3.2.3 Humboldt County

In January of 2012, Humboldt County published the Draft Climate Action Plan (CAP). According to the CAP, the county emitted 1.3 MMT of CO_2e in 2006. Under the CARB scoping plan, the CAP states that Humboldt County's reduction target is 3,746 $MTCO_2e$ based on its proportion of the statewide population and scoping plan goals (Humboldt County 2012). The CAP has not been approved by Humboldt County and does not qualify under Section 15183.5 of the CEQA Guidelines as a GHG reduction plan.

3.2.4 Humboldt County Association of Governments

The Humboldt County Association of Governments (HCAOG) is a Joint Powers Agency comprised of the seven incorporated cities (Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, Trinidad), and the County of Humboldt. It is the designated Regional Transportation Planning Agency (RTPA) as well as the Service Authority for Freeway Emergencies (SAFE). The agency is largely responsible for programming State highway, local street and road improvements, public transportation resources, and the roadside call box program.

HCAOG is responsible for preparing and implementing the Regional Transportation Plan (RTP). The policies in the Regional Transportation Plan serve to guide the development of a safe, efficient, coordinated, balanced regional transportation system. The 2017 Plan is intended to identify and document specific actions necessary to address the region's needs for connectivity, mobility, accessibility, and goods movement for the next 20 years.

GHG emissions on the HCAOG transportation network were projected for the year 2035 assuming implementation of the RTP, and were compared to both the 2013 baseline and to GHG emissions projected under the future "no project scenario." (The no project scenario assumes that the RTP's identified transportation improvements are not implemented.)

The proposed RTP would not increase GHG emissions. The 2013 per capita GHG emissions for the plan area were estimated to be 28.96 pounds per day. With the proposed RTP, the 2035 per capita GHG emissions for the plan area were modeled to be 24.89 pounds per day, a reduction of 14% from 2013.

4.0 MODELING PARAMETERS AND ASSUMPTIONS

4.1 MODEL SELECTION

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions.

CalEEMod is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as preparing CEQA or National Environmental Policy Act documents, conducting pre-project planning, and, verifying compliance with local air quality rules and regulations, etc.

CalEEMod version 2016.3.2 was used to estimate construction and operational impacts of the proposed project.

4.2 AIR POLLUTANTS AND GHGS ASSESSED

4.2.1 Criteria Air Pollutants Assessed

The following criteria air pollutants are assessed in this analysis: ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$.

Note that the proposed project would emit ozone precursors ROG and NO_X. However, the proposed project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

4.2.2 GHGs Assessed

This analysis is restricted to GHGs identified by AB 32, which include CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3. The proposed project would generate a variety of GHGs, including several defined by AB 32 such as CO_2, CH_4 and N_2O.

Certain GHGs defined by AB 32 would not be emitted by the project. PFCs, SF_6, and NF_3 are typically used in industrial applications, none of which would be used by the proposed project. Therefore, it is not anticipated that the proposed project would emit those GHGs.

GHG emissions associated with the proposed project construction, and future operations were estimated using CO_2e emissions as a proxy for all GHG emissions. In order to obtain the CO_2e, an individual GHG is multiplied by its GWP. The GWP designates on a pound for pound basis the potency of the GHG compared to CO_2.

4.3 ASSUMPTIONS

4.3.1 Construction Modeling Assumptions

Construction Schedule

The proposed project was assumed to start construction in January 2019. The default CalEEMod construction duration length was used. The duration length is based on the size of the proposed project. Table 3 provides the anticipated construction schedule.

Table 3 Construction Schedule

Phase	Anticipated Phase Start Date	Anticipated Phase End Date	Total Number of Days
Demolition	01/07/2019	02/01/2019	20
Site Preparation	02/02/2019	02/06/2019	3
Site Grading	02/07/2019	02/14/2019	6
Building Construction	02/15/2019	12/19/2019	220
Paving	12/20/2019	01/02/2020	10
Architectural Coating	01/03/2020	01/16/2020	10

Construction Off-Road Equipment

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil.

The CalEEMod default estimated equipment was used. The estimate is based on the proposed project size. The off-road construction equipment list is shown in Table 4. The activity for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation

compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity.

Table 4 Off-Road Construction Equipment

Phase	Equipment	Unit Amount	Hours per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Rubber Tired Dozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	3	8	97	0.37
Site Preparation	Graders	1	8	187	0.41
	Scrapers	1	8	367	0.48
	Tractors/Loaders/Backhoes	1	7	97	0.37
Grading	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	2	7	97	0.37
Building Construction	Cranes	1	8	231	0.29
	Forklifts	2	7	89	0.20
	Generators	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	8	9	0.56
	Pavers	1	8	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	2	8	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

On-Road Construction-Related Vehicle Trips

Off-site construction emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$). Table 5 provides a summary of the construction-related vehicle trips. CalEEMod default values were used to estimate the number of construction-related vehicle trips. CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating). For the Building Construction, the number of workers is derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) which determined the number of workers needed for various types of land uses and corresponding project size. The number of vendor trips during the Building Construction

phase is also derived from a study conducted by the SMAQMD. The SMAQMD trip survey during construction counted cement and water trucks as vendor trips (instead of counting them as off-road vehicle trips) and these trip rates were incorporated into the calculations for the Building Construction phase. The default values for hauling trips are based on the assumption that a truck can haul 20 tons (or 16 cubic yards) of material per load. If one load of material is delivered, CalEEMod assumes that one haul truck importing material will also have a return trip with an empty truck (e.g., 2 one-way trips).

The fleet mix for worker trips is light-duty passenger vehicles to light-duty trucks. The vendor trips fleet mix is composed of a mixture of medium and heavy-duty diesel trucks. The hauling trips are assumed to be 100% heavy-duty diesel truck trips.

CalEEMod default trip lengths were used for the worker (10.8 miles), vendor (7.3 miles), and hauling trips (20 miles).

Table 5 Construction-Related Vehicle Trips

Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Demolition	13	0	50	10.8	7.3	20
Site Preparation	8	0	0	10.8	7.3	20
Grading	10	0	0	10.8	7.3	20
Building Construction	68	15	0	10.8	7.3	20
Paving	15	0	0	10.8	7.3	20
Architectural Coating	14	0	0	10.8	7.3	20

4.3.2 Operational Modeling Assumptions

Operational emissions are those emissions that occur during operation of the proposed project. The sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the proposed project site. The trip generation rate was derived from the traffic study prepared for the proposed project and are summarized in Table 6.

Table 6 Trip Generation Rates

Land Use Type	Size (Dwelling units)	Weekday Average Daily Trip Rate	Saturday Average Daily Trip Rate	Sunday Average Daily Trip Rate
Apartments Low Rise	66	7.32	8.14	6.27
Source: Stantec Consulting Services Inc. Traffic Impact Study, 2018				

Trip Lengths

The CalEEMod default round trip lengths for an urban setting (Humboldt County portion of the NCUAQMD) were used in this analysis. Residential trip types are defined as home-work (H-W), home-shop (H-S), and home-other (H-O). The CalEEMod defaults of 42.3% for H-W, 19.6 for H-S, and 38.1% for H-O were used. The trip lengths are 10.8 miles for H-W trips, 7.3 miles for H-S trips, and 7.5 miles for H-O trips. Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips are assumed to take a slightly different path than a primary trip. The CalEEMod default rates of 86% for primary, 11% for diverted, and 3% for pass-by were used.

Vehicle Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the proposed project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The CalEEMod default vehicle fleet mix was used for the proposed project.

Area Sources

Area sources consist of hearths, consumer products, area architectural coatings, and landscaping emissions.

Hearths

CalEEMod assumes a default number of woodstoves and hearths based on the information provided by air districts to incorporate applicable regulations that restrict their usage. CalEEMod estimated 6 woodstoves, 23 wood burning fireplaces, and 36 natural gas fireplaces based on the proposed project size.

Consumer Products

Consumer products are various solvents used in non-industrial applications that emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. The default CalEEMod value was used for this project.

Architectural Coatings (Painting)

Paints release VOC emissions. The building would be repainted on occasion. CalEEMod defaults were used for this purpose.

Landscaping Emissions

CalEEMod estimated a total of 180 days for which landscaping equipment would be used to estimate potential emissions for the proposed project.

Energy Use

The emissions associated with the building electricity and natural gas usage (non-hearth) are estimated based on the land use type and size. The electricity energy use is in units of kilowatt hours per size metric for each land use type. Natural gas use is in units of a thousand British Thermal Units per size metric for each land use type.

Water and Wastewater Use

Supplying and treating water for residences generates GHG emissions. Depending on the specific water supply used or treatment method used these numbers can vary over a wide range. Supplying water is bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water is bringing the water from the treatment plant to the end users. The electricity intensity factors are multiplied by the utility GHG emissions intensity factors for the GHGs and are classified as indirect emissions. The default electricity intensity is from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. The location will automatically select the appropriate values if using these defaults. Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic or lagoons) used and therefore the wastewater treatment type percentages are variables.

Solid Waste

GHG emissions are associated with the disposal of solid waste generated by the proposed project into landfills.

5.0 AIR QUALITY IMPACT ANALYSIS

This section calculates the expected emissions from construction and operation of the proposed project as a necessary requisite for assessing the regulatory significance of proposed project emissions on a regional and localized level.

5.1 CEQA GUIDELINES

According to the CEQA Guidelines' Appendix G Environmental Checklist, the following questions are analyzed and evaluated to determine whether impacts to air quality are significant environmental effects.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c) 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)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

5.1.1 Thresholds of Significance

In determining whether a project has significant air quality impacts on the environment, planners typically apply their local air district's thresholds of significance to projects in the review process. However, the NCUAQMD has not formally adopted significance thresholds, but rather utilizes the BACT emission rates for stationary sources as defined and listed in the NCUAQMD Rule and Regulations, Rule 110, New Source Review and Prevention of Significant Deterioration. Accordingly, the proposed project would be considered to have a potentially significant impact if project-generated construction or operational emissions would exceed the BACT thresholds for the criteria pollutants of primary concern, as identified in Table 7.

The NCUAQMD does not have recommended significance thresholds for TACs but recommends the use of the California Air Pollution Control Officers Association's guidance document: Health Risk Assessment for Proposed Land Use Projects (2009) for the evaluation of health risks

associated with exposure to TACs. Accordingly, incremental increases in cancer risk that exceed 10 in one million or acute and chronic non-carcinogenic health impacts that exceed a hazard index threshold of one would be considered to have a potentially significant impact.

Table 7 NCUAQMD Significance Thresholds

Pollutant	Significance Thresholds	
	Daily (lbs/day)	Annual (tons/year)
CO	500	100
NO_X	50	40
ROGs	50	40
PM_{10}	80	15
$PM_{2.5}$	50	10
SO_X	80	40

Source: NCUAQMD 2015

5.2 AIR IMPACT ANALYSIS

Impact AIR-1 Conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis

The NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards with the exception of the state 24-hour PM_{10} standard in Humboldt County only. As such, the NCUAQMD adopted the Particulate Matter (PM_{10}) Attainment Plan, which includes control strategies to reduce PM_{10} emissions from various sources. Control strategies include transportation control measures such as encouraging the use of public transit and promotion of alternatively powered fleets and vehicles. Land use control measures encourage mixed use or more dense development. The PM_{10} Attainment Plan also includes measures that limit residential burning as well as various measures to encourage the installation of U.S. EPA certified woodstoves (NCUAQMD 1995 and 2018b).

To assess the proposed project's potential to obstruct implementation of an air quality plan, regional criteria pollutant emissions were analyzed. The primary pollutants of concern are particulate matter (PM_{10} and $PM_{2.5}$). Although the NCUAQMD is unclassified/attainment for ozone, maintenance of federal and state ambient air quality standards for ozone is imperative, thus ozone precursors (ROG and NO_X) are also a concern.

AIR QUALITY/GREENHOUSE GAS IMPACT ANALYSIS REPORT

Air Quality Impact Analysis
April 13, 2018

Air quality modeling was performed using project-specific details in order to determine whether the proposed project would result in criteria air pollutant emissions in excess of the applicable thresholds of significance.

Construction

The proposed project's unmitigated construction emissions are shown in Table 8. The ROG emissions primarily from architectural coatings exceed the thresholds of significance. To reduce the ROG emissions, mitigation requiring the use of low VOC paint (50 grams/liter) was incorporated into the proposed project.

The mitigated emissions are shown in Table 9. With the incorporation of mitigation, the ROG emissions are reduced to 45.03 pounds per day, which is below the threshold of significance to 50 pounds per day. The impact is less than significant.

Particulate matter emissions, primarily PM_{10}, are of concern during construction because of potential fugitive dust emissions during earth-disturbing activities and result in localized pollutant concentrations. The NCUAQMD has not established significance thresholds specifically for fugitive dust emissions, but has adopted a threshold for total PM_{10} of 80 lbs/day (Table 7). This threshold includes emissions from both fugitive dust and PM emissions from vehicles. All PM_{10} emission estimates for the proposed project were below the NCUAMQD significance thresholds, as shown in Table 8. In addition, Mitigation Measure AIR-3 and AIR-4 would include the implementation of dust control measures and the reduction of vehicle idling times, respectively. Therefore, the proposed project's potential to conflict with the NCUAQMD Particulate Matter (PM_{10}) Attainment Plan would be considered less than significant.

Table 8 Summary of Construction-Generated Emissions of Criteria Air Pollutants - Unmitigated

Year	Emissions					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Daily Emissions (lbs/day)						
2019	3.32	23.69	20.66	0.03	7.71	4.37
2020	210.21	11.71	12.74	0.02	0.78	0.64
Maximum Daily Emissions	210.21	23.69	20.66	0.03	7.71	4.37
Daily Significance Thresholds	50	50	500	80	80	50
Exceed Daily Significance Thresholds?	Yes	No	No	No	No	No
Annual Emissions (tons/year)						
2019	0.39	2.77	2.51	0.004	0.24	0.17
2020	1.05	0.02	0.02	0.006	0.001	0.001
Annual Significance Thresholds	40	40	100	40	15	10
Exceed Annual Significance Thresholds?	No	No	No	No	No	No

Notes:
1. Daily Emissions from Winter Results
2. Emissions were quantified using CalEEMod, version 2016.3.2 based on estimated construction requirements for the proposed project. Totals may not sum due to rounding.

Source: Stantec Consulting Services, Inc., CalEEMod 2016.3.2

Table 9 Summary of Construction-Generated Emissions of Criteria Air Pollutants - Mitigated

Year	Emissions					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Daily Emissions (lbs/day)						
2019	3.32	23.69	20.66	0.03	7.71	4.37
2020	45.03	11.71	12.74	0.02	0.78	0.64
Maximum Daily Emissions	45.03	23.69	20.66	0.03	7.71	4.37
Daily Signficance Thresholds	50	50	500	80	80	50
Exceed Daily Significance Thresholds?	No	No	No	No	No	No
Annual Emissions (tons/year)						
2019	0.39	2.77	2.51	0.004	0.24	0.17
2020	0.23	0.02	0.02	0.006	0.001	0.001
Annual Significance Thresholds	40	40	100	40	15	10
Exceed Annual Significance Thresholds?	No	No	No	No	No	No

Notes:
1. Daily Emissions from Winter Results
2. Emissions were quantified using CalEEMod, version 2016.3.2 based on estimated construction requirements for the proposed project. Totals may not sum due to rounding.

Source: Stantec Consulting Services, Inc., CalEEMod 2016.3.2

Operations

Long-term operation of the proposed project would generate an increase in traffic volumes on the local roadways within the proposed project vicinity and would increase localized emissions. The annual operational emissions for the proposed project are shown in Table 10. These results include the benefits from project design and location using the CalEEMod mitigation component (increased density, diversity of uses, and pedestrian infrastructure). These features and regulations are considered part of the project baseline; however, the results are presented in the CalEEMod model output as mitigation but they are not considered mitigation as required for CEQA compliance. As shown in the table, the proposed project would exceed the daily ROG emissions due to area sources, primarily due to wood burning fireplaces. The PM_{10} Plan included

residential wood burning control measures to replace conventional woodstoves with cleaner-burning devices and encourage the reduction of woodstoves in new residential developments. The PM_{10} plan also encouraged communities to add provisions to its General Plans to limit the installation of wood burning fireplaces. Humboldt County's General Plan does not include such provisions. The proposed project has committed to not including woodstoves, but wood burning fireplaces are not specifically prohibited. Thus, mitigation requiring the use of only natural-gas burning fireplaces has been incorporated into the project to reduce the impact. As shown in Table 11, the mitigated operational emissions would be less than the thresholds of significance for all criteria air pollutants. The impact is less than significant.

Air Quality Impact Analysis
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Table 10 Summary of Operational Emissions of Criteria Air Pollutants - Unmitigated

Source	Emissions					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Daily Emissions (lbs/day)						
Area	102.71	2.04	130.15	0.23	17.51	17.51
Energy	0.02	0.18	0.08	0.001	0.01	0.01
Mobile	1.85	10.55	22.92	0.04	3.36	0.95
2020 Total	104.57	12.76	153.15	0.27	20.89	18.48
Daily Significance Thresholds	50	50	500	80	80	50
Exceed Daily Significance Thresholds?	Yes	No	No	No	No	No
Annual Emissions (tons/year)						
Area	4.52	0.09	5.60	0.009	0.72	0.72
Energy	0.003	0.03	0.01	0.000	0.003	0.003
Mobile	0.29	1.58	3.37	0.006	0.48	0.14
2020 Total	4.81	1.70	8.99	0.016	1.20	0.86
Annual Significance Thresholds	40	40	100	40	15	10
Exceed Annual Significance Thresholds?	No	No	No	No	No	No

Notes:
1. Daily Emissions from Winter Results
2. Emissions were quantified using CalEEMod, version 2016.3.2 based on project details and estimated operating year for the proposed project. Totals may not sum due to rounding.

Source: Stantec Consulting Services, Inc., CalEEMod 2016.3.2

Table 11 Summary of Operational Emissions of Criteria Air Pollutants - Mitigated

Source	Emissions					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Daily Emissions (lbs/day)						
Area	1.47	1.05	5.85	0.006	0.11	0.11
Energy	0.02	0.18	0.08	0.001	0.01	0.01
Mobile	1.79	10.04	21.81	0.041	0.06	0.88
2020 Total	3.29	11.27	27.74	0.049	0.18	1.00
Daily Significance Thresholds	50	50	500	80	80	50
Exceed Daily Significance Thresholds?	No	No	No	No	No	No
Annual Emissions (tons/year)						
Area	0.24	0.05	0.51	0.000	0.006	0.006
Energy	0.003	0.03	0.01	0.000	0.003	0.003
Mobile	0.29	1.58	3.37	0.006	0.48	0.14
2020 Total	0.53	1.66	3.89	0.007	0.49	0.15
Annual Significance Thresholds	40	40	100	40	15	10
Exceed Annual Significance Thresholds?	No	No	No	No	No	No

Notes:
1. Daily Emissions from Winter Results
2. Emissions were quantified using CalEEMod, version 2016.3.2 based on project details and estimated operating year for the proposed project. Totals may not sum due to rounding.

Source: Stantec Consulting Services, Inc., CalEEMod 2016.3.2

Conclusion

With the incorporation of mitigation measures to reduce ROG emissions from architectural coatings (paint) and limit fireplaces to natural gas only, the construction and operational emissions will not exceed the thresholds of significance. The impact is less than significant.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM AIR-1 During construction, the proposed project shall use low-VOC paint defined as less than 50 grams per liter for all architectural coatings (painting) of buildings.

MM AIR-2 To reduce ROG emissions during operations, if fireplaces are included in the residences, they shall be equipped with only natural gas fireplaces.

MM AIR-3 The following dust control measures shall be implemented during construction:

1. All material excavated, stockpiled, or graded would be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.

2. All areas with vehicle traffic would be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.

3. All on-site vehicle traffic would be limited to a speed of 15 miles per hour within the proposed project site.

4. All land clearing, grading, earth moving, or excavation activities on a proposed project would be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour.

5. All inactive portions of the development site would be covered, revegetated, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved non-toxic soil stabilizers (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.

6. All material transported off-site would be securely covered to prevent public nuisance, and there must be a minimum of two feet of freeboard in the bed of the transport vehicle.

7. Paved roads adjacent to the proposed project would be swept at the end of each day or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud that may have resulted from activities at the proposed project site.

8. Ground cover on the site would be re-established through revegetation and watering in accordance with the local grading ordinance.

MM AIR-4 The following actions will be implemented to minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend

on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The proposed project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. Clear signage shall be provided for construction workers at all access points indicating idling restrictions.

MM AIR-5 During construction of the proposed project, the construction contractor shall encourage its work force to carpool or use alternative transportation methods to arrive at the worksite.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact AIR-2 Violate any air quality standard or contribute to an existing or projected air quality violation?

Impact Analysis

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the proposed project's criteria pollutant emissions in comparison to the project-specific thresholds of significance for short-term construction activities and long-term operational activities. Localized emissions from project construction are also assessed.

Because Humboldt County is designated nonattainment for state PM_{10} standards and unclassified or attainment for all other federal and State standards, the primary pollutants of concern during proposed project construction and operations are ROG, NO_x, and PM_{10}.

Regional Impacts

Regional impacts include those from ozone emissions. Because ozone is not directly emitted and generated through a chemical reaction between NO_x and ROG, it is considered a regional pollutant.

Construction

As shown in Table 8, construction emissions will exceed ROG thresholds of significance during construction-related activities. MM AIR-1 requires the use of low-VOC paints during construction. As shown in Table 9, the incorporation of MM AIR-1 into the proposed project reduces the impact to a less than significant level.

Operations

Table 10 provides a summary of the unmitigated operational or long-term emissions. ROG emissions are above the thresholds of significance and could result in a violation of an air quality standards. MM AIR-2 requires that any proposed fireplaces for the residences be natural gas burning. As shown in Table 11, the incorporation of MM AIR-2 into the proposed project reduces this impact to a less than significant level.

Localized Impacts

Construction Fugitive Dust

During construction, fugitive dust (PM_{10}) would be generated from site grading and other earth-moving activities. The majority of this fugitive dust will remain localized and will be deposited near the project site. As shown in Table 8 and Table 9, PM_{10} emissions would not exceed the project-specific threshold of significance; however, even projects not exceeding the thresholds, Best Management Practices (BMPs) would be implemented to avoid potential localized health impacts. The proposed project has incorporated BMPs through implementation of MM AIR-3.

Therefore, the proposed project's potential to violate or contribute to an existing air quality standard would be considered less than significant with mitigation incorporated.

Operational CO Hotspot

Localized high levels of CO (CO hotspot) are associated with traffic congestion and idling or slow-moving vehicles, particularly in highly congested areas. For this reason, the areas of primary concern are congested roadway intersections that experience high levels of vehicle traffic with degraded levels of service (LOS). Regarding potential increases in CO concentrations that could potentially exceed applicable ambient air quality standards, signalized intersections that are projected to operate at an unacceptable LOS E or F are of particular concern. The proposed project is estimated to generate 483 total trips on a weekday, 537 trips on a Saturday, and 414 trips on a Sunday. A conservative assumption would estimate peak hour trips at 10% of the average daily trips, therefore, the proposed project may generate an additional 48 peak hour trips on a weekday, 53 on a Saturday, and 41 on a Sunday. As such, the proposed project is not anticipated to contribute a substantial amount of traffic such that the LOS of nearby roadways would be substantially degraded. Localized concentrations of CO are, therefore, considered to be less than significant.

Air Quality Impact Analysis
April 13, 2018

Conclusion

Construction and operational emissions are below the project-specific thresholds of significance with the incorporation of mitigation measures; therefore, the regional impact is less than significant.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

Implement MM AIR-1, MM AIR-2 and MM AIR-3.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact AIR-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)?**

Impact Analysis

A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Air pollution is largely a cumulative impact. Humboldt County is in nonattainment for the state PM_{10} standard. The nonattainment status is a result of past and present development, and, thus, cumulative impacts related to PM_{10} could be considered cumulatively significant.

As shown in Table 9 and Table 11, the proposed project's PM_{10} emissions would not exceed the thresholds of significance established for this project. In addition, the proposed project would be required to comply with all applicable NCUAQMD rules and regulations. Therefore, the proposed project's individual emissions would not be expected to result in a cumulatively considerable contribution to a significant cumulative impact, and impacts would be considered less than significant. In addition, MM AIR-3 would be implemented.

Although the region is in attainment for federal and state ozone standards, the proposed project would exceed ROG (ozone precursor) thresholds of significance and could contribute to a potential violation. With the incorporation of MM AIR-1 and MM AIR-2 the ROG emissions during construction and operation would be less than significant.

Air Quality Impact Analysis
April 13, 2018

Conclusion

The proposed project would not 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. The proposed project incorporates MM AIR-1 and MM AIR-2 to reduce ozone precursor emissions of ROG to a less than significant level.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

Implement MM AIR-1, MM AIR-2, MM AIR-3.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact AIR-4 Expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis

This discussion addresses whether the proposed project would expose sensitive receptors to NOA, construction-generated fugitive dust (PM_{10}), and construction generated DPM. A sensitive receptor is a person in a population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are typically located:

- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences
- Schools, playgrounds and childcare centers

The proposed project is considered a sensitive receptor. The adjacent single-family residences would also be considered sensitive receptors.

Naturally-Occurring Asbestos

The California Department of Conservation maps NOA areas throughout the State of California. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The risk of disease is dependent upon the intensity and duration of exposure. In California, NOA is most likely to occur in areas of serpentinite, ultramafic rock (igneous rock composed of greater than 90% iron-magnesium minerals), and fault/shear zones. Rock units considered to have a moderate likelihood of containing NOA include mafic rock (igneous rock rich in iron-magnesium minerals). Serpentinite, ultramafic, and mafic rock is not mapped within the project area. The closest known occurrence of ultramafic rock outcroppings in Humboldt County are approximately 20 miles east of the proposed project (USGS, 2011). Therefore, there is no potential health hazards resulting from NOA dust. There would be no impact.

Fugitive Dust (PM_{10})

As previously discussed, PM_{10} emissions would not exceed the thresholds of significance, nevertheless, the potential for localized PM_{10} health impacts are a concern, therefore, the proposed project has incorporated MM AIR-3 requiring the implementation of BMPs to reduce potential impacts to a less than significant level.

Diesel Particulate Matter

Construction activities have the potential to generate DPM emissions related to the number and types of equipment typically associated with construction. Off-road, heavy-duty diesel equipment used for site grading, paving, and other construction activities result in the generation of DPM. However, construction is temporary and occurs over a relatively short duration. Operation of construction equipment is regulated by federal, state, and local regulations, including CARB and NCUAQMD rules and regulations, and occurring intermittently throughout the course of a day, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low. In addition, MM AIR-4 would be implemented to reduce emissions generated from construction equipment. Therefore, it is not anticipated the proposed project would expose sensitive receptors to substantial pollutant concentrations and impacts would be considered less than significant with mitigation incorporated.

Conclusion

Sensitive receptors would not be exposed to substantial pollutant concentrations with the implementation of mitigation measures.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

Implement MM AIR-3, MM AIR-4 and MM AIR-5.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact AIR-5 Create objectionable odors affecting a substantial number of people?

Impact Analysis

While offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the NCUAQMD. The occurrence and severity of odor impacts depends on numerous factors, including nature, frequency, and intensity of the source, the wind speed and direction, and the sensitivity of the receptor. The nearest sensitive receptor in the vicinity of the proposed project site would be the residences adjacent to the proposed project. Construction activities associated with the proposed project could result in short-term odorous emissions from diesel exhaust associated with construction equipment. However, these emissions would be intermittent and would dissipate rapidly from the source. In addition, this diesel-powered equipment would only be present on site temporarily during construction activities. Therefore, construction would not create objectionable odors affecting a substantial number of people, and the impact would be less than significant.

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The proposed project does not contain land uses typically associated with emitting objectionable odors. Therefore, it would not be considered to have the potential to expose persons to substantial sources of objectionable odors. Odors would primarily consist of the sporadic traveling of vehicles to the apartments and additionally from the use of equipment during landscaping and facility maintenance. These occurrences would not produce a significant amount of odors; therefore, operational impacts are less than significant.

Conclusion

The proposed project would not create objectionable odors affecting a substantial number of people.

Level of Significance Before Mitigation

Less Than Significant Impact.

Air Quality Impact Analysis
April 13, 2018

Mitigation Measures

None.

Level of Significance After Mitigation

Less Than Significant Impact.

6.0 GREENHOUSE GAS IMPACT ANALYSIS

6.1 CEQA GUIDELINES

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

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

6.1.1 Thresholds of Significance

The NCUAQMD has not yet identified recommended GHG significance thresholds for the evaluation of development projects subject to CEQA review. However, on July 9, 2015, the NCUAQMD adopted Rule 111 for the evaluation of GHG emissions for stationary sources subject to New Source Review and federal Title V permitting requirements. In accordance with this rule, stationary sources that emit less than 25,000 tons per year of CO_2e are exempt from determining compliance. This threshold is intended for purposes of determining compliance with federal Title V stationary source permitting requirements and is typically not recommended for the evaluation of GHG emissions for stationary source projects subject to CEQA review. However, various other air districts in the state have identified recommended GHG significance thresholds for stationary sources, including the Sacramento Metropolitan Air Quality Management District (SMAQMD), the Bay Area Air Quality Management District (BAAQMD), and the South Coast Air Quality Management District (SCAQMD). For stationary sources, these air districts have identified a GHG threshold of 10,000 $MTCO_2e$/year.

The SCAQMD has a draft threshold of 3,500 $MTCO_2e$ for residential projects, but it has not yet adopted this threshold. BAAQMD and SMAQMD have developed a bright-line threshold for determining when a development project has the potential to generate a GHG impact. Both BAAQMD and SMAQMD have established 1,100 $MTCO_2e$ as a bright line threshold to screen out land use projects that are not likely to cause a considerable contribution to the impact of climate change. Although the County is not beholden to the BAAQMD and SMAQMD thresholds, the thresholds provide a useful comparison for determining significance.

In the absence of a NCUAQMD-recommended GHG significance threshold, a GHG significance threshold of 1,100 $MTCO_2e$/year has been used for evaluation of project-generated GHG emissions. This is significantly less than the 10,000 $MTCO_2e$ for stationary sources. GHG emissions

exceeding 1,100 $MTCO_2e$/year would be considered to have a potentially significant impact on the environment that could interfere with AB-32 GHG-reduction goals.

6.2 GREENHOUSE GAS IMPACT ANALYSIS

Impact GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact Analysis

The proposed project may contribute to climate change impacts through its contribution of GHGs. The proposed project would generate a variety of GHGs during construction, including several defined by AB 32, such as CO_2, CH_4, and N_2O from the exhaust of equipment, construction hauling trips, and worker commuter trips. The proposed project may also emit GHGs that are not defined by AB 32. For example, the proposed project may generate aerosols from DPM exhaust. Aerosols are short-lived GHGs, as they remain in the atmosphere for approximately one week.

CalEEMod was used to estimate emissions from construction and operation of the proposed project. Detailed information on the assumptions is included in Section 2.0 Air Quality. Modeling results are provided in Appendix A.

Constructions Emission Inventory

Construction emissions would be generated from the exhaust of equipment and the exhaust of construction hauling trips and worker commuter trips. The construction phases included demolition, site preparation, site grading, building construction, paving and architectural coating. $MTCO_2e$ emissions during construction of the proposed project are presented in Table 12.

As shown in Table 12, the construction-generated GHG emissions are considerably less than the 1,100 $MTCO_2e$ threshold. However, in accordance with recommendations by various air districts including the SCAQMD, the construction emissions are amortized over the life of the project and added to the operational emissions to determine significance, as presented in

Table 13.

Operational Emissions Inventory

Operational or long-term emissions occur over the life of the proposed project. As shown in

Table 13, the operational emissions are less than the 1,100 $MTCO_2e$ screening threshold. As such, the proposed project would have a less than significant impact on GHGs.

Table 12 Summary of Construction-Generated Greenhouse Gas Emissions

Construction Activity	$MTCO_2e$
2019	371.13
2020	3.45
Total	**374.58**
Amortized over 30 years[1]	12.49
Note: 1. GHG emissions are amortized over the 30-year life of the proposed project Source: Stantec Consulting Services Inc., CalEEMod 2016.3.2	

Table 13 Summary of Operational Plus Construction Greenhouse Gas Emissions

Source	Annual $MTCO_2e$
Area	47.88
Energy	133.55
Mobile	618.63
Waste	15.27
Water	15.42
Construction (amortized over 30 years)	12.49
Total	**843.24**
Threshold	1,100
Exceed Threshold?	No
Notes: Includes credit for locating near mix of uses, increased density, and connections to pedestrian infrastructure $MTCO_2e$ = metric tons of carbon dioxide equivalents. Emissions were quantified using CalEEMod, version 2016.3.2 based on project details and estimated operating year for the proposed project. Totals may not sum due to rounding. Source of emissions: Stantec Consulting Services Inc., CalEEMod 2016.3.2	

Conclusion

As shown in

Table 13, the proposed project would generate 843.24 $MTCO_2e$ of GHGs, which is less than the 1,100 $MTCO_2e$ threshold used for this project and well below the 10,000 $MTCO_2e$ established by various air districts for stationary sources projects. Therefore, the proposed project would result in a less than significant impact.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Analysis

As previously noted, GHG emissions within California totaled 440.4 $MMTCO_2e$ in 2015, which is the most recent year for which state-wide emissions inventories are available. By comparison, county-wide emissions in Humboldt County totaled approximately 1.3 $MMTCO_2e$ in 2006. In comparison to the state-wide and county-wide emission data available, project-generated GHG emissions would be considered minor and would not be anticipated to result in a significant contribution to GHG emissions inventories that would interfere with GHG-reduction planning efforts. Additionally, as discussed in Impact GHG-1, the proposed project's GHG emissions will be below the significance thresholds recommended by the SMAQMD, BAAQMD and the SCAQMD. The proposed project will comply with the requirements implemented by the CARB to reduce GHG emissions and will be consistent with AB 32 GHG-reduction goals.

The proposed project would help to reduce overall net increases in GHG emissions through the provision of higher density residential uses near existing development that would serve to reduce VMT and through the building of newer, more energy-efficient buildings through compliance with more stringent Title 24 standards.

Greenhouse Gas Impact Analysis
April 13, 2018

Conclusion

Although the proposed project would generate temporary GHG emissions during construction and minimal GHG emissions during operation, as discussed in Impact GHG-1, emissions from the proposed project would not exceed the 1,100 $MTCO_2e$ threshold of significance. As such, the proposed project would not conflict with an applicable plan; therefore, impacts would be considered less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None.

Level of Significance After Mitigation

Less Than Significant Impact.

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AIR QUALITY/GREENHOUSE GAS IMPACT ANALYSIS REPORT

CalEEMod Results
April 13, 2018

APPENDIX A: CALEEMOD RESULTS

CalEEMod Results

Table of Contents

Garden Apartments - Humboldt County, Annual

Garden Apartments

Humboldt County, Annual - MITIGATED

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0
Parking Lot	87.00	Space	0.78	34,800.00	0
Apartments Low Rise	66.00	Dwelling Unit	1.11	44,060.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - low VOC paint

Architectural Coating - low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	66,000.00	44,060.00
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

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					
2019	0.3982	2.7739	2.5080	4.2700e-003	0.0979	0.1432	0.2412	0.0302	0.1367	0.1669	0.0000	369.5029	369.5029	0.0651	0.0000	371.1313

2020	0.2266	0.0206	0.0261	4.0000e-005	6.6000e-004	1.2200e-003	1.8700e-003	1.7000e-004	1.1700e-003	1.3400e-003	0.0000	3.4337	3.4337	6.3000e-004	0.0000	3.4495
Maximum	**0.3982**	**2.7739**	**2.5080**	**4.2700e-003**	**0.0979**	**0.1432**	**0.2412**	**0.0302**	**0.1367**	**0.1669**	**0.0000**	**369.5029**	**369.5029**	**0.0651**	**0.0000**	**371.1313**

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					
2019	0.3982	2.7739	2.5080	4.2700e-003	0.0828	0.1432	0.2261	0.0241	0.1367	0.1607	0.0000	369.5025	369.5025	0.0651	0.0000	371.1310
2020	0.2266	0.0206	0.0261	4.0000e-005	6.6000e-004	1.2200e-003	1.8700e-003	1.7000e-004	1.1700e-003	1.3400e-003	0.0000	3.4337	3.4337	6.3000e-004	0.0000	3.4495
Maximum	**0.3982**	**2.7739**	**2.5080**	**4.2700e-003**	**0.0828**	**0.1432**	**0.2261**	**0.0241**	**0.1367**	**0.1607**	**0.0000**	**369.5025**	**369.5025**	**0.0651**	**0.0000**	**371.1310**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**15.33**	**0.00**	**6.21**	**20.24**	**0.00**	**3.66**	**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	1-7-2019	4-6-2019	0.8125	0.8125
2	4-7-2019	7-6-2019	0.8076	0.8076
3	7-7-2019	10-6-2019	0.8170	0.8170
4	10-7-2019	1-6-2020	0.8012	0.8012
5	1-7-2020	4-6-2020	0.1672	0.1672
		Highest	0.8170	0.8170

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	4.4364	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3938	97.5690	0.0637	5.3600e-003	100.7595
Energy	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	132.9541	132.9541	5.0200e-003	1.5900e-003	133.5520
Mobile	0.2961	1.6568	3.5456	7.2100e-003	0.5035	0.0116	0.5151	0.1358	0.0110	0.1468	0.0000	659.5426	659.5426	0.0402	0.0000	660.5470
Waste						0.0000	0.0000		0.0000	0.0000	6.1628	0.0000	6.1628	0.3642	0.0000	15.2681
Water						0.0000	0.0000		0.0000	0.0000	1.3642	9.5293	10.8935	0.1406	3.4000e-003	15.4198
Total	**4.7364**	**1.7762**	**9.1640**	**0.0167**	**0.5036**	**0.7337**	**1.2372**	**0.1358**	**0.7331**	**0.8689**	**76.7023**	**831.4197**	**907.1219**	**0.6137**	**0.0104**	**925.5464**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2367	0.0461	0.5061	2.8000e-004		5.9500e-003	5.9500e-003		5.9500e-003	5.9500e-003	0.0000	47.5812	47.5812	1.6700e-003	8.6000e-004	47.8786
Energy	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	132.9541	132.9541	5.0200e-003	1.5900e-003	133.5520
Mobile	0.2879	1.5782	3.3677	6.7500e-003	0.4687	0.0109	0.4796	0.1264	0.0103	0.1367	0.0000	617.6699	617.6699	0.0383	0.0000	618.6268
Waste						0.0000	0.0000		0.0000	0.0000	6.1628	0.0000	6.1628	0.3642	0.0000	15.2681
Water						0.0000	0.0000		0.0000	0.0000	1.3642	9.5293	10.8935	0.1406	3.4000e-003	15.4198
Total	**0.5285**	**1.6571**	**3.8878**	**7.2400e-003**	**0.4687**	**0.0195**	**0.4882**	**0.1264**	**0.0189**	**0.1453**	**7.5271**	**807.7344**	**815.2615**	**0.5497**	**5.8500e-003**	**830.7453**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**88.84**	**6.70**	**57.58**	**56.67**	**6.90**	**97.34**	**60.54**	**6.90**	**97.42**	**83.27**	**90.06**	**2.85**	**10.13**	**10.42**	**43.46**	**10.24**

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					5.4100e-003	0.0000	5.4100e-003	8.2000e-004	0.0000	8.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**5.4100e-003**	**0.0129**	**0.0183**	**8.2000e-004**	**0.0120**	**0.0128**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

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	2.9000e-004	8.9300e-003	1.5700e-003	2.0000e-005	4.1000e-004	6.0000e-005	4.7000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.9162	1.9162	6.0000e-005	0.0000	1.9178
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	1.1200e-003	1.0500e-003	8.5900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9514	0.9514	7.0000e-005	0.0000	0.9533
Total	**1.4100e-003**	**9.9800e-003**	**0.0102**	**3.0000e-005**	**1.4100e-003**	**7.0000e-005**	**1.4800e-003**	**3.8000e-004**	**7.0000e-005**	**4.5000e-004**	**0.0000**	**2.8676**	**2.8676**	**1.3000e-004**	**0.0000**	**2.8711**

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					2.4400e-003	0.0000	2.4400e-003	3.7000e-004	0.0000	3.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.4400e-003**	**0.0129**	**0.0153**	**3.7000e-004**	**0.0120**	**0.0124**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

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	2.9000e-004	8.9300e-003	1.5700e-003	2.0000e-005	4.1000e-004	6.0000e-005	4.7000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.9162	1.9162	6.0000e-005	0.0000	1.9178
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	1.1200e-003	1.0500e-003	8.5900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9514	0.9514	7.0000e-005	0.0000	0.9533
Total	**1.4100e-003**	**9.9800e-003**	**0.0102**	**3.0000e-005**	**1.4100e-003**	**7.0000e-005**	**1.4800e-003**	**3.8000e-004**	**7.0000e-005**	**4.5000e-004**	**0.0000**	**2.8676**	**2.8676**	**1.3000e-004**	**0.0000**	**2.8711**

3.3 Site Preparation - 2019

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

Unmitigated 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	1.0000e-004	1.0000e-004	7.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0878	0.0878	1.0000e-005	0.0000	0.0880
Total	**1.0000e-004**	**1.0000e-004**	**7.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0878**	**0.0878**	**1.0000e-005**	**0.0000**	**0.0880**

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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**1.0700e-003**	**1.2800e-003**	**2.3500e-003**	**1.2000e-004**	**1.1800e-003**	**1.3000e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	1.0000e-004	1.0000e-004	7.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0878	0.0878	1.0000e-005	0.0000	0.0880
Total	**1.0000e-004**	**1.0000e-004**	**7.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0878**	**0.0878**	**1.0000e-005**	**0.0000**	**0.0880**

3.4 Grading - 2019

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	2.6000e-004	2.4000e-004	1.9800e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2196	0.2196	2.0000e-005	0.0000	0.2200
Total	**2.6000e-004**	**2.4000e-004**	**1.9800e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**2.0000e-005**	**0.0000**	**0.2200**

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					8.8500e-003	0.0000	8.8500e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**8.8500e-003**	**3.2200e-003**	**0.0121**	**4.5500e-003**	**2.9600e-003**	**7.5100e-003**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	2.6000e-004	2.4000e-004	1.9800e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2196	0.2196	2.0000e-005	0.0000	0.2200
Total	**2.6000e-004**	**2.4000e-004**	**1.9800e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**2.0000e-005**	**0.0000**	**0.2200**

3.5 Building Construction - 2019

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	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7297	230.7297	0.0480	0.0000	231.9297

Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7297**	**230.7297**	**0.0480**	**0.0000**	**231.9297**

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	0.0120	0.2447	0.0743	4.6000e-004	0.0106	2.3400e-003	0.0129	3.0700e-003	2.2400e-003	5.3000e-003	0.0000	43.8070	43.8070	2.4200e-003	0.0000	43.8676
Worker	0.0647	0.0607	0.4941	6.1000e-004	0.0577	6.2000e-004	0.0583	0.0154	5.8000e-004	0.0160	0.0000	54.7419	54.7419	4.3000e-003	0.0000	54.8493
Total	**0.0767**	**0.3054**	**0.5684**	**1.0700e-003**	**0.0683**	**2.9600e-003**	**0.0712**	**0.0184**	**2.8200e-003**	**0.0213**	**0.0000**	**98.5489**	**98.5489**	**6.7200e-003**	**0.0000**	**98.7169**

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	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7295	230.7295	0.0480	0.0000	231.9294
Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7295**	**230.7295**	**0.0480**	**0.0000**	**231.9294**

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	0.0120	0.2447	0.0743	4.6000e-004	0.0106	2.3400e-003	0.0129	3.0700e-003	2.2400e-003	5.3000e-003	0.0000	43.8070	43.8070	2.4200e-003	0.0000	43.8676
Worker	0.0647	0.0607	0.4941	6.1000e-004	0.0577	6.2000e-004	0.0583	0.0154	5.8000e-004	0.0160	0.0000	54.7419	54.7419	4.3000e-003	0.0000	54.8493
Total	**0.0767**	**0.3054**	**0.5684**	**1.0700e-003**	**0.0683**	**2.9600e-003**	**0.0712**	**0.0184**	**2.8200e-003**	**0.0213**	**0.0000**	**98.5489**	**98.5489**	**6.7200e-003**	**0.0000**	**98.7169**

3.6 Paving - 2019

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					
Off-Road	4.9800e-003	0.0503	0.0474	7.0000e-005		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	6.3367	6.3367	1.9700e-003	0.0000	6.3858
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1200e-003**	**0.0503**	**0.0474**	**7.0000e-005**		**2.9200e-003**	**2.9200e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**6.3367**	**6.3367**	**1.9700e-003**	**0.0000**	**6.3858**

Unmitigated 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	5.2000e-004	4.9000e-004	3.9600e-003	0.0000	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	3.0000e-005	0.0000	0.4400
Total	**5.2000e-004**	**4.9000e-004**	**3.9600e-003**	**0.0000**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4391**	**0.4391**	**3.0000e-005**	**0.0000**	**0.4400**

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	4.9800e-003	0.0503	0.0474	7.0000e-005		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	6.3367	6.3367	1.9700e-003	0.0000	6.3858
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1200e-003**	**0.0503**	**0.0474**	**7.0000e-005**		**2.9200e-003**	**2.9200e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**6.3367**	**6.3367**	**1.9700e-003**	**0.0000**	**6.3858**

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	5.2000e-004	4.9000e-004	3.9600e-003	0.0000	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	3.0000e-005	0.0000	0.4400
Total	**5.2000e-004**	**4.9000e-004**	**3.9600e-003**	**0.0000**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4391**	**0.4391**	**3.0000e-005**	**0.0000**	**0.4400**

3.6 Paving - 2020

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					
Off-Road	1.1500e-003	0.0116	0.0118	2.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.5506	1.5506	4.9000e-004	0.0000	1.5629
Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4400e-003**	**0.0116**	**0.0118**	**2.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.5506**	**1.5506**	**4.9000e-004**	**0.0000**	**1.5629**

Unmitigated 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	1.2000e-004	1.1000e-004	9.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	1.0000e-005	0.0000	0.1072
Total	**1.2000e-004**	**1.1000e-004**	**9.0000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1070**	**0.1070**	**1.0000e-005**	**0.0000**	**0.1072**

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	1.1500e-003	0.0116	0.0118	2.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.5506	1.5506	4.9000e-004	0.0000	1.5629
Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4400e-003**	**0.0116**	**0.0118**	**2.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.5506**	**1.5506**	**4.9000e-004**	**0.0000**	**1.5629**

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	1.1000e-004	9.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	1.0000e-005	0.0000	0.1072
Total	**1.2000e-004**	**1.1000e-004**	**9.0000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1070**	**0.1070**	**1.0000e-005**	**0.0000**	**0.1072**

3.7 Architectural Coating - 2020

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	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**0.2245**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	5.7000e-004	5.2000e-004	4.2100e-003	1.0000e-005	5.4000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.4994	0.4994	4.0000e-005	0.0000	0.5003
Total	**5.7000e-004**	**5.2000e-004**	**4.2100e-003**	**1.0000e-005**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.4994**	**0.4994**	**4.0000e-005**	**0.0000**	**0.5003**

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	0.2233					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**0.2245**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	5.7000e-004	5.2000e-004	4.2100e-003	1.0000e-005	5.4000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.4994	0.4994	4.0000e-005	0.0000	0.5003
Total	**5.7000e-004**	**5.2000e-004**	**4.2100e-003**	**1.0000e-005**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.4994**	**0.4994**	**4.0000e-005**	**0.0000**	**0.5003**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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					
Mitigated	0.2879	1.5782	3.3677	6.7500e-003	0.4687	0.0109	0.4796	0.1264	0.0103	0.1367	0.0000	617.6699	617.6699	0.0383	0.0000	618.6268
Unmitigated	0.2961	1.6568	3.5456	7.2100e-003	0.5035	0.0116	0.5151	0.1358	0.0110	0.1468	0.0000	659.5426	659.5426	0.0402	0.0000	660.5470

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	94.9178	94.9178	4.2900e-003	8.9000e-004	95.2897

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	94.9178	94.9178	4.2900e-003	8.9000e-004	95.2897
NaturalGas Mitigated	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
NaturalGas Unmitigated	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	712772	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8400e-003**	**0.0328**	**0.0140**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**38.0362**	**38.0362**	**7.3000e-004**	**7.0000e-004**	**38.2623**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	712772	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8400e-003**	**0.0328**	**0.0140**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**38.0362**	**38.0362**	**7.3000e-004**	**7.0000e-004**	**38.2623**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	314097	91.3745	4.1300e-003	8.5000e-004	91.7325
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12180	3.5433	1.6000e-004	3.0000e-005	3.5572
Total		**94.9178**	**4.2900e-003**	**8.8000e-004**	**95.2897**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	314097	91.3745	4.1300e-003	8.5000e-004	91.7325
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12180	3.5433	1.6000e-004	3.0000e-005	3.5572
Total		**94.9178**	**4.2900e-003**	**8.8000e-004**	**95.2897**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	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	0.2367	0.0461	0.5061	2.8000e-004		5.9500e-003	5.9500e-003		5.9500e-003	5.9500e-003	0.0000	47.5812	47.5812	1.6700e-003	8.6000e-004	47.8786
Unmitigated	4.4364	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3938	97.5690	0.0637	5.3600e-003	100.7595

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	0.1049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1752					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.1413	0.0809	5.1119	9.2600e-003		0.7167	0.7167		0.7167	0.7167	68.1752	28.5917	96.7669	0.0629	5.3600e-003	99.9378

Landscaping	0.0151	5.6900e-003	0.4925	3.0000e-005		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	0.8021	0.8021	7.8000e-004	0.0000	0.8217
Total	**4.4364**	**0.0866**	**5.6044**	**9.2900e-003**		**0.7195**	**0.7195**		**0.7195**	**0.7195**	**68.1752**	**29.3938**	**97.5690**	**0.0637**	**5.3600e-003**	**100.7595**

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	0.0420					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1752					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.7300e-003	0.0404	0.0172	2.6000e-004		3.2700e-003	3.2700e-003		3.2700e-003	3.2700e-003	0.0000	46.7864	46.7864	9.0000e-004	8.6000e-004	47.0644
Landscaping	0.0148	5.6600e-003	0.4889	3.0000e-005		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	0.7948	0.7948	7.7000e-004	0.0000	0.8142
Total	**0.2367**	**0.0461**	**0.5061**	**2.9000e-004**		**5.9600e-003**	**5.9600e-003**		**5.9600e-003**	**5.9600e-003**	**0.0000**	**47.5812**	**47.5812**	**1.6700e-003**	**8.6000e-004**	**47.8786**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.8935	0.1406	3.4000e-003	15.4198
Unmitigated	10.8935	0.1406	3.4000e-003	15.4198

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.30017 / 2.71097	10.8935	0.1406	3.4000e-003	15.4198
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.8935**	**0.1406**	**3.4000e-003**	**15.4198**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.30017 / 2.71097	10.8935	0.1406	3.4000e-003	15.4198
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.8935**	**0.1406**	**3.4000e-003**	**15.4198**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.1628	0.3642	0.0000	15.2681
Unmitigated	6.1628	0.3642	0.0000	15.2681

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	30.36	6.1628	0.3642	0.0000	15.2681
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.1628**	**0.3642**	**0.0000**	**15.2681**

Mitigated

Land Use	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
Apartments Low Rise	30.36	6.1628	0.3642	0.0000	15.2681
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.1628**	**0.3642**	**0.0000**	**15.2681**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Garden Apartments - Humboldt County, Summer

Garden Apartments

Humboldt County, Summer - MITIGATED

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0
Parking Lot	87.00	Space	0.78	34,800.00	0
Apartments Low Rise	66.00	Dwelling Unit	1.11	44,060.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - low VOC paint

Architectural Coating - low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	66,000.00	44,060.00
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.2073	23.6626	20.2159	0.0348	6.6345	1.2932	7.7083	3.3893	1.2083	4.3772	0.0000	3,304.2228	3,304.2228	0.7727	0.0000	3,317.8904

2020	45.0040	11.6897	12.6778	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,827.1245	1,827.1245	0.5501	0.0000	1,840.8777
Maximum	**45.0040**	**23.6626**	**20.2159**	**0.0348**	**6.6345**	**1.2932**	**7.7083**	**3.3893**	**1.2083**	**4.3772**	**0.0000**	**3,304.2228**	**3,304.2228**	**0.7727**	**0.0000**	**3,317.8904**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.2073	23.6626	20.2159	0.0348	3.0307	1.2932	4.1045	1.5372	1.2083	2.5251	0.0000	3,304.2228	3,304.2228	0.7727	0.0000	3,317.8904
2020	45.0040	11.6897	12.6778	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,827.1245	1,827.1245	0.5501	0.0000	1,840.8777
Maximum	**45.0040**	**23.6626**	**20.2159**	**0.0348**	**3.0307**	**1.2932**	**4.1045**	**1.5372**	**1.2083**	**2.5251**	**0.0000**	**3,304.2228**	**3,304.2228**	**0.7727**	**0.0000**	**3,317.8904**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.33	0.00	42.45	54.12	0.00	36.92	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.7082	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.8041	9.9752	20.8502	0.0444	3.2870	0.0711	3.3580	0.8817	0.0672	0.9489		4,481.6196	4,481.6196	0.2665		4,488.2825
Total	**104.5333**	**12.1909**	**151.0800**	**0.2718**	**3.2870**	**17.5971**	**20.8841**	**0.8817**	**17.5933**	**18.4750**	**1,832.9342**	**5,489.8903**	**7,322.8245**	**1.9720**	**0.1484**	**7,416.3442**

Mitigated Operational

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
	lb/day										lb/day					
Area	1.4701	1.0482	5.8519	6.5700e-003		0.1095	0.1095		0.1095	0.1095	0.0000	1,267.6173	1,267.6173	0.0336	0.0231	1,275.3291
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.7541	9.5069	19.7747	0.0416	3.0602	0.0666	3.1268	0.8209	0.0630	0.8838		4,198.1028	4,198.1028	0.2536		4,204.4437
Total	**3.2453**	**10.7351**	**25.7032**	**0.0494**	**3.0602**	**0.1906**	**3.2508**	**0.8209**	**0.1870**	**1.0079**	**0.0000**	**5,695.4614**	**5,695.4614**	**0.2916**	**0.0273**	**5,710.8794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**96.90**	**11.94**	**82.99**	**81.84**	**6.90**	**98.92**	**84.43**	**6.90**	**98.94**	**94.54**	**100.00**	**-3.74**	**22.22**	**85.21**	**81.62**	**23.00**

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5414	0.0000	0.5414	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017		2,360.7198	2,360.7198	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.5414**	**1.2863**	**1.8277**	**0.0820**	**1.2017**	**1.2837**		**2,360.7198**	**2,360.7198**	**0.6011**		**2,375.7475**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	0.8901	0.1503	2.0300e-003	0.0435	5.8200e-003	0.0493	0.0119	5.5700e-003	0.0175		212.7830	212.7830	6.7400e-003		212.9514
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1037	0.0975	0.8268	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.8151	104.8151	8.1100e-003		105.0178

Total	**0.1319**	**0.9876**	**0.9770**	**3.0900e-003**	**0.1502**	**6.9000e-003**	**0.1572**	**0.0402**	**6.5700e-003**	**0.0468**		**317.5981**	**317.5981**	**0.0149**		**317.9692**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2436	0.0000	0.2436	0.0369	0.0000	0.0369			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017	0.0000	2,360.7197	2,360.7197	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.2436**	**1.2863**	**1.5299**	**0.0369**	**1.2017**	**1.2386**	**0.0000**	**2,360.7197**	**2,360.7197**	**0.6011**		**2,375.7475**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	0.8901	0.1503	2.0300e-003	0.0435	5.8200e-003	0.0493	0.0119	5.5700e-003	0.0175		212.7830	212.7830	6.7400e-003		212.9514
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1037	0.0975	0.8268	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.8151	104.8151	8.1100e-003		105.0178
Total	**0.1319**	**0.9876**	**0.9770**	**3.0900e-003**	**0.1502**	**6.9000e-003**	**0.1572**	**0.0402**	**6.5700e-003**	**0.0468**		**317.5981**	**317.5981**	**0.0149**		**317.9692**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854		2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**1.5908**	**0.8537**	**2.4445**	**0.1718**	**0.7854**	**0.9572**		**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0600	0.5088	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.5016	64.5016	4.9900e-003		64.6264
Total	**0.0638**	**0.0600**	**0.5088**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.5016**	**64.5016**	**4.9900e-003**		**64.6264**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854	0.0000	2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**0.7158**	**0.8537**	**1.5695**	**0.0773**	**0.7854**	**0.8627**	**0.0000**	**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0600	0.5088	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.5016	64.5016	4.9900e-003		64.6264
Total	**0.0638**	**0.0600**	**0.5088**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.5016**	**64.5016**	**4.9900e-003**		**64.6264**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871		2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**6.5523**	**1.0730**	**7.6253**	**3.3675**	**0.9871**	**4.3546**		**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0750	0.6360	8.2000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.6270	80.6270	6.2400e-003		80.7830
Total	**0.0798**	**0.0750**	**0.6360**	**8.2000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.6270**	**80.6270**	**6.2400e-003**		**80.7830**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871	0.0000	2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**2.9486**	**1.0730**	**4.0215**	**1.5154**	**0.9871**	**2.5025**	**0.0000**	**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Mitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0750	0.6360	8.2000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.6270	80.6270	6.2400e-003		80.7830
Total	**0.0798**	**0.0750**	**0.6360**	**8.2000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.6270**	**80.6270**	**6.2400e-003**		**80.7830**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1066	2.2232	0.6368	4.2500e-003	0.1013	0.0211	0.1223	0.0291	0.0201	0.0493		443.8138	443.8138	0.0233		444.3958
Worker	0.5426	0.5098	4.3246	5.5400e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		548.2636	548.2636	0.0424		549.3241

Total	**0.6492**	**2.7329**	**4.9614**	**9.7900e-003**	**0.6599**	**0.0267**	**0.6866**	**0.1773**	**0.0254**	**0.2027**		**992.0773**	**992.0773**	**0.0657**		**993.7199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1066	2.2232	0.6368	4.2500e-003	0.1013	0.0211	0.1223	0.0291	0.0201	0.0493		443.8138	443.8138	0.0233		444.3958
Worker	0.5426	0.5098	4.3246	5.5400e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		548.2636	548.2636	0.0424		549.3241
Total	**0.6492**	**2.7329**	**4.9614**	**9.7900e-003**	**0.6599**	**0.0267**	**0.6866**	**0.1773**	**0.0254**	**0.2027**		**992.0773**	**992.0773**	**0.0657**		**993.7199**

3.6 Paving - 2019

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
	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated 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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.1125	0.9540	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.9405	120.9405	9.3600e-003		121.1744
Total	**0.1197**	**0.1125**	**0.9540**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.9405**	**120.9405**	**9.3600e-003**		**121.1744**

Mitigated 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
	lb/day										lb/day					

Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.1125	0.9540	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.9405	120.9405	9.3600e-003		121.1744
Total	**0.1197**	**0.1125**	**0.9540**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.9405**	**120.9405**	**9.3600e-003**		**121.1744**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051		1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**		**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Unmitigated 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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1135	0.1024	0.8702	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.9065	117.9065	8.4200e-003		118.1171
Total	**0.1135**	**0.1024**	**0.8702**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.9065**	**117.9065**	**8.4200e-003**		**118.1171**

Mitigated 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
	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051	0.0000	1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**	**0.0000**	**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Mitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1135	0.1024	0.8702	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.9065	117.9065	8.4200e-003		118.1171
Total	**0.1135**	**0.1024**	**0.8702**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.9065**	**117.9065**	**8.4200e-003**		**118.1171**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	44.6559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**44.8981**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1059	0.0956	0.8122	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		110.0461	110.0461	7.8600e-003		110.2427

Total	**0.1059**	**0.0956**	**0.8122**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**110.0461**	**110.0461**	**7.8600e-003**		**110.2427**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	44.6559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**44.8981**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1059	0.0956	0.8122	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		110.0461	110.0461	7.8600e-003		110.2427
Total	**0.1059**	**0.0956**	**0.8122**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**110.0461**	**110.0461**	**7.8600e-003**		**110.2427**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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
	lb/day										lb/day					
Mitigated	1.7541	9.5069	19.7747	0.0416	3.0602	0.0666	3.1268	0.8209	0.0630	0.8838		4,198.1028	4,198.1028	0.2536		4,204.4437
Unmitigated	1.8041	9.9752	20.8502	0.0444	3.2870	0.0711	3.3580	0.8817	0.0672	0.9489		4,481.6196	4,481.6196	0.2665		4,488.2825

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
NaturalGas Unmitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1952.8	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

Mitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.9528	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

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
	lb/day										lb/day					

Mitigated	1.4701	1.0482	5.8519	6.5700e-003		0.1095	0.1095		0.1095	0.1095	0.0000	1,287.6173	1,267.6173	0.0336	0.0231	1,275.3291
Unmitigated	102.7082	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**102.7082**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1153	0.9853	0.4193	6.2900e-003		0.0797	0.0797		0.0797	0.0797	0.0000	1,257.8824	1,257.8824	0.0241	0.0231	1,265.3573

Landscaping	0.1648	0.0629	5.4326	2.9000e-004		0.0298	0.0298		0.0298	0.0298		9.7350	9.7350	9.4700e-003		9.9718
Total	**1.4701**	**1.0482**	**5.8519**	**6.5800e-003**		**0.1095**	**0.1095**		**0.1095**	**0.1095**	**0.0000**	**1,267.6173**	**1,267.6173**	**0.0336**	**0.0231**	**1,275.3291**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Garden Apartments - Humboldt County, Winter

Garden Apartments

Humboldt County, Winter - MITIGATED

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0
Parking Lot	87.00	Space	0.78	34,800.00	0
Apartments Low Rise	66.00	Dwelling Unit	1.11	44,060.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - low VOC paint

Architectural Coating - low VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	66,000.00	44,060.00
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.3262	23.6978	20.6686	0.0347	6.6345	1.2933	7.7083	3.3893	1.2085	4.3772	0.0000	3,291.0609	3,291.0609	0.7729	0.0000	3,304.8210

2020	45.0262	11.7107	12.7491	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,826.7595	1,826.7595	0.5504	0.0000	1,840.5187
Maximum	**45.0262**	**23.6978**	**20.6686**	**0.0347**	**6.6345**	**1.2933**	**7.7083**	**3.3893**	**1.2085**	**4.3772**	**0.0000**	**3,291.0609**	**3,291.0609**	**0.7729**	**0.0000**	**3,304.8210**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.3262	23.6978	20.6686	0.0347	3.0307	1.2933	4.1045	1.5372	1.2085	2.5251	0.0000	3,291.0609	3,291.0609	0.7729	0.0000	3,304.8210
2020	45.0262	11.7107	12.7491	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,826.7595	1,826.7595	0.5504	0.0000	1,840.5187
Maximum	**45.0262**	**23.6978**	**20.6686**	**0.0347**	**3.0307**	**1.2933**	**4.1045**	**1.5372**	**1.2085**	**2.5251**	**0.0000**	**3,291.0609**	**3,291.0609**	**0.7729**	**0.0000**	**3,304.8210**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.33**	**0.00**	**42.45**	**54.12**	**0.00**	**36.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.7082	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.8456	10.5488	22.9201	0.0440	3.2870	0.0721	3.3591	0.8817	0.0682	0.9499		4,435.2190	4,435.2190	0.2794		4,442.2035

Total	104.5749	12.7645	153.1499	0.2714	3.2870	17.5982	20.8851	0.8817	17.5943	18.4759	1,832.9342	5,443.4898	7,276.4240	1.9849	0.1484	7,370.2652

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.4701	1.0482	5.8519	6.5700e-003		0.1095	0.1095		0.1095	0.1095	0.0000	1,267.6173	1,267.6173	0.0336	0.0231	1,275.3291
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.7948	10.0393	21.8089	0.0412	3.0602	0.0676	3.1278	0.8209	0.0639	0.8848		4,152.3145	4,152.3145	0.2665		4,158.9769
Total	**3.2860**	**11.2675**	**27.7374**	**0.0489**	**3.0602**	**0.1916**	**3.2518**	**0.8209**	**0.1880**	**1.0088**	**0.0000**	**5,649.6731**	**5,649.6731**	**0.3045**	**0.0273**	**5,665.4126**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**96.86**	**11.73**	**81.89**	**81.96**	**6.90**	**98.91**	**84.43**	**6.90**	**98.93**	**94.54**	**100.00**	**-3.79**	**22.36**	**84.66**	**81.62**	**23.13**

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5414	0.0000	0.5414	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017		2,360.7198	2,360.7198	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.5414**	**1.2863**	**1.8277**	**0.0820**	**1.2017**	**1.2837**		**2,360.7198**	**2,360.7198**	**0.6011**		**2,375.7475**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0291	0.9053	0.1668	2.0000e-003	0.0435	5.9600e-003	0.0494	0.0119	5.7000e-003	0.0176		209.0825	209.0825	7.4300e-003		209.2684
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1252	0.1174	0.8965	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.4911	104.4911	8.3700e-003		104.7004
Total	**0.1544**	**1.0227**	**1.0633**	**3.0600e-003**	**0.1502**	**7.0400e-003**	**0.1573**	**0.0402**	**6.7000e-003**	**0.0469**		**313.5736**	**313.5736**	**0.0158**		**313.9688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2436	0.0000	0.2436	0.0369	0.0000	0.0369			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017	0.0000	2,360.7197	2,360.7197	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.2436**	**1.2863**	**1.5299**	**0.0369**	**1.2017**	**1.2386**	**0.0000**	**2,360.7197**	**2,360.7197**	**0.6011**		**2,375.7475**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0291	0.9053	0.1668	2.0000e-003	0.0435	5.9600e-003	0.0494	0.0119	5.7000e-003	0.0176		209.0825	209.0825	7.4300e-003		209.2684
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1252	0.1174	0.8965	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.4911	104.4911	8.3700e-003		104.7004
Total	**0.1544**	**1.0227**	**1.0633**	**3.0600e-003**	**0.1502**	**7.0400e-003**	**0.1573**	**0.0402**	**6.7000e-003**	**0.0469**		**313.5736**	**313.5736**	**0.0158**		**313.9688**

3.3 Site Preparation - 2019

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
	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854		2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**1.5908**	**0.8537**	**2.4445**	**0.1718**	**0.7854**	**0.9572**		**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

Unmitigated 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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0771	0.0723	0.5517	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.3022	64.3022	5.1500e-003		64.4310
Total	**0.0771**	**0.0723**	**0.5517**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.3022**	**64.3022**	**5.1500e-003**		**64.4310**

Mitigated 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
	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854	0.0000	2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**0.7158**	**0.8537**	**1.5695**	**0.0773**	**0.7854**	**0.8627**	**0.0000**	**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0771	0.0723	0.5517	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.3022	64.3022	5.1500e-003		64.4310
Total	**0.0771**	**0.0723**	**0.5517**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.3022**	**64.3022**	**5.1500e-003**		**64.4310**

3.4 Grading - 2019

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
	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000

Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871		2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**6.5523**	**1.0730**	**7.6253**	**3.3675**	**0.9871**	**4.3546**		**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0963	0.0903	0.6896	8.1000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.3777	80.3777	6.4400e-003		80.5388
Total	**0.0963**	**0.0903**	**0.6896**	**8.1000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.3777**	**80.3777**	**6.4400e-003**		**80.5388**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871	0.0000	2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**2.9486**	**1.0730**	**4.0215**	**1.5154**	**0.9871**	**2.5025**	**0.0000**	**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0963	0.0903	0.6896	8.1000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.3777	80.3777	6.4400e-003		80.5388
Total	**0.0963**	**0.0903**	**0.6896**	**8.1000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.3777**	**80.3777**	**6.4400e-003**		**80.5388**

3.5 Building Construction - 2019

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
	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	2.2449	0.7249	4.1400e-003	0.1013	0.0216	0.1228	0.0291	0.0206	0.0498		432.3468	432.3468	0.0256		432.9870
Worker	0.6551	0.6142	4.6892	5.5300e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		546.5686	546.5686	0.0438		547.6636
Total	**0.7681**	**2.8591**	**5.4141**	**9.6700e-003**	**0.6599**	**0.0272**	**0.6871**	**0.1773**	**0.0259**	**0.2032**		**978.9155**	**978.9155**	**0.0694**		**980.6505**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	2.2449	0.7249	4.1400e-003	0.1013	0.0216	0.1228	0.0291	0.0206	0.0498		432.3468	432.3468	0.0256		432.9870
Worker	0.6551	0.6142	4.6892	5.5300e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		546.5686	546.5686	0.0438		547.6636
Total	**0.7681**	**2.8591**	**5.4141**	**9.6700e-003**	**0.6599**	**0.0272**	**0.6871**	**0.1773**	**0.0259**	**0.2032**		**978.9155**	**978.9155**	**0.0694**		**980.6505**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1445	0.1355	1.0344	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.5666	120.5666	9.6600e-003		120.8081
Total	**0.1445**	**0.1355**	**1.0344**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.5666**	**120.5666**	**9.6600e-003**		**120.8081**

Mitigated 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
	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1445	0.1355	1.0344	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.5666	120.5666	9.6600e-003		120.8081
Total	**0.1445**	**0.1355**	**1.0344**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.5666**	**120.5666**	**9.6600e-003**		**120.8081**

3.6 Paving - 2020

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
	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051		1,709.2180	1,709.2180	0.5417		1,722.7605

Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**		**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1372	0.1234	0.9416	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.5415	117.5415	8.6700e-003		117.7582
Total	**0.1372**	**0.1234**	**0.9416**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.5415**	**117.5415**	**8.6700e-003**		**117.7582**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051	0.0000	1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**	**0.0000**	**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1372	0.1234	0.9416	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.5415	117.5415	8.6700e-003		117.7582
Total	**0.1372**	**0.1234**	**0.9416**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.5415**	**117.5415**	**8.6700e-003**		**117.7582**

3.7 Architectural Coating - 2020

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
	lb/day										lb/day					
Archit. Coating	44.6559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**44.8981**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1281	0.1152	0.8788	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		109.7054	109.7054	8.0900e-003		109.9076
Total	**0.1281**	**0.1152**	**0.8788**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**109.7054**	**109.7054**	**8.0900e-003**		**109.9076**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	44.6559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**44.8981**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1281	0.1152	0.8788	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		109.7054	109.7054	8.0900e-003		109.9076
Total	**0.1281**	**0.1152**	**0.8788**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**109.7054**	**109.7054**	**8.0900e-003**		**109.9076**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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
	lb/day										lb/day					
Mitigated	1.7948	10.0393	21.8089	0.0412	3.0602	0.0676	3.1278	0.8209	0.0639	0.8848		4,152.3145	4,152.3145	0.2665		4,158.9769
Unmitigated	1.8456	10.5488	22.9201	0.0440	3.2870	0.0721	3.3591	0.8817	0.0682	0.9499		4,435.2190	4,435.2190	0.2794		4,442.2035

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
NaturalGas Unmitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					

Apartments Low Rise	1952.8	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.9528	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

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
	lb/day										lb/day					
Mitigated	1.4701	1.0482	5.8519	6.5700e-003		0.1095	0.1095		0.1095	0.1095	0.0000	1,267.6173	1,267.6173	0.0336	0.0231	1,275.3291
Unmitigated	102.7082	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**102.7082**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.2300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.9600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1153	0.9853	0.4193	6.2900e-003		0.0797	0.0797		0.0797	0.0797	0.0000	1,257.8824	1,257.8824	0.0241	0.0231	1,265.3573
Landscaping	0.1648	0.0629	5.4326	2.9000e-004		0.0298	0.0298		0.0298	0.0298		9.7350	9.7350	9.4700e-003		9.9718
Total	**1.4701**	**1.0482**	**5.8519**	**6.5800e-003**		**0.1095**	**0.1095**		**0.1095**	**0.1095**	**0.0000**	**1,267.6173**	**1,267.6173**	**0.0336**	**0.0231**	**1,275.3291**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Garden Apartments - Humboldt County, Annual

Garden Apartments-UNMITIGATED
Humboldt County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	66.00	Dwelling Unit	1.11	66,000.00	189
Parking Lot	87.00	Space	0.78	34,800.00	0
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Mobile Land Use Mitigation -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

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					
2019	0.3982	2.7739	2.5080	4.27E-03	0.0979	0.1432	0.2412	0.0302	0.1367	0.1669	0.0000	369.5029	369.5029	0.0651	0.0000	371.1313
2020	1.0526	0.0206	0.0261	4.0000e-005	6.6000e-004	1.2200e-003	1.8700e-003	1.7000e-004	1.1700e-003	1.3400e-003	0.0000	3.4337	3.4337	6.3000e-004	0.0000	3.4495
Maximum	**1.0526**	**2.7739**	**2.5080**	**4.2700e-003**	**0.0979**	**0.1432**	**0.2412**	**0.0302**	**0.1367**	**0.1669**	**0.0000**	**369.5029**	**369.5029**	**0.0651**	**0.0000**	**371.1313**

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					
2019	0.3982	2.7739	2.5080	4.2700e-003	0.0828	0.1432	0.2261	0.0241	0.1367	0.1607	0.0000	369.5025	369.5025	0.0651	0.0000	371.1310
2020	1.0526	0.0206	0.0261	4.0000e-005	6.6000e-004	1.2200e-003	1.8700e-003	1.7000e-004	1.1700e-003	1.3400e-003	0.0000	3.4337	3.4337	6.3000e-004	0.0000	3.4495

Maximum	1.0526	2.7739	2.5080	4.2700e-003	0.0828	0.1432	0.2261	0.0241	0.1367	0.1607	0.0000	369.5025	369.5025	0.0651	0.0000	371.1310

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	15.33	0.00	6.21	20.24	0.00	3.66	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	1-7-2019	4-6-2019	0.8125	0.8125
2	4-7-2019	7-6-2019	0.8076	0.8076
3	7-7-2019	10-6-2019	0.8170	0.8170
4	10-7-2019	1-6-2020	1.0372	1.0372
5	1-7-2020	4-6-2020	0.7572	0.7572
		Highest	1.0372	1.0372

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.5221	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3938	97.5690	0.0637	5.3600e-003	100.7595
Energy	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	132.9541	132.9541	5.0200e-003	1.5900e-003	133.5520
Mobile	0.2961	1.6568	3.5456	7.2100e-003	0.5035	0.0116	0.5151	0.1358	0.0110	0.1468	0.0000	659.5426	659.5426	0.0402	0.0000	660.5470
Waste						0.0000	0.0000		0.0000	0.0000	6.1628	0.0000	6.1628	0.3642	0.0000	15.2681
Water						0.0000	0.0000		0.0000	0.0000	1.3642	9.5293	10.8935	0.1406	3.4000e-003	15.4198
Total	**4.8221**	**1.7762**	**9.1640**	**0.0167**	**0.5035**	**0.7337**	**1.2372**	**0.1358**	**0.7331**	**0.8689**	**75.7023**	**831.4197**	**907.1219**	**0.6137**	**0.0104**	**925.5464**

Mitigated Operational

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					
Area	4.5221	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3033	97.5690	0.0637	5.3600e-003	100.7595
Energy	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	132.9541	132.9541	5.0200e-003	1.5900e-003	133.5520
Mobile	0.2879	1.5782	3.3677	6.7500e-003	0.4687	0.0109	0.4796	0.1264	0.0103	0.1367	0.0000	617.6699	617.6699	0.0383	0.0000	618.6268
Waste						0.0000	0.0000		0.0000	0.0000	6.1628	0.0000	6.1628	0.3642	0.0000	15.2681
Water						0.0000	0.0000		0.0000	0.0000	1.3642	9.5293	10.8935	0.1406	3.4000e-003	15.4198
Total	**4.8139**	**1.6977**	**8.9861**	**0.0163**	**0.4687**	**0.7330**	**1.2017**	**0.1264**	**0.7324**	**0.8588**	**75.7023**	**789.5470**	**865.2492**	**0.6118**	**0.0104**	**883.6262**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.17**	**4.42**	**1.94**	**2.75**	**5.90**	**0.10**	**2.87**	**6.90**	**0.09**	**1.16**	**0.00**	**5.04**	**4.62**	**0.31**	**0.00**	**4.53**

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class

Demolition	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					5.4100e-003	0.0000	5.4100e-003	8.2000e-004	0.0000	8.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**5.4100e-003**	**0.0129**	**0.0183**	**8.2000e-004**	**0.0120**	**0.0128**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

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	2.9000e-004	8.9300e-003	1.5700e-003	2.0000e-005	4.1000e-004	6.0000e-005	4.7000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.9162	1.9162	6.0000e-005	0.0000	1.9178
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	1.1200e-003	1.0500e-003	8.5900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9514	0.9514	7.0000e-005	0.0000	0.9533
Total	**1.4100e-003**	**9.9800e-003**	**0.0102**	**3.0000e-005**	**1.4100e-003**	**7.0000e-005**	**1.4800e-003**	**3.8000e-004**	**7.0000e-005**	**4.5000e-004**	**0.0000**	**2.8676**	**2.8676**	**1.3000e-004**	**0.0000**	**2.8711**

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					2.4400e-003	0.0000	2.4400e-003	3.7000e-004	0.0000	3.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**	**2.4400e-003**	**0.0129**	**0.0153**	**3.7000e-004**	**0.0120**	**0.0124**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

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	2.9000e-004	8.9300e-003	1.5700e-003	2.0000e-005	4.1000e-004	6.0000e-005	4.7000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.9162	1.9162	6.0000e-005	0.0000	1.9178
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	1.1200e-003	1.0500e-003	8.5900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9514	0.9514	7.0000e-005	0.0000	0.9533
Total	**1.4100e-003**	**9.9800e-003**	**0.0102**	**3.0000e-005**	**1.4100e-003**	**7.0000e-005**	**1.4800e-003**	**3.8000e-004**	**7.0000e-005**	**4.5000e-004**	**0.0000**	**2.8676**	**2.8676**	**1.3000e-004**	**0.0000**	**2.8711**

3.3 Site Preparation - 2019

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**2.3900e-003**	**1.2800e-003**	**3.6700e-003**	**2.6000e-004**	**1.1800e-003**	**1.4400e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

Unmitigated 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	1.0000e-004	1.0000e-004	7.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0878	0.0878	1.0000e-005	0.0000	0.0880
Total	**1.0000e-004**	**1.0000e-004**	**7.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0878**	**0.0878**	**1.0000e-005**	**0.0000**	**0.0880**

Mitigated 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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0323	0.0179	4.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	3.3020	3.3020	1.0400e-003	0.0000	3.3281
Total	**2.6300e-003**	**0.0323**	**0.0179**	**4.0000e-005**	**1.0700e-003**	**1.2800e-003**	**2.3500e-003**	**1.2000e-004**	**1.1800e-003**	**1.3000e-003**	**0.0000**	**3.3020**	**3.3020**	**1.0400e-003**	**0.0000**	**3.3281**

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	1.0000e-004	1.0000e-004	7.9000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0878	0.0878	1.0000e-005	0.0000	0.0880
Total	**1.0000e-004**	**1.0000e-004**	**7.9000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0878**	**0.0878**	**1.0000e-005**	**0.0000**	**0.0880**

3.4 Grading - 2019

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**0.0197**	**3.2200e-003**	**0.0229**	**0.0101**	**2.9600e-003**	**0.0131**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	2.6000e-004	2.4000e-004	1.9800e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2196	0.2196	2.0000e-005	0.0000	0.2200
Total	**2.6000e-004**	**2.4000e-004**	**1.9800e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**2.0000e-005**	**0.0000**	**0.2200**

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					8.8500e-003	0.0000	8.8500e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0682	0.0305	6.0000e-005		3.2200e-003	3.2200e-003		2.9600e-003	2.9600e-003	0.0000	5.5554	5.5554	1.7600e-003	0.0000	5.5993
Total	**6.0900e-003**	**0.0682**	**0.0305**	**6.0000e-005**	**8.8500e-003**	**3.2200e-003**	**0.0121**	**4.5500e-003**	**2.9600e-003**	**7.5100e-003**	**0.0000**	**5.5554**	**5.5554**	**1.7600e-003**	**0.0000**	**5.5993**

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	2.6000e-004	2.4000e-004	1.9800e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2196	0.2196	2.0000e-005	0.0000	0.2200
Total	**2.6000e-004**	**2.4000e-004**	**1.9800e-003**	**0.0000**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2196**	**0.2196**	**2.0000e-005**	**0.0000**	**0.2200**

3.5 Building Construction - 2019

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					
Off-Road	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7297	230.7297	0.0480	0.0000	231.9297
Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7297**	**230.7297**	**0.0480**	**0.0000**	**231.9297**

Unmitigated 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	0.0120	0.2447	0.0743	4.6000e-004	0.0106	2.3400e-003	0.0129	3.0700e-003	2.2400e-003	5.3000e-003	0.0000	43.8070	43.8070	2.4200e-003	0.0000	43.8676
Worker	0.0647	0.0607	0.4941	6.1000e-004	0.0577	6.2000e-004	0.0583	0.0154	5.8000e-004	0.0160	0.0000	54.7419	54.7419	4.3000e-003	0.0000	54.8493
Total	**0.0767**	**0.3054**	**0.5684**	**1.0700e-003**	**0.0683**	**2.9600e-003**	**0.0712**	**0.0184**	**2.8200e-003**	**0.0213**	**0.0000**	**98.5489**	**98.5489**	**6.7200e-003**	**0.0000**	**98.7169**

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	0.2814	2.0801	1.6780	2.7500e-003		0.1199	0.1199		0.1149	0.1149	0.0000	230.7295	230.7295	0.0480	0.0000	231.9294
Total	**0.2814**	**2.0801**	**1.6780**	**2.7500e-003**		**0.1199**	**0.1199**		**0.1149**	**0.1149**	**0.0000**	**230.7295**	**230.7295**	**0.0480**	**0.0000**	**231.9294**

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	0.0120	0.2447	0.0743	4.6000e-004	0.0106	2.3400e-003	0.0129	3.0700e-003	2.2400e-003	5.3000e-003	0.0000	43.8070	43.8070	2.4200e-003	0.0000	43.8676
Worker	0.0647	0.0607	0.4941	6.1000e-004	0.0577	6.2000e-004	0.0583	0.0154	5.8000e-004	0.0160	0.0000	54.7419	54.7419	4.3000e-003	0.0000	54.8493
Total	**0.0767**	**0.3054**	**0.5684**	**1.0700e-003**	**0.0683**	**2.9600e-003**	**0.0712**	**0.0184**	**2.8200e-003**	**0.0213**	**0.0000**	**98.5489**	**98.5489**	**6.7200e-003**	**0.0000**	**98.7169**

3.6 Paving - 2019

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					
Off-Road	4.9800e-003	0.0503	0.0474	7.0000e-005		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	6.3367	6.3367	1.9700e-003	0.0000	6.3858
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1200e-003**	**0.0503**	**0.0474**	**7.0000e-005**		**2.9200e-003**	**2.9200e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**6.3367**	**6.3367**	**1.9700e-003**	**0.0000**	**6.3858**

Unmitigated 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	5.2000e-004	4.9000e-004	3.9600e-003	0.0000	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	3.0000e-005	0.0000	0.4400
Total	**5.2000e-004**	**4.9000e-004**	**3.9600e-003**	**0.0000**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4391**	**0.4391**	**3.0000e-005**	**0.0000**	**0.4400**

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	4.9800e-003	0.0503	0.0474	7.0000e-005		2.9200e-003	2.9200e-003		2.6900e-003	2.6900e-003	0.0000	6.3367	6.3367	1.9700e-003	0.0000	6.3858
Paving	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1200e-003**	**0.0503**	**0.0474**	**7.0000e-005**		**2.9200e-003**	**2.9200e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**6.3367**	**6.3367**	**1.9700e-003**	**0.0000**	**6.3858**

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	5.2000e-004	4.9000e-004	3.9600e-003	0.0000	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4391	0.4391	3.0000e-005	0.0000	0.4400
Total	**5.2000e-004**	**4.9000e-004**	**3.9600e-003**	**0.0000**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4391**	**0.4391**	**3.0000e-005**	**0.0000**	**0.4400**

3.6 Paving - 2020

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	1.1500e-003	0.0116	0.0118	2.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.5506	1.5506	4.9000e-004	0.0000	1.5629

Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4400e-003**	**0.0116**	**0.0118**	**2.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.5506**	**1.5506**	**4.9000e-004**	**0.0000**	**1.5629**

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	1.1000e-004	9.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	1.0000e-005	0.0000	0.1072
Total	**1.2000e-004**	**1.1000e-004**	**9.0000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1070**	**0.1070**	**1.0000e-005**	**0.0000**	**0.1072**

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	1.1500e-003	0.0116	0.0118	2.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.5506	1.5506	4.9000e-004	0.0000	1.5629
Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4400e-003**	**0.0116**	**0.0118**	**2.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**1.5506**	**1.5506**	**4.9000e-004**	**0.0000**	**1.5629**

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	1.2000e-004	1.1000e-004	9.0000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1070	0.1070	1.0000e-005	0.0000	0.1072
Total	**1.2000e-004**	**1.1000e-004**	**9.0000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1070**	**0.1070**	**1.0000e-005**	**0.0000**	**0.1072**

3.7 Architectural Coating - 2020

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					
Archit. Coating	1.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**1.0505**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

Unmitigated 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	5.7000e-004	5.2000e-004	4.2100e-003	1.0000e-005	5.4000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.4994	0.4994	4.0000e-005	0.0000	0.5003
Total	**5.7000e-004**	**5.2000e-004**	**4.2100e-003**	**1.0000e-005**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.4994**	**0.4994**	**4.0000e-005**	**0.0000**	**0.5003**

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	1.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**1.0505**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	5.7000e-004	5.2000e-004	4.2100e-003	1.0000e-005	5.4000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.4994	0.4994	4.0000e-005	0.0000	0.5003
Total	**5.7000e-004**	**5.2000e-004**	**4.2100e-003**	**1.0000e-005**	**5.4000e-004**	**1.0000e-005**	**5.5000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.4994**	**0.4994**	**4.0000e-005**	**0.0000**	**0.5003**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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					
Mitigated	0.2879	1.5782	3.3677	6.7500e-003	0.4687	0.0109	0.4796	0.1264	0.0103	0.1367	0.0000	617.6699	617.6699	0.0383	0.0000	618.6268
Unmitigated	0.2961	1.6568	3.5456	7.2100e-003	0.5035	0.0116	0.5151	0.1358	0.0110	0.1468	0.0000	659.5426	659.5426	0.0402	0.0000	660.5470

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	94.9178	94.9178	4.2900e-003	8.9000e-004	95.2897
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	94.9178	94.9178	4.2900e-003	8.9000e-004	95.2897
NaturalGas Mitigated	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
NaturalGas Unmitigated	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	712772	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8400e-003**	**0.0328**	**0.0140**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**38.0362**	**38.0362**	**7.3000e-004**	**7.0000e-004**	**38.2623**

Mitigated

Land Use	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
	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	712772	3.8400e-003	0.0328	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0362	38.0362	7.3000e-004	7.0000e-004	38.2623
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.8400e-003**	**0.0328**	**0.0140**	**2.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**38.0362**	**38.0362**	**7.3000e-004**	**7.0000e-004**	**38.2623**

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use	Total CO2	CH4	N2O	CO2e
	kWh/yr	MT/yr			
Apartments Low Rise	314097	91.3745	4.1300e-003	8.5000e-004	91.7825
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000

Parking Lot	12180	3.5433	1.6000e-004	3.0000e-005	3.5572
Total		**94.9178**	**4.2900e-003**	**8.8000e-004**	**95.2897**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	314097	91.3745	4.1300e-003	8.5000e-004	91.7325
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12180	3.5433	1.6000e-004	3.0000e-005	3.5572
Total		**94.9178**	**4.2900e-003**	**8.8000e-004**	**95.2897**

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	4.5221	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3938	97.5690	0.0637	5.3600e-003	100.7595
Unmitigated	4.5221	0.0866	5.6044	9.2900e-003		0.7195	0.7195		0.7195	0.7195	68.1752	29.3938	97.5690	0.0637	5.3600e-003	100.7595

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	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					
Architectural Coating	0.1049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2609					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.1413	0.0809	5.1119	9.2600e-003		0.7167	0.7167		0.7167	0.7167	68.1752	28.5917	96.7669	0.0629	5.3600e-003	99.9378
Landscaping	0.0151	5.6900e-003	0.4925	3.0000e-005		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	0.8021	0.8021	7.8000e-004	0.0000	0.8217
Total	**4.5221**	**0.0866**	**5.6044**	**9.2900e-003**		**0.7195**	**0.7195**		**0.7195**	**0.7195**	**68.1752**	**29.3938**	**97.5690**	**0.0637**	**5.3600e-003**	**100.7595**

Mitigated

SubCategory	ROG	NOx	CO	SO2	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					
Architectural Coating	0.1049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2609					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.1413	0.0809	5.1119	9.2600e-003		0.7167	0.7167		0.7167	0.7167	68.1752	28.5917	96.7669	0.0629	5.3600e-003	99.9378
Landscaping	0.0151	5.6900e-003	0.4925	3.0000e-005		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	0.8021	0.8021	7.8000e-004	0.0000	0.8217
Total	**4.5221**	**0.0866**	**5.6044**	**9.2900e-003**		**0.7195**	**0.7195**		**0.7195**	**0.7195**	**68.1752**	**29.3938**	**97.5690**	**0.0637**	**5.3600e-003**	**100.7595**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.8935	0.1406	3.4000e-003	15.4198
Unmitigated	10.8935	0.1406	3.4000e-003	15.4198

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.30017 / 2.71097	10.8935	0.1406	3.4000e-003	15.4198
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.8935**	**0.1406**	**3.4000e-003**	**15.4198**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.30017 / 2.71097	10.8935	0.1406	3.4000e-003	15.4198
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.8935**	**0.1406**	**3.4000e-003**	**15.4198**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.1628	0.3642	0.0000	15.2681
Unmitigated	6.1628	0.3642	0.0000	15.2681

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	30.36	6.1628	0.3642	0.0000	15.2681
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.1628**	**0.3642**	**0.0000**	**15.2681**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	30.36	6.1628	0.3642	0.0000	15.2681
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.1628**	**0.3642**	**0.0000**	**15.2681**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Garden Apartments - Humboldt County, Summer

Garden Apartments - UNMITIGATED

Humboldt County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	66.00	Dwelling Unit	1.11	66,000.00	189
Parking Lot	87.00	Space	0.78	34,800.00	0
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Mobile Land Use Mitigation -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.2073	23.6626	20.2159	0.0348	6.6345	1.2932	7.7083	3.3893	1.2083	4.3772	0.0000	3,304.2228	3,304.2228	0.7727	0.0000	3,317.8904
2020	210.1954	11.6897	12.6778	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,827.1245	1,827.1245	0.5501	0.0000	1,840.8777
Maximum	**210.1954**	**23.6626**	**20.2159**	**0.0348**	**6.6345**	**1.2932**	**7.7083**	**3.3893**	**1.2083**	**4.3772**	**0.0000**	**3,304.2228**	**3,304.2228**	**0.7727**	**0.0000**	**3,317.8904**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.2073	23.6626	20.2159	0.0348	3.0307	1.2932	4.1045	1.5372	1.2083	2.5251	0.0000	3,304.2228	3,304.2228	0.7727	0.0000	3,317.8904
2020	210.1954	11.6897	12.6778	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,827.1245	1,827.1245	0.5501	0.0000	1,840.8777

Maximum	210.1954	23.6626	20.2159	0.0348	3.0307	1.2932	4.1045	1.5372	1.2083	2.5251	0.0000	3,304.2228	3,304.2228	0.7727	0.0000	3,317.8904

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.33	0.00	42.45	54.12	0.00	36.92	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.8041	9.9752	20.8502	0.0444	3.2870	0.0711	3.3580	0.8817	0.0672	0.9489		4,481.6196	4,481.6196	0.2665		4,488.2825
Total	**105.0028**	**12.1909**	**151.0800**	**0.2718**	**3.2870**	**17.5971**	**20.8841**	**0.8817**	**17.5933**	**18.4750**	**1,832.9342**	**5,489.8903**	**7,322.8245**	**1.9720**	**0.1484**	**7,416.3442**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.7541	9.5069	19.7747	0.0416	3.0602	0.0666	3.1268	0.8209	0.0630	0.8838		4,198.1028	4,198.1028	0.2536		4,204.4437

Total	104.9529	11.7227	150.0044	0.2690	3.0602	17.5927	20.6528	0.8209	17.5891	18.4099	1,832.9342	5,206.3735	7,039.3078	1.9592	0.1484	7,132.5054

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.05	3.84	0.71	1.03	6.90	0.03	1.11	6.90	0.02	0.35	0.00	5.16	3.87	0.65	0.00	3.83

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20

Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5414	0.0000	0.5414	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017		2,360.7198	2,360.7198	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.5414**	**1.2863**	**1.8277**	**0.0820**	**1.2017**	**1.2837**		**2,360.7198**	**2,360.7198**	**0.6011**		**2,375.7475**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	0.8901	0.1503	2.0300e-003	0.0435	5.8200e-003	0.0493	0.0119	5.5700e-003	0.0175		212.7830	212.7830	6.7400e-003		212.9514
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1037	0.0975	0.8268	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.8151	104.8151	8.1100e-003		105.0178
Total	**0.1319**	**0.9876**	**0.9770**	**3.0900e-003**	**0.1502**	**6.9000e-003**	**0.1572**	**0.0402**	**6.5700e-003**	**0.0468**		**317.5981**	**317.5981**	**0.0149**		**317.9692**

Mitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					0.2436	0.0000	0.2436	0.0369	0.0000	0.0369			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017	0.0000	2,360.7197	2,360.7197	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.2436**	**1.2863**	**1.5299**	**0.0369**	**1.2017**	**1.2386**	**0.0000**	**2,360.7197**	**2,360.7197**	**0.6011**		**2,375.7475**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0282	0.8901	0.1503	2.0300e-003	0.0435	5.8200e-003	0.0493	0.0119	5.5700e-003	0.0175		212.7830	212.7830	6.7400e-003		212.9514
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1037	0.0975	0.8268	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.8151	104.8151	8.1100e-003		105.0178
Total	**0.1319**	**0.9876**	**0.9770**	**3.0900e-003**	**0.1502**	**6.9000e-003**	**0.1572**	**0.0402**	**6.5700e-003**	**0.0468**		**317.5981**	**317.5981**	**0.0149**		**317.9692**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854		2,426.5408	2,426.5408	0.7677		2,445.7341

Total	1.7557	21.5386	11.9143	0.0245	1.5908	0.8537	2.4445	0.1718	0.7854	0.9572		2,426.5408	2,426.5408	0.7677		2,445.7341

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0600	0.5088	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.5016	64.5016	4.9900e-003		64.6264
Total	**0.0638**	**0.0600**	**0.5088**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.5016**	**64.5016**	**4.9900e-003**		**64.6264**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854	0.0000	2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**0.7158**	**0.8537**	**1.5695**	**0.0773**	**0.7854**	**0.8627**	**0.0000**	**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0600	0.5088	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.5016	64.5016	4.9900e-003		64.6264
Total	**0.0638**	**0.0600**	**0.5088**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.5016**	**64.5016**	**4.9900e-003**		**64.6264**

3.4 Grading - 2019

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
	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871		2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**6.5523**	**1.0730**	**7.6253**	**3.3675**	**0.9871**	**4.3546**		**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0750	0.6360	8.2000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.6270	80.6270	6.2400e-003		80.7830
Total	**0.0798**	**0.0750**	**0.6360**	**8.2000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.6270**	**80.6270**	**6.2400e-003**		**80.7830**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871	0.0000	2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**2.9486**	**1.0730**	**4.0215**	**1.5154**	**0.9871**	**2.5025**	**0.0000**	**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0750	0.6360	8.2000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.6270	80.6270	6.2400e-003		80.7830
Total	**0.0798**	**0.0750**	**0.6360**	**8.2000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.6270**	**80.6270**	**6.2400e-003**		**80.7830**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1066	2.2232	0.6368	4.2500e-003	0.1013	0.0211	0.1223	0.0291	0.0201	0.0493		443.8138	443.8138	0.0233		444.3958
Worker	0.5426	0.5098	4.3246	5.5400e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		548.2636	548.2636	0.0424		549.3241
Total	**0.6492**	**2.7329**	**4.9614**	**9.7900e-003**	**0.6599**	**0.0267**	**0.6866**	**0.1773**	**0.0254**	**0.2027**		**992.0773**	**992.0773**	**0.0657**		**993.7199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1066	2.2232	0.6368	4.2500e-003	0.1013	0.0211	0.1223	0.0291	0.0201	0.0493		443.8138	443.8138	0.0233		444.3958
Worker	0.5426	0.5098	4.3246	5.5400e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		548.2636	548.2636	0.0424		549.3241
Total	**0.6492**	**2.7329**	**4.9614**	**9.7900e-003**	**0.6599**	**0.0267**	**0.6866**	**0.1773**	**0.0254**	**0.2027**		**992.0773**	**992.0773**	**0.0657**		**993.7199**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870

Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.1125	0.9540	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.9405	120.9405	9.3600e-003		121.1744
Total	**0.1197**	**0.1125**	**0.9540**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.9405**	**120.9405**	**9.3600e-003**		**121.1744**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1197	0.1125	0.9540	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.9405	120.9405	9.3600e-003		121.1744
Total	**0.1197**	**0.1125**	**0.9540**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.9405**	**120.9405**	**9.3600e-003**		**121.1744**

3.6 Paving - 2020

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
	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051		1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**		**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1135	0.1024	0.8702	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.9065	117.9065	8.4200e-003		118.1171
Total	**0.1135**	**0.1024**	**0.8702**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.9065**	**117.9065**	**8.4200e-003**		**118.1171**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051	0.0000	1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**	**0.0000**	**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1135	0.1024	0.8702	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.9065	117.9065	8.4200e-003		118.1171
Total	**0.1135**	**0.1024**	**0.8702**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.9065**	**117.9065**	**8.4200e-003**		**118.1171**

3.7 Architectural Coating - 2020

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
	lb/day										lb/day					
Archit. Coating	209.8473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**210.0895**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated 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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1059	0.0956	0.8122	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		110.0461	110.0461	7.8600e-003		110.2427
Total	**0.1059**	**0.0956**	**0.8122**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**110.0461**	**110.0461**	**7.8600e-003**		**110.2427**

Mitigated 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
	lb/day										lb/day					
Archit. Coating	209.8473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**210.0895**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1059	0.0956	0.8122	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		110.0461	110.0461	7.8600e-003		110.2427
Total	**0.1059**	**0.0956**	**0.8122**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**110.0461**	**110.0461**	**7.8600e-003**		**110.2427**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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
	lb/day										lb/day					
Mitigated	1.7541	9.5069	19.7747	0.0416	3.0602	0.0666	3.1268	0.8209	0.0630	0.8838		4,198.1028	4,198.1028	0.2536		4,204.4437
Unmitigated	1.8041	9.9752	20.8502	0.0444	3.2870	0.0711	3.3580	0.8817	0.0672	0.9489		4,481.6196	4,481.6196	0.2665		4,488.2825

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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
	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
NaturalGas Unmitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1952.8	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

Mitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.9528	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

6.0 Area Detail

6.1 Mitigation Measures Area

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
	lb/day										lb/day					
Mitigated	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Unmitigated	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4295					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**103.1777**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4295					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**103.1777**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Garden Apartments - Humboldt County, Winter

Garden Apartments - UNMITIGATED

Humboldt County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	66.00	Dwelling Unit	1.11	66,000.00	189
Parking Lot	87.00	Space	0.78	34,800.00	0
Other Asphalt Surfaces	0.31	Acre	0.31	13,503.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Demolition -

Vehicle Trips - Stantec traffic study

Mobile Land Use Mitigation -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	4.13	1.11
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	SU_TR	6.07	6.27
tblVehicleTrips	WD_TR	6.59	7.32

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.3262	23.6978	20.6686	0.0347	6.6345	1.2933	7.7083	3.3893	1.2085	4.3772	0.0000	3,291.0609	3,291.0609	0.7729	0.0000	3,304.8210
2020	210.2176	11.7107	12.7491	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,826.7595	1,826.7595	0.5504	0.0000	1,840.5187
Maximum	**210.2176**	**23.6978**	**20.6686**	**0.0347**	**6.6345**	**1.2933**	**7.7083**	**3.3893**	**1.2085**	**4.3772**	**0.0000**	**3,291.0609**	**3,291.0609**	**0.7729**	**0.0000**	**3,304.8210**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	3.3262	23.6978	20.6686	0.0347	3.0307	1.2933	4.1045	1.5372	1.2085	2.5251	0.0000	3,291.0609	3,291.0609	0.7729	0.0000	3,304.8210
2020	210.2176	11.7107	12.7491	0.0190	0.1232	0.6577	0.7809	0.0327	0.6062	0.6389	0.0000	1,826.7595	1,826.7595	0.5504	0.0000	1,840.5187

Maximum	210.2176	23.6978	20.6686	0.0347	3.0307	1.2933	4.1045	1.5372	1.2085	2.5251	0.0000	3,291.0609	3,291.0609	0.7729	0.0000	3,304.8210

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.33	0.00	42.45	54.12	0.00	36.92	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.8456	10.5488	22.9201	0.0440	3.2870	0.0721	3.3591	0.8817	0.0682	0.9499		4,435.2190	4,435.2190	0.2794		4,442.2035
Total	105.0444	12.7645	153.1499	0.2714	3.2870	17.5982	20.8851	0.8817	17.5943	18.4759	1,832.9342	5,443.4898	7,276.4240	1.9849	0.1484	7,370.2652

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Energy	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Mobile	1.7948	10.0393	21.8089	0.0412	3.0602	0.0676	3.1278	0.8209	0.0639	0.8848		4,152.3145	4,152.3145	0.2665		4,158.9769

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Total	104.9936	12.2550	152.0386	0.2686	3.0602	17.5937	20.6539	0.8209	17.5900	18.4109	1,832.9342	5,160.5852	6,993.5195	1.9720	0.1484	7,087.0386
Percent Reduction	0.05	3.99	0.73	1.03	6.90	0.03	1.11	6.90	0.02	0.35	0.00	5.20	3.89	0.65	0.00	3.84

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	1/7/2019	2/1/2019	5	20	
2	Site Preparation	Site Preparation	2/2/2019	2/6/2019	5	3	
3	Grading	Grading	2/7/2019	2/14/2019	5	6	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Paving	Paving	12/20/2019	1/2/2020	5	10	
6	Architectural Coating	Architectural Coating	1/3/2020	1/16/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.09

Residential Indoor: 133,650; Residential Outdoor: 44,550; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20

Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	68.00	15.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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
	lb/day										lb/day					
Fugitive Dust					0.5414	0.0000	0.5414	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017		2,360.7198	2,360.7198	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.5414**	**1.2863**	**1.8277**	**0.0820**	**1.2017**	**1.2837**		**2,360.7198**	**2,360.7198**	**0.6011**		**2,375.7475**

Unmitigated 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
	lb/day										lb/day					
Hauling	0.0291	0.9053	0.1668	2.0000e-003	0.0435	5.9600e-003	0.0494	0.0119	5.7000e-003	0.0176		209.0825	209.0825	7.4300e-003		209.2684
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1252	0.1174	0.8965	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.4911	104.4911	8.3700e-003		104.7004
Total	**0.1544**	**1.0227**	**1.0633**	**3.0600e-003**	**0.1502**	**7.0400e-003**	**0.1573**	**0.0402**	**6.7000e-003**	**0.0469**		**313.5736**	**313.5736**	**0.0158**		**313.9688**

Mitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					0.2436	0.0000	0.2436	0.0369	0.0000	0.0369			0.0000			0.0000
Off-Road	2.2950	22.6751	14.8943	0.0241		1.2863	1.2863		1.2017	1.2017	0.0000	2,360.7197	2,360.7197	0.6011		2,375.7475
Total	**2.2950**	**22.6751**	**14.8943**	**0.0241**	**0.2436**	**1.2863**	**1.5299**	**0.0369**	**1.2017**	**1.2386**	**0.0000**	**2,360.7197**	**2,360.7197**	**0.6011**		**2,375.7475**

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
	lb/day										lb/day					
Hauling	0.0291	0.9053	0.1668	2.0000e-003	0.0435	5.9600e-003	0.0494	0.0119	5.7000e-003	0.0176		209.0825	209.0825	7.4300e-003		209.2684
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1252	0.1174	0.8965	1.0600e-003	0.1068	1.0800e-003	0.1079	0.0283	1.0000e-003	0.0293		104.4911	104.4911	8.3700e-003		104.7004
Total	**0.1544**	**1.0227**	**1.0633**	**3.0600e-003**	**0.1502**	**7.0400e-003**	**0.1573**	**0.0402**	**5.7000e-003**	**0.0469**		**313.5736**	**313.5736**	**0.0158**		**313.9688**

3.3 Site Preparation - 2019

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
	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854		2,426.5408	2,426.5408	0.7677		2,445.7341

Total	1.7557	21.5386	11.9143	0.0245	1.5908	0.8537	2.4445	0.1718	0.7854	0.9572		2,426.5408	2,426.5408	0.7677		2,445.7341

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0771	0.0723	0.5517	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.3022	64.3022	5.1500e-003		64.4310
Total	**0.0771**	**0.0723**	**0.5517**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.3022**	**64.3022**	**5.1500e-003**		**64.4310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.7557	21.5386	11.9143	0.0245		0.8537	0.8537		0.7854	0.7854	0.0000	2,426.5408	2,426.5408	0.7677		2,445.7341
Total	**1.7557**	**21.5386**	**11.9143**	**0.0245**	**0.7158**	**0.8537**	**1.5695**	**0.0773**	**0.7854**	**0.8627**	**0.0000**	**2,426.5408**	**2,426.5408**	**0.7677**		**2,445.7341**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0771	0.0723	0.5517	6.5000e-004	0.0657	6.7000e-004	0.0664	0.0174	6.2000e-004	0.0181		64.3022	64.3022	5.1500e-003		64.4310
Total	**0.0771**	**0.0723**	**0.5517**	**6.5000e-004**	**0.0657**	**6.7000e-004**	**0.0664**	**0.0174**	**6.2000e-004**	**0.0181**		**64.3022**	**64.3022**	**5.1500e-003**		**64.4310**

3.4 Grading - 2019

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
	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871		2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**6.5523**	**1.0730**	**7.6253**	**3.3675**	**0.9871**	**4.3546**		**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0963	0.0903	0.6896	8.1000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.3777	80.3777	6.4400e-003		80.5388
Total	**0.0963**	**0.0903**	**0.6896**	**8.1000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.3777**	**80.3777**	**6.4400e-003**		**80.5388**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0287	22.7444	10.1518	0.0206		1.0730	1.0730		0.9871	0.9871	0.0000	2,041.2539	2,041.2539	0.6458		2,057.3997
Total	**2.0287**	**22.7444**	**10.1518**	**0.0206**	**2.9486**	**1.0730**	**4.0215**	**1.5154**	**0.9871**	**2.5025**	**0.0000**	**2,041.2539**	**2,041.2539**	**0.6458**		**2,057.3997**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0963	0.0903	0.6896	8.1000e-004	0.0822	8.3000e-004	0.0830	0.0218	7.7000e-004	0.0226		80.3777	80.3777	6.4400e-003		80.5388
Total	**0.0963**	**0.0903**	**0.6896**	**8.1000e-004**	**0.0822**	**8.3000e-004**	**0.0830**	**0.0218**	**7.7000e-004**	**0.0226**		**80.3777**	**80.3777**	**6.4400e-003**		**80.5388**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	2.2449	0.7249	4.1400e-003	0.1013	0.0216	0.1228	0.0291	0.0206	0.0498		432.3468	432.3468	0.0256		432.9870
Worker	0.6551	0.6142	4.6892	5.5300e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		546.5686	546.5686	0.0438		547.6636
Total	**0.7681**	**2.8591**	**5.4141**	**9.6700e-003**	**0.6599**	**0.0272**	**0.6871**	**0.1773**	**0.0259**	**0.2032**		**978.9155**	**978.9155**	**0.0694**		**980.6505**

Mitigated 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
	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	2.2449	0.7249	4.1400e-003	0.1013	0.0216	0.1228	0.0291	0.0206	0.0498		432.3468	432.3468	0.0256		432.9870
Worker	0.6551	0.6142	4.6892	5.5300e-003	0.5586	5.6700e-003	0.5643	0.1482	5.2400e-003	0.1534		546.5686	546.5686	0.0438		547.6636
Total	**0.7681**	**2.8591**	**5.4141**	**9.6700e-003**	**0.6599**	**0.0272**	**0.6871**	**0.1773**	**0.0259**	**0.2032**		**978.9155**	**978.9155**	**0.0694**		**980.6505**

3.6 Paving - 2019

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
	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870

Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1445	0.1355	1.0344	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.5666	120.5666	9.6600e-003		120.8081
Total	**0.1445**	**0.1355**	**1.0344**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.5666**	**120.5666**	**9.6600e-003**		**120.8081**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5309**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1445	0.1355	1.0344	1.2200e-003	0.1232	1.2500e-003	0.1245	0.0327	1.1600e-003	0.0338		120.5666	120.5666	9.6600e-003		120.8081
Total	**0.1445**	**0.1355**	**1.0344**	**1.2200e-003**	**0.1232**	**1.2500e-003**	**0.1245**	**0.0327**	**1.1600e-003**	**0.0338**		**120.5666**	**120.5666**	**9.6600e-003**		**120.8081**

3.6 Paving - 2020

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
	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051		1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**		**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Unmitigated 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
	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1372	0.1234	0.9416	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.5415	117.5415	8.6700e-003		117.7582
Total	**0.1372**	**0.1234**	**0.9416**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.5415**	**117.5415**	**8.6700e-003**		**117.7582**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1547	11.5873	11.8076	0.0178		0.6565	0.6565		0.6051	0.6051	0.0000	1,709.2180	1,709.2180	0.5417		1,722.7605
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4403**	**11.5873**	**11.8076**	**0.0178**		**0.6565**	**0.6565**		**0.6051**	**0.6051**	**0.0000**	**1,709.2180**	**1,709.2180**	**0.5417**		**1,722.7605**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1372	0.1234	0.9416	1.1900e-003	0.1232	1.1900e-003	0.1244	0.0327	1.1000e-003	0.0338		117.5415	117.5415	8.6700e-003		117.7582
Total	**0.1372**	**0.1234**	**0.9416**	**1.1900e-003**	**0.1232**	**1.1900e-003**	**0.1244**	**0.0327**	**1.1000e-003**	**0.0338**		**117.5415**	**117.5415**	**8.6700e-003**		**117.7582**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	209.8473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**210.0895**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1281	0.1152	0.8788	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		109.7054	109.7054	8.0900e-003		109.9076
Total	**0.1281**	**0.1152**	**0.8788**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**109.7054**	**109.7054**	**8.0900e-003**		**109.9076**

Mitigated 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
	lb/day										lb/day					
Archit. Coating	209.8473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**210.0895**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

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
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1281	0.1152	0.8788	1.1100e-003	0.1150	1.1100e-003	0.1161	0.0305	1.0200e-003	0.0315		109.7054	109.7054	8.0900e-003		109.9076
Total	**0.1281**	**0.1152**	**0.8788**	**1.1100e-003**	**0.1150**	**1.1100e-003**	**0.1161**	**0.0305**	**1.0200e-003**	**0.0315**		**109.7054**	**109.7054**	**8.0900e-003**		**109.9076**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

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
	lb/day										lb/day					
Mitigated	1.7948	10.0393	21.8099	0.0412	3.0602	0.0676	3.1278	0.8209	0.0639	0.8848		4,152.3145	4,152.3145	0.2665		4,158.9769
Unmitigated	1.8456	10.5488	22.9201	0.0440	3.2870	0.0721	3.3591	0.8817	0.0682	0.9499		4,435.2190	4,435.2190	0.2794		4,442.2035

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	483.12	537.24	413.82	1,376,603	1,281,617
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	483.12	537.24	413.82	1,376,603	1,281,617

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Other Asphalt Surfaces	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026
Parking Lot	0.469869	0.051968	0.208218	0.140414	0.048762	0.007865	0.014833	0.044690	0.003169	0.001708	0.005951	0.001528	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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
	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
NaturalGas Unmitigated	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1952.8	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

Mitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.9528	0.0211	0.1800	0.0766	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.7413	229.7413	4.4000e-003	4.2100e-003	231.1065
Other Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0211**	**0.1800**	**0.0766**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.7413**	**229.7413**	**4.4000e-003**	**4.2100e-003**	**231.1065**

6.0 Area Detail

6.1 Mitigation Measures Area

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
	lb/day										lb/day					
Mitigated	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552
Unmitigated	103.1777	2.0358	130.1532	0.2262		17.5115	17.5115		17.5115	17.5115	1,832.9342	778.5294	2,611.4637	1.7011	0.1442	2,696.9552

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4295					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**103.1777**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5749					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4295					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	101.0061	1.9725	124.6810	0.2259		17.4815	17.4815		17.4815	17.4815	1,832.9342	768.7059	2,601.6401	1.6915	0.1442	2,686.8914
Landscaping	0.1672	0.0633	5.4722	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8236	9.8236	9.6100e-003		10.0639
Total	**103.1777**	**2.0358**	**130.1532**	**0.2262**		**17.5115**	**17.5115**		**17.5115**	**17.5115**	**1,832.9342**	**778.5294**	**2,611.4637**	**1.7011**	**0.1442**	**2,696.9552**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation