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MEMORANDUM

DATE: May 28, 2019

TO: Andrew Han, Director of Community Development, Lennar Homes

FROM: Michael Slavick, Senior Air Quality Specialist, LSA

CC: Ryan Bensley, Associate/Environmental Planner, LSA

SUBJECT: Air Quality and Greenhouse Gas Emissions Analysis: Proposed Glenelder Residential Project, County of Los Angeles, California (LSA Project No. LHC1802)

This memorandum has been prepared to evaluate the air quality and greenhouse gas (GHG) impacts of the proposed Glenelder Residential Development Project. This analysis has been prepared following the guidance provided by the South Coast Air Quality Management District (SCAQMD).

PROJECT LOCATION AND DESCRIPTION

The proposed 10.0-acre residential development site is located at 16234 Folger Street between Glenelder Avenue and Hinnen Avenue in the unincorporated community of Hacienda Heights, Los Angeles County, California. See Attachment A, Figures 1 and 2. The project site is currently developed with an elementary school, which would be demolished to construct a residential development with 86 single-family homes. The project site is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD.

Surrounding Sensitive Uses

Certain land uses are considered sensitive to air quality impacts. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The project site is surrounded by single-family residences. The areas adjacent to the project site include the following uses.

- North: Single-family homes across Folger Street.
- South: Single-family homes adjacent to the project site and across Denley Street.
- West: Single-family homes across Hinnen Avenue.
- East: Single-family homes across Glenelder Avenue.

APPROACH TO ANALYSIS

To evaluate air pollutant emissions from the construction and operation of the project, LSA used the California Emission Estimator Model (CalEEMod) analysis, which is the current air quality and land use emissions model recommended by the California Air Resources Board (ARB) for evaluating emissions from land use projects. Emissions from demolition and construction were based on the CalEEMod default for the construction phase scenario and opening date schedule. Emissions from

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operation of the proposed residential project included vehicle emissions, area source emissions, and energy use emissions. The proposed project emissions were then compared with the California Environmental Quality Act (CEQA) air quality significance thresholds from the SCAQMD. A GHG consistency analysis was conducted to determine whether or not the proposed project would be consistent with the *Los Angeles County Community Climate Action Plan 2020*.

EXISTING AIR QUALITY SETTING

Climate/Meteorology

Air quality in the planning area is affected not only by various emissions sources (e.g., mobile, stationary, and area sources) but also by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin, which lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a climate that is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The monthly average maximum temperature at the Montebello meteorological station (approximately 8 miles west from Hacienda Heights) ranges from 69.4°F in January to 89.7°F in August. The monthly average minimum temperature ranges from 47.8°F in January to 65.2°F in August (Western Regional Climate Center 2019). January is typically the coldest month and August is typically the warmest month in this area of the Basin.

Most rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The monthly average rainfall at the Montebello meteorological station typically varies from 3.69 inches in January to 0.01 inch in August with an annual total of 14.78 inches (Western Regional Climate Center 2019). Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

Although the Basin has a semi-arid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 6 mile per hour (mph) daytime breeze and an offshore 3 mph nighttime breeze (Western Regional Climate Center 2019). The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly (Santa Ana) winds from the mountains and deserts northeast of the Basin. Summer wind flow patterns represent worst-case conditions because this is the period of higher temperatures and more sunlight, which result in ozone (O_3) formation.

Temperature normally decreases with altitude, and a reversal of this atmospheric state, where temperature increases with altitude, is called an inversion. The height from the Earth to the inversion base is known as the mixing height. Persistent low inversions and cool coastal air tend to create morning fog and low stratus clouds. Cloudy days are less likely in the eastern portions of the Basin and are about 25 percent more likely along the coast. The vertical dispersion of air pollutants in the Basin is limited by temperature inversions in the atmosphere close to the Earth's surface.

Inversions are generally lower in the nighttime when the ground is cooler than during daylight hours when the sun warms the ground and, in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base, causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle-to-late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive smog buildup.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversions or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problem is the accumulation of carbon monoxide (CO) and nitrogen oxides (NOx) due to extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NOx to form photochemical smog.

Local Air Quality

The SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Pico Rivera station (approximately 6 miles west from Hacienda Heights), which monitors air pollutant data for ozone, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and particulate matter less than 2.5 microns in size [$PM_{2.5}$]. Particulate matter less than 10 microns in size [PM_{10}] and sulfur dioxide (SO_2) data were obtained from the Los Angeles Monitoring Station (approximately 20 miles west from Hacienda Heights). The air quality trends from these three stations are used to represent the ambient air quality in the vicinity of the proposed project site. Table A presents the ambient air quality data monitored at these stations within the past three years.

As shown in Table A, the ambient air quality data indicate that CO, NO_2, and SO_2 levels are consistently below the relevant State and federal standards. The State 1-hour O_3 standards were exceeded between six and nine times and the federal and State 8-hour O_3 standards were exceeded between six and 11 times in the last three years. The federal 24-hour $PM_{2.5}$ standards were exceeded between one and three times in the last 3 years. The State annual $PM_{2.5}$ standard was exceeded at least once in 2017. The State 24-hour and annual PM_{10} standards were exceeded at least once in the last 3 years.

Table A: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2015	2016	2017
Ozone (O_3): Pico Rivera Monitoring Station				
Maximum 1-hour concentration (ppm)		0.107	0.111	0.118
Number of days exceeded:	State: > 0.09 ppm	6	9	7
Maximum 8-hour concentration (ppm)		0.081	0.081	0.086
Number of days exceeded:	State: > 0.07 ppm	11	6	9
	Federal: > 0.07 ppm	11	6	9
Coarse Particulates (PM_{10}): Los Angeles Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		88.5	74.6	96.2
Number of days exceeded:	State: > 50 µg/m^3	4	4	4
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		27.0	25.8	25.7
Exceeded for the year:	State: > 20 µg/m^3	Yes	Yes	Yes
Fine Particulates ($PM_{2.5}$): Pico Rivera Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		52.7	46.5	49.5
Number of days exceeded:	Federal: > 35 µg/m^3	3	2	1
Annual arithmetic average concentration (µg/m^3)		11.5	11.7	12.1
Exceeded for the year:	State: > 12 µg/m^3	No	No	Yes
	Federal: > 15 µg/m^3	No	No	No
Carbon Monoxide (CO): Pico Rivera Monitoring Station				
Maximum 1-hour concentration (ppm)		2.8	2.8	2.5
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.7	1.7	2.2
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Nitrogen Dioxide (NO_2): Pico Rivera Monitoring Station				
Maximum 1-hour concentration (ppm)		0.070	0.063	0.075
Number of days exceeded:	State: > 0.18 ppm	0	0	0
	Federal: > 0.10 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.019	0.019	0.019
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2): Los Angeles Monitoring Station				
Maximum 24-hour concentration (ppm)		0.001	0.001	0.001
Number of days exceeded:	State: > 0.04 ppm	0	0	0
Maximum 1-hour concentration (ppm)		0.0011	0.0013	0.0019
Number of days exceeded:	State: > 0.25 ppm	0	0	0
	Federal: > 0.075 ppm	0	0	0

Source: EPA. Air Data Air Quality Monitors. Website: http://www.epa.gov/airdata/ad_maps.html (accessed May 2019).

µg/m^3 = micrograms per cubic meter
EPA = United States Environmental Protection Agency
NA = not available
ppm = parts per million

Air Pollution Constituents and Attainment Status

The ARB coordinates and oversees both State and federal air pollution control programs in the State. The ARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the United States Environmental Protection Agency (EPA) and local air quality districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent three calendar years compared with the Ambient Air Quality Standards (AAQS).

Attainment areas may be:

- Attainment/unclassified ("unclassifiable" in some lists), which have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status;
- Attainment/maintenance (National Ambient Air Quality Standards [NAAQS] only), which violated an NAAQS that is currently in use (was nonattainment) in or after 1990, but now attains the standard and is officially re-designated as attainment by the EPA with a maintenance State Implementation Plan (SIP); or
- Attainment (usually only for California Ambient Air Quality Standards [CAAQS], but sometimes for NAAQS), which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official maintenance period.

Additional restrictions are imposed on nonattainment areas as required by the EPA. The air quality data collected from monitoring stations are also used to monitor progress in attaining air quality standards. Table B lists the attainment status for the criteria pollutants in the Basin.

Table B: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment[1]
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[2]	Unclassified/Attainment[2]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: ARB. Air Quality Standards and Area Designations. Website: http://www.arb.ca.gov/desig/desig.htm (accessed May 2019).

[1] Area has a design value of 0.175 ppm and above.

[2] Except in Los Angeles County.

ARB = California Air Resources Board
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million
SO_2 = sulfur dioxide

Description of Global Climate Change and its Sources

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the San Joaquin Delta.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years (Intergovernmental Panel on Climate Change [IPCC] 2013). The latest projections, based on state-of-the-art climate models, indicate that temperatures in California are expected to rise 3°F to 10.5°F by the end of the century (California Energy Commission 2006). The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as "the greenhouse effect."[2]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are:[3]

- Carbon dioxide (CO_2);
- Methane (CH_4);

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1 The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

2 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, GHGs like CO_2, CH_4, and N_2O in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

3 The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this memorandum.

- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur hexafluoride (SF_6).

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which some scientists believe can cause global warming. While GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs, which remain in the atmosphere for significant periods of time and contribute to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons[4] of "CO_2 equivalents" (metric tons [MT] of CO_2e). For example, N_2O is 298 times more potent at contributing to global warming than CO_2. Table C identifies the GWP for each GHG analyzed in this memorandum.

Table C: Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (100-year)[1]
Carbon Dioxide (CO_2)	~100[2]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	121	298

Source: ARB. First Update to the Climate Change Scoping Plan (2014).

[1] The 100-year global warming potential estimates are from Section 8.7.1.2 of The Global Warming Potential Concept in the IPCC 2007 Fourth Assessment Report (AR4). Website: http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm (accessed May 2019).

[2] CO_2 has a variable atmospheric lifetime and cannot be readily approximated as a single number.

ARB = California Air Resources Board
CO_2 = carbon dioxide
IPCC = Intergovernmental Panel on Climate Change

[4] A metric ton is equivalent to approximately 1.1 tons.

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2, and consequently the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s.[5]

The transportation sector remained the largest source of GHG emissions in 2016, representing 39 percent of the State's GHG emission inventory.[6] The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute more than 92 percent of the transportation sector total. Industry and electricity generation were the State's second- and third-largest categories of GHG emissions, respectively.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands) (EPA 2010). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the types of fuel, technology, and pollution control devices used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in the State.

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[5] California Environmental Protection Agency (CalEPA). Climate Action Team Report to Governor Schwarzenegger and the Legislature. Website: http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF (accessed May 2019).

[6] CalEPA. Air Resources Board. California GHG Emission Inventory. Website: https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2016/ghg_inventory_trends_00-16.pdf (accessed May 2019).

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[7] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the State; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. However, there are no known project-related emissions of these three GHGs; therefore, these substances are not discussed further in this analysis.

GHG Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, national, State, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions

Worldwide emissions of GHGs in 2016 totaled 23.6 billion metric tons of carbon dioxide equivalent per year (MT CO_2e/yr).[8] Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions

In 2016, the United States emitted approximately 6.546 billion MT CO_2e, down from 7.4 billion MT in 2007. Total United States emissions increased by 2.8 percent from 1990 to 2016, and emissions increased from 2015 to 2016 by 2.0 percent. Of the six major sectors nationwide—the electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined account for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Greenhouse gas emissions in 2016 were 11.6 percent below 2005 levels (EPA 2018).

State of California Emissions

According to ARB emission inventory estimates, the State emitted approximately 429.33 million metric tons of CO_2e (MMT CO_2e) emissions in 2016. This is a decrease representing an overall decrease of 13 percent since peak levels in 2004 and 2 MMT CO_2e below the 1990 level and the State's 2020 GHG target (ARB 2018).

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[7] The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the O_3 layer by phasing out the production of several groups of halogenated hydrocarbons that are believed to be responsible for O_3 depletion and are also potent GHGs.

[8] United Nations Framework Convention on Climate Change (UNFCCC). 2018. GHG data from UNFCCC. Website: https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc (accessed May 2019).

The ARB estimates that transportation was the source of approximately 41 percent of the State's GHG emissions in 2016, followed by electricity generation (both in State and out of State) at 16 percent and industrial sources at 23 percent. The remaining sources of GHG emissions were residential and commercial activities at 12 percent, agriculture at 8 percent, and other unspecified sources at 1 percent (ARB 2018).

The ARB is responsible for developing the State GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities in the State and supports the Assembly Bill (AB) 32 Climate Change Program. The ARB's current GHG emission inventory covers the years 1990–2014 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

ARB staff has projected statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 509 MMT CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase but remain at approximately 30 percent and 32 percent of total CO_2e emissions, respectively (ARB 2014).

REGULATORY SETTING

Federal Regulations/Standards

Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

As discussed above, data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with CAA requirements for the Basin.

State Regulations/Standards

In 1967, the State Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus (i.e., the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board), to establish the ARB. Since its formation, the ARB has worked with the public, the business sector, and local governments to find solutions to the State's air pollution problems.

The California Air Pollution Control Officers Association (CAPCOA) is a nonprofit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing knowledge, experience, and information among the air quality regulatory agencies around the State. CAPCOA meets regularly with federal and State air quality officials to develop statewide rules and to ensure consistent application of rules and regulations. CAPCOA works with specialized taskforces (including regulated industry) by participating actively in the legislative process, and continuing to coordinate local efforts

with those of the State and federal air agencies. The goal is to protect public health while maintaining economic vitality. California adopted the California Clean Air Act (CCAA) in 1988. The ARB administers the CAAQS for the 10 air pollutants designated in the CCAA. These 10 State air pollutants are the six criteria pollutants designated by the CAA as well as four others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards;
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards;
- Title 24, Part 6, CCR: Building Energy Efficiency Standards; and
- Title 24, Part 11, CCR: Green Building Standards Code.

California Climate Action Milestones

In 1988, AB 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect the State's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1771 also contained several additional requirements for the CEC, including (1) updating the State's GHG inventory from an existing 1998 report and continuing to update it every five years; (2) acquiring, developing, and distributing information on GCC to agencies and businesses; (3) establishing a State interagency taskforce to ensure policy coordination; and (4) establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement GCC requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to the ARB with AB 1803. The ARB updates the inventory annually.

AB 1493, authored by Assembly Member Fran Pavley in 2002, directed the ARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by the ARB in 2004. On September 24, 2009, the ARB adopted amendments to the "Pavley" regulations that reduced GHG emissions in new passenger vehicles from 2009 through 2016. AB 1493 also directed the State's Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of its retail sales with renewable power by 2017, was established by SB 1078 in 2002. The Renewable

Portfolio Standard was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by ARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The renewable electricity standard is projected to reduce GHG emissions from the electricity sector by at least 12 MMT CO_2e in 2020.

Executive Order (EO) S-3-05 (June 2005) established GHG targets for the State (e.g., returning to year 2000 emission levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050). EO S-3-05 directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multiyear program to reduce GHG emissions in California. AB 32 required the ARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the ARB in 2008 and must be updated every five years. The ARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. In 2016, the State Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the State Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The ARB has prepared a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07 (signed January 2007) and AB 32. The standard requires a reduction of at least 10 percent in the CO intensity of the State's transportation fuels by 2020. This reduction is expected to reduce GHG emissions in 2020 by 17.6 MMT CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and ARB administer this program, which provides funding for alternative fuel and vehicle technology research, development, and deployment in order to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, develop public and private partnerships, and ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort to reduce GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., vehicle miles traveled [VMT]). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 MPOs. The bill directed the ARB to set regional GHG emission reduction targets for most areas of the State. SB 375 also contained important elements related to federally-mandated regional transportation plans and the alignment of State transportation and housing planning processes.

ARB released the Final 2017 Climate Change Scoping Plan Update in November 2017. This Scoping Plan Update establishes a proposed framework of action for California to meet the target of 40 percent reduction in GHGs by 2030 compared to 1990 levels. This goal builds on California's success in establishing effective policies that have helped reduce emissions of GHGs while delivering

substantial economic and environmental benefits. Further, the goal aligns California with the rest of the world in the global effort to fight climate change.

The first Scoping Plan was required by AB 32, the Global Warming Solutions Act, and was adopted in 2008. Under that plan, California set in place a range of effective programs to slash GHGs from cars, trucks, fuels, industry, and electrical generation, and the State is well on its way to achieving the goal of AB 32 to reach 1990 levels of GHGs by 2020. The 2017 Climate Change Scoping Plan Update builds on those programs and takes aim at the 2030 target established by SB 32 (Pavley). That bill, and related laws, is designed specifically to continue California's leadership in the fight against climate change and guide the State toward an equitable clean energy economy and prosperous future. To reach that future, the 2017 Climate Change Scoping Plan Update draws on the successes and the lessons learned from the first chapter of California's efforts to fight climate change under AB 32. The 2017 Climate Change Scoping Plan Update builds on key programs such as the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; and much cleaner cars, trucks, and freight movement, powering the State with cleaner renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using methane to meet energy needs.

REGIONAL AIR QUALITY PLANNING FRAMEWORK

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air quality districts throughout the State. The CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of that state.

The ARB is responsible for incorporating air quality management plans for local air basins into an SIP for EPA approval. Significant authority for air quality control within them has been given to local air quality districts that regulate stationary-source emissions and develop local nonattainment plans.

SCAQMD Rules

The proposed project would be required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures (BACMs) so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

SCAQMD Rule 403 Measures

- Water active sites at least three times daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

REGIONAL AIR QUALITY MANAGEMENT PLAN

The SCAQMD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SCAQMD prepares a new AQMP every three years, updating the previous plan and 20-year horizon.

The latest plan is the 2016 AQMP, which incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emissions inventory methodologies for various source categories. The 2016 AQMP included the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards. Key elements of the 2016 AQMP include:

- Calculation and credit for co-benefits from other planning efforts (e.g., climate, energy, and transportation);
- A strategy with fair-share emission reductions at the federal, State, and local levels;
- Investment in strategies and technologies meeting multiple air quality objectives;
- Identification of new partnerships and significant funding for incentives to accelerate deployment of zero and near zero technologies;
- Enhanced socioeconomic assessment, including an expanded environmental justice analysis;
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures;
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the ozone strategy; and
- Attainment of the 1-hour ozone standard by 2022 with no reliance on "black box" future technology (CAA Section 182(e)(5) measures).

LOCAL POLICIES

County of Los Angeles General Plan

State law requires that every city and county adopt a comprehensive, long-term General Plan. A General Plan represents the community's view of its future and is often referred to as a blueprint for growth and development. As a result, local decision-makers oftentimes use the goals and policies of the General Plan as a basis on which to formulate land use decisions. Policies listed under the Air Quality, Climate Change, Energy Conservation, and Green Building Practices in the County of Los Angeles General Plan Air Quality Element include the following goals and policies applicable to the proposed project:

GOAL AQ 1: Protection from exposure to harmful air pollutants.

Policy AQ 1.1: Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.

Policy AQ 1.2: Encourage the use of low or no volatile organic compound (VOC) emitting materials.

Policy AQ 1.3: Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

Policy AQ 1.4: Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

GOAL AQ 2: The reduction of air pollution and mobile source emissions through coordinated land use, transportation and air quality planning.

Policy AQ 2.1: Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.

Policy AQ 2.2: Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.

Policy AQ 2.3: Support the conservation of natural resources and vegetation to reduce and mitigate air pollution impacts.

Policy AQ 2.4: Coordinate with different agencies to minimize fugitive dust from different sources, activities, and uses.

GOAL AQ 3: Implementation of plans and programs to address the impacts of climate change.

Policy AQ 3.1: Facilitate the implementation and maintenance of the Community Climate Action Plan to ensure that the County reaches its climate change and greenhouse gas emission reduction goals.

Policy AQ 3.2: Reduce energy consumption in County operations by 20 percent by 2015.

Policy AQ 3.3: Reduce water consumption in County operations.

Hacienda Heights Community Plan

The Hacienda Heights Community Plan is a comprehensive, long-range plan to guide development in Hacienda Heights. The Hacienda Heights Community Plan was adopted by the Los Angeles County Board of Supervisors on May 24, 2011. The Conservation Element in the Hacienda Heights Community Plan contains the following air quality and GHG-related goals and policies applicable to the proposed project:

GOAL C-4: A community that conserves its natural resource.

Policy C 4.1: Encourage energy efficiency through the use of alternative energy sources, drought-tolerant landscaping, low-impact development and sustainable construction materials.

Policy C 4.2: Encourage sustainable, environmentally friendly construction and business operating practices.

Policy C 4.3: Encourage community members to reduce waste and conserve energy and water at home.

Policy C 4.4: Encourage efforts to reduce greenhouse gas emissions and promote air resource management best practices.

Policy C 4.5: Require the use of sustainable, environmentally-friendly paving materials on new exercise walking paths.

GOAL C 5: A community that is energy-efficient, reduces energy and natural resource consumption, and reduces emissions of greenhouse gases.

Policy C 5.1: Support the County's efforts to create an adopted Climate Action Plan by 2015 that meets state requirements and includes emission inventories, enforceable reduction measures, regular progress reviews, procedures for reporting on and revising the plan, and provides for resources to implement the Plan.

Policy C 5.2: Implement the County's Green Building Ordinances.

Policy C 5.3: Provide information and education to the public about energy conservation and local strategies to address climate change.

Policy C 5.4: Support the installation of alternative fuel and renewal energy facilities, where appropriate.

The Community Plan also helps to further the countywide objective of reducing greenhouse gases in order to meet the goals of the California Global Warming Solutions Act of 2006 (AB 32) and California's Sustainable Communities and Climate Protection Act (SB 375), which aim to achieve reductions of greenhouse gases. Los Angeles County has undertaken countywide measures to address these mandates, including adoption of the Green Building, Drought Tolerant Landscaping, and Low Impact Development Ordinances in 2008. The Community Plan strengthens these efforts by including goals and policies to support local development practices and initiatives to reduce greenhouse gas emissions.

Regional Air Quality Thresholds for Construction and Operational Emissions

The SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (by the EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

The County utilizes the SCAQMD *CEQA Air Quality Handbook* to identify potentially significant impacts on air quality. Projects in the Basin with operational emissions that exceed any of these emissions thresholds are considered to be significant under the SCAQMD guidelines. These thresholds, which apply throughout the Basin and were developed by the SCAQMD, apply as both project and cumulative thresholds. If a project exceeds these standards as shown in Table D, it is considered to have a project-specific and cumulative impact.

Table D: SCAQMD Air Quality Significance Thresholds

Air Pollutant	Construction Phase (lbs/day)	Operational Phase (lbs/day)
VOCs	75	55
CO	550	550
NOx	100	55
SOx	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55

Source: South Coast Air Quality Management District 2016.

CO = carbon monoxide
lbs = pounds
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
VOCs = volatile organic compounds
SO_X = sulfur oxides

Short-Term (Construction) Emissions

Emissions of pollutants would occur from soil disturbance and equipment exhaust during construction of the proposed project. Major sources of emissions during construction include (1) exhaust emissions from construction equipment and vehicles; and (2) fugitive dust generated by grading activities, construction vehicles, and equipment traveling over exposed surfaces.

Peak daily emissions associated with the on-site construction equipment, on-road haul trucks and vendor trips, and fugitive dust emissions during each of the construction tasks were calculated using the most recent version of CalEEMod (Version 2016.3.2). As shown in Table E, construction of the proposed project would occur in six phases. The construction equipment list in Table F is used in the CalEEMod to calculate on-site emissions for each construction phase. The total peak-day construction emissions for each phase are summarized in Table G and detailed in Attachment B. The emissions listed in Table G represent the maximum daily emissions generated during each construction phase. Because on-site construction operations must comply with dust control and other measures prescribed by SCAQMD Rule 403, compliance with dust control rules is assumed in the analysis.

Table E: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Demolition	11/2/2020	11/27/2020	5	20
2	Site Preparation	11/30/2020	12/11/2020	5	10
3	Grading	12/14/2020	1/26/2021	5	30
4	Building Construction	1/27/2021	12/15/2021	5	230
5	Paving	12/16/2021	1/12/2022	5	20
6	Architectural Coating	1/13/2022	2/10/2022	5	20

Source: Estimated by LSA from the Anticipated Construction Schedule (assuming a 2022 opening year) and using California Emissions Estimator Model (CalEEMod) defaults (May 2019).

Table F: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	2	8	158	0.38
	Rubber Tired Dozers	2	8	247	0.40
Site Preparation	Rubber-Tired Dozers	2	8	247	0.40
	Tractors/Loaders/ Backhoes	4	8	97	0.37
Grading	Scrapers	2	8	367	0.48
	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	1	8	247	0.40
	Tractors/Loaders/ Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/ Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Remaining Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Source: Compiled by LSA using California Emissions Estimator Model (CalEEMod) defaults (May 2019).

Table G: Construction Equipment and Worker Trip Counts

Phase Name	Off-road Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	6	15	0	148
Site Preparation	7	18	0	0
Grading	8	20	0	175
Building Construction	9	147	42	0
Paving	6	15	0	0
Architectural Coating	1	29	0	0

A Brief List of Default Construction Data from CalEEMod

A default construction schedule was used for all construction components (i.e., phases) in CalEEMod (Version 2016.3.2). Table E lists the tentative project construction schedule for the proposed project based on six construction components with an anticipated start date of early 2020 and a planned opening in 2022. Table F lists the potential construction equipment to be used during project construction.

Table G presents the number of equipment and worker trips for each construction phase from the CalEEMod. Demolition of approximately 32,614 square feet of classroom buildings would generate approximately 148 haul truck trips. Preliminary grading plans anticipate the import of soil fill for the proposed project site. A total of approximately 1,400 cubic yards (cy) of soil would be imported. It is assumed that approximately 175 truck trips would occur to import the soil during a 30-day grading period. As part of the assumptions for the proposed project, a default haul truck trip distance of 20 miles was used for both demolition and grading truck trip activities in the CalEEMod.

All construction equipment with less than 50 horsepower would utilize Tier 2 engines with level 1 diesel particulate filters. Other measures that have been applied to the analysis are the required construction emissions control measures under SCAQMD Rules 403 and 1113. On-site watering of at least three times daily was applied in the CalEEMod to control fugitive dust emissions as required under Rule 403. Low VOC-paint content levels were also applied as required under Rule 1113.

User Defined Trip Generation Rates from Traffic Impact Analysis used in CalEEMod

Based on trip generation factors provided in the *Traffic Impact Analysis* prepared for the proposed project (LSA 2018), the project would generate 812 daily trips. A user defined trip generate rate of 9.44 vehicle trips per dwelling unit (from Table C of the *Traffic Impact Analysis*) was used for the 86 detached residential condominiums. This Land Use Category (210) is based primarily on the land use definitions used for (mobile source) trip generation rate referenced from the Institute of Transportation Engineers (ITE) 10th edition of the *Trip Generation Manual*.

AIR QUALITY IMPACT ANALYSIS

The following is based on air quality modeling and analysis conducted by LSA in May 2019. The CalEEMod worksheets are included in Attachment B.

Clean Air Plan Consistency

The project site is located within the South Coast Air Basin, which includes all of Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the Basin is under the jurisdiction of the SCAQMD. The SCAQMD adopted the *2016 Air Quality Management Plan* (2016 AQMP) in March 2017.

The main purpose of an AQMP is to describe air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. A nonattainment area is considered to have worse air quality than the NAAQS and/or the CAAQS, as defined in the CAA. The Basin is in nonattainment for the federal and State standards for ozone and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10} standard and in attainment/maintenance for the federal PM_{10}, CO, and NO_2 standards.

Consistency with the 2016 AQMP for the Basin would be achieved if a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Per the SCAQMD *CEQA Air Quality Handbook* (April 1993), there are two main indicators of a project's consistency with the applicable AQMP: (1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the 2016 AQMP; and (2) whether the project would exceed the 2016 AQMP's assumptions for the final year for the AQMP. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities. Because the proposed project does not include any of these uses, it is not considered a "significant project" for purposes of the AQMP consistency analysis. For a proposed project to be consistent with the AQMP, the pollutants emitted from the project must not exceed the SCAQMD daily threshold or cause a significant impact on air quality. Additionally, if feasible mitigation measures are implemented and are shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP.

The project site is currently designated as H9 Residential on the Hacienda Heights Community Plan Land Use Map. The H9 Residential designation encourages single-family residential land uses, with up to nine dwelling units per acre. The proposed project would develop 86 single-family residential units on the 10.0-acre project site (a density of 8.6 dwelling units per acre). Therefore, the proposed project is consistent with the General Plan and would not conflict with the 2016 AQMP. Additionally, as discussed above, the proposed project would not be considered a "significant project" affecting air quality in the region. Furthermore, as discussed below, emissions generated by the proposed project would be below emissions thresholds established in SCAQMD's *Air Quality Significance Thresholds* (March 2015). Therefore, the proposed project would be consistent with and would not conflict with or obstruct implementation of the AQMP. No mitigation is required.

Air Pollutant Emission Analysis

The *State CEQA Guidelines* indicate that a significant impact would occur if a project would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in SCAQMD's *Air Quality Significance Thresholds* (March 2015). Table H summarizes the specific criteria established by the SCAQMD. Projects in the Basin with emissions that exceed any of the mass daily emission thresholds above would be considered significant by the SCAQMD.

Table H: SCAQMD Significance Thresholds

Air Pollutant	Construction Phase (lbs/day)	Operational Phase (lbs/day)
ROCs	75	55
CO	550	550
NOx	100	55
SOx	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55

Source: South Coast Air Quality Management District. *Air Quality Significance Thresholds* (March 2015).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particular matter less than 2.5 microns in size
PM_{10} = particular matter less than 10 microns in size
ROCs = reactive organic compounds
SOx = sulfur oxides

Construction Emissions. Air quality impacts could occur during demolition and construction of the proposed project due to soil disturbance and equipment exhaust. Major sources of emissions during construction include: (1) exhaust emissions from construction vehicles; (2) equipment and fugitive dust generated by demolition and vehicles traveling over exposed surfaces; and (3) soil disturbances from site grading and paving. The following summarizes construction emissions and associated impacts of the proposed project.

Construction of the project would include the following tasks: demolition, site preparation, grading, building construction, architectural coatings and paving. The project phasing would generally start with the demolition of the existing buildings on the project site, and continue with the construction of the proposed project. It is anticipated that construction activities would take approximately 16 months. Peak daily and annual emissions were analyzed using CalEEMod (Version 2016.3.2). Project-specific information provided by the project applicant was used where available, including building details, construction schedule, materials, and grading requirements. In total, 32,614 square feet of demolition debris would be hauled off the site in trucks. It is anticipated that 1,400 cubic yards of soil would be imported during grading. The following default equipment from CalEEMod was utilized in the analysis: industrial saws, excavators, scrapers, dozers, loaders, graders, cement and mortar mixers, backhoes, cranes, generator sets, forklifts, welders, compressors, paving equipment, pavers, and rollers.

Fugitive dust emissions would be substantially reduced by compliance with SCAQMD Rules 402 and 403. Implementation of these rules, including measures such as on-site watering at least two times daily, was accounted for in the project emission estimates.

Table I presents the peak daily construction emissions based on the CalEEMod emission estimates and shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD daily emissions thresholds. Therefore, the air quality impacts would be less than significant.

Table I: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOC	NOx	CO	SOx	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	1.20	30.46	21.88	0.04	0.89	0.59	0.17	0.59
Site Preparation	1.09	26.56	19.22	0.03	4.66	0.60	2.51	0.60
Grading	1.76	48.59	34.05	0.06	2.78	0.91	1.35	0.91
Building Construction	2.11	27.92	25.08	0.05	1.91	0.70	0.51	0.70
Paving	1.61	20.16	17.90	0.02	0.17	0.50	0.04	0.50
Architectural Coating	30.04	1.49	2.89	0.01	0.32	0.08	0.09	0.08
Peak Daily	**30.04**	**48.59**	**34.05**	**0.06**	**5.26**		**3.10**	
SCAQMD Thresholds	**75.00**	**100.00**	**550.00**	**150.00**	**150.00**		**55.00**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (May 2019).

CO = carbon monoxide
NOx = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
SOx = sulfur oxides
lbs/day = pounds per day
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
VOC = volatile organic compounds

Operational Emissions. Long-term air pollutant emissions impacts are those impacts associated with any change in permanent use of the project site by on-site stationary and off-site mobile sources that increase emissions. Stationary-source emissions include emissions associated with electricity consumption and natural gas usage. Mobile-source emissions result from vehicle trips associated with a project.

Based on the Traffic Impact Analysis report (LSA 2018), the proposed project would generate 812 total daily trips during project operations. Table J shows long-term operational emissions associated with the proposed project.

Table J: Peak Daily Operational Emissions

Peak Operational Emissions	Pollutant Emissions (lbs/day)					
	ROCs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	2.29	1.29	7.62	<0.01	0.14	0.14
Energy Sources	0.04	0.37	0.16	<0.01	0.03	0.03
Mobile Sources	1.46	7.18	19.94	0.07	5.96	1.63
Total	**3.80**	**8.85**	**27.72**	**0.07**	**6.13**	**1.80**
SCAQMD Thresholds	**55.0**	**55.0**	**550.0**	**150.0**	**150.0**	**55.0**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2019).
Notes: Column totals may not add up due to rounding. A representative amount of diesel-powered warehouse equipment (e.g., forklifts) was assumed.

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROCs = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

In addition, results shown in Table J indicate that the increase of all criteria pollutants would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. Therefore, project-related long-term air quality impacts would be less than significant and no mitigation is required.

Cumulative Air Quality Impacts

The Basin is in nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10} standard and is in attainment/maintenance for the federal PM_{10}, CO, and NO_2 standards. As discussed in Response (b) above, no exceedance of SCAQMD criteria pollutant emission thresholds would be anticipated for construction and operation of the proposed project. The projected emissions of criteria pollutants as a result of the proposed project are expected to be below the emissions thresholds established for the region. Therefore, there would be no cumulatively considerable net increase of the criteria pollutants that are in nonattainment status in the Basin. No mitigation is required.

Sensitive Receptors Impacts

As described above, the proposed project would not significantly increase long-term emissions in the vicinity of the project site. Project implementation may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following the SCAQMD's standard construction practices (Rules 402 and 403). Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Some of the applicable dust suppression techniques from Rule 403 are summarized as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- All trucks hauling demolished material, dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

The SCAQMD has issued guidance on applying CalEEMod results to localized impacts analyses.[9] Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The project site is primarily surrounded by residential uses. The sensitive receptors nearest to the proposed project are single-family residences located approximately 30 feet

[9] South Coast Air Quality Management District (SCAQMD). Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed April 2018).

north, east, south, and west of the project site. Table K shows that the construction emission rates would not exceed the localized significance thresholds (LSTs) for the nearest sensitive receptors in the vicinity of the project site.

Table K: Construction Localized Emissions

Emissions Sources	Pollutant Emissions (lbs/day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	48	29	5.1	3.0
LST	**83**	**673**	**6.0**	**4.0**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2019).

Note: Source Receptor Area 11 – South San Gabriel Valley, 1 acre, receptors at 25 meters.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Table L shows that operational emissions rates would not exceed the LSTs for sensitive receptors in the vicinity of the project site. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Table L: Operational Localized Emissions

Emissions Sources	Pollutant Emissions (lbs/day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	2	9	0.4	0.2
LST	**83**	**673**	**1.0**	**1.0**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (May 2019).

Note: Source Receptor Area 11 – South San Gabriel Valley, 1 acre, receptors at 25 meters.

CO = carbon monoxide
LST = local significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

The project's on-site emissions would be below the SCAQMD's LSTs for construction and operations. Therefore, sensitive receptors would not be expected to be exposed to substantial pollutant concentrations during construction and operation of the proposed project and potential short-term impacts would be considered less than significant.

Odors Impacts

SCAQMD's *CEQA Air Quality Handbook* (SCAQMD 1993) identifies various secondary significance criteria related to odorous air contaminants. Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills, or heavy manufacturing uses. Pursuant to SCAQMD Rule 402, these sources shall include a quantitative

assessment of potential odors and meteorological conditions. On-site residential food processing and cooking, and trash receptacles would have the potential to create adverse odors. The organic and inorganic compounds emitted from various food processing and cooking may become nuisances in the surroundings when they can create objectionable odors as perceived by the general public. As trash receptacles would be located outdoor and maintained in a manner that promotes odor control, no adverse odor impacts are anticipated from the proposed residential development. The proposed project would not include any such uses or activities that would result in potentially significant odor impacts.

Some objectionable odors may emanate from the operation of diesel-powered construction equipment during construction of the proposed project. However, these odors would be limited to the construction period and would disperse quickly; therefore, these odors would not be considered a significant impact.

Therefore, the proposed project would not be a source of new odors in the project area. Further, the project is located in a residential area and the nearest sensitive receptors are located at least 30 feet away from the project site. Therefore, no significant impacts related to objectionable odors would result from the proposed project and no mitigation is required.

GREENHOUSE GAS EMISSIONS

Environmental Setting

According to EPA, a GHG is any gas that absorbs infrared radiation in the atmosphere. This absorption traps heat within the atmosphere, maintaining the Earth's surface temperature at a level higher than would be the case in the absence of GHGs. Increasing levels of GHGs resulting from human activities have increased levels of most of these naturally occurring gases in the atmosphere, which has and would continue to result in an increase in the temperature of the Earth's lower atmosphere, a phenomenon that is commonly referred to as *global warming*. Warming of the Earth's lower atmosphere induces a suite of additional changes, including changes in global precipitation patterns; ocean circulation, temperature, and acidity; global mean sea level; species distribution and diversity; and the timing of biological processes. These large-scale changes are collectively referred to as *global climate change*.

The GHGs listed by the Intergovernmental Panel on Climate Change include CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Intergovernmental Panel on Climate Change 2007). California law and the *State CEQA Guidelines* contain a similar definition of GHGs (Health and Safety Code Section 38505(g); 14 CCR Section 15364.5). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources.

To simplify reporting and analysis, GHGs are commonly defined in terms of a global warming potential (GWP). The Intergovernmental Panel on Climate Change defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2 equivalents (CO_2e). The GWP of CO_2 is, therefore, 1. GHG emissions are quantified and presented in terms of metric tons of CO_2e emitted per year.

Regulatory Setting

Los Angeles County Community Climate Action Plan. The County of Los Angeles has prepared a Final Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP). The CCAP was adopted as part of the Los Angeles County General Plan 2035 on October 6, 2015. The plan addresses the County's local GHG reduction goals for 2020 pursuant to AB 32. The purpose of the CCAP is to 1) establish a baseline emissions inventory and reduction needed to meet County goals; 2) identify specific actions that will measurably reduce GHG emissions consistent with AB 32; 3) establish a framework for implementing State and local level actions; and 4) provide a mechanism for ongoing tracking and updates to the CCAP.

As part of the CCAP, the County has identified a GHG reduction target of at least 11 percent below 2010 levels by 2020. The CCAP identifies 26 local actions to reduce communitywide GHG emissions in 2020 to reach the GHG reduction goal for the unincorporated areas of Los Angeles County (unincorporated areas). As identified in the CCAP, the community and statewide actions would reduce GHG emissions in the unincorporated areas by more than 1.95 MMT CO_2e.

Since adoption of the CCAP, the Los Angeles County Department of Regional Planning has been working collaboratively with other County departments and individually on ordinance amendments to Title 22 in order to implement the CCAP. The Department of Regional Planning is currently working on the following CCAP implementation ordinances for Title 22:

- Title 22 Compatibility for Cool Roofs and Cool Pavement;
- Electric Vehicle Infrastructure as an Accessory Use;
- Idle Reduction; and
- Secondary Uses Under High-Voltage Power Lines.

GHG Thresholds for Construction and Operational Emissions. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, the SCAQMD Working Group identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010):

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, the SCAQMD requires an assessment of GHG emissions. SCAQMD is proposing a "bright-line" screening-level threshold of 3,000 MT CO_2e annually for all land use types or the following land-use-specific thresholds: 1,400 MT CO_2e for commercial projects, 3,500 MT CO_2e for residential projects, or 3,000 MT CO_2e for mixed-use projects. Therefore, projects that do not exceed the bright-line

threshold would have a nominal, and therefore, less than cumulatively considerable impact related to GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

Individual GHGs have varying global warming potentials and atmospheric lifetimes. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emissions of GHGs. CO_2e is a consistent methodology for comparing GHG emissions because it normalizes various GHGs to the same metric. GHG emissions are typically measured in terms of MT of "CO_2 equivalents" (CO_2e). Therefore, for the purpose of this technical analysis, the concept of CO_2e is used to describe how much global climate change a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO_2 as the reference. The GHG emissions estimates were calculated using CalEEMod Version 2016.3.2.

Greenhouse Gas Impact Analysis

The following is based on modeling and analysis conducted by LSA in May 2019. The CalEEMod worksheets are included in Attachment B. This section evaluates the project's mass emissions as well as the project's consistency with GHG reduction plans.

Emissions Analysis. Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operations. Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** GHGs would be emitted through the operation of construction equipment and from worker and supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O.

- **Gas, Electricity and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Approximately one-fifth of the electricity and one-third of the non-power plant natural gas consumed in the State are associated with water delivery, treatment, and use.[10]

- **Solid Waste Disposal:** Solid waste (e.g., green waste, trash from receptacles, and construction waste) generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, resulting in the production of additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of

[10] ARB, 2010. *Economic Sectors Portal*. Website: www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm (accessed April 2018).

organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

- **Motor Vehicle Use:** Transportation associated with the project would result in GHG emissions from the combustion of fossil fuels in daily automobile trips.

Construction GHG Emissions. GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment and vehicle exhaust. The calculation presented below includes construction emissions in terms of CO_2 and annual CO_2e GHG emissions from increased energy consumption, water usage, and solid waste disposal.

GHG emissions generated by the proposed project would predominantly consist of CO_2. In comparison to criteria air pollutants such as O_3 and PM_{10}, CO_2 emissions persist in the atmosphere for a substantially longer period of time. While emissions of other GHGs, such as CH_4, are important with respect to GCC, emission levels of other GHGs are less dependent on the land use and circulation patterns associated with the proposed land use development project than are levels of CO_2.

Construction activities produce combustion emissions from various sources such as demolition, site preparation, grading, building construction, architectural coatings, paving, on-site construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table M presents the annual construction emissions based on the CalEEMod emission estimates. Results indicate that project implementation would generate a total of 718 MT of CO_2e during the construction period. Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the project) and included in the operations analysis. Amortized over 30 years, the total construction emissions would generate approximately 24 MT of CO_2e per year.

Operational GHG Emissions. Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Project-specific energy utilization rates for electricity and natural gas were entered into CalEEMod. Operational and construction GHG emissions, as shown in Table N, were calculated using CalEEMod (Version 2016.3.2). Based on SCAQMD guidance, construction emissions were amortized over 30 years (a typical project lifetime) and added to the total project operational emissions. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with the proposed project. Area-source emissions would be associated with activities including landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project.

Table M: Project Construction Greenhouse Gas Emissions

Construction Emissions	Pollutant Emissions (MT/yr)			
	CO_2	CH_4	N_2O	CO_2e
Demolition, 2020	36.70	<0.01	0.00	36.91
Site Preparation, 2020	13.88	<0.01	0.00	13.99
Grading, 2020	39.54	0.01	0.00	39.83
Grading, 2021	45.11	0.01	0.00	45.44
Building Construction, 2021	552.62	0.08	0.00	554.53
Paving, 2021	12.90	<0.01	0.00	13.00
Paving, 2022	8.58	<0.01	0.00	8.65
Architectural Coatings, 2022	5.32	<0.01	0.00	5.33
Total Project Emissions	**714.65**	**0.12**	**0.00**	**717.67**
Amortized Emissions	**23.82**	**<0.01**	**0.00**	**23.92**

Source: Compiled by LSA (May 2019).

Note: Numbers in table may not appear to add up correctly due to rounding of numbers.

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

As shown in Table N, the proposed project would generate 1,504 MT of CO_2e per year. The project's emissions are less than the SCAQMD Tier 3 threshold of 3,500 MT of CO_2e per year that applies to residential projects; thus, project-level and cumulative GHG emissions would be less than significant and no mitigation is required.

Table N: Long-Term Operational Greenhouse Gas Emissions

Emissions	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Construction Emissions Amortized over 30 Years	0	23.8	23.8	<0.01	0	23.9
Operational Emissions, Area	0	19.0	19.0	<0.01	<0.01	19.1
Operational Emissions, Energy	0	218.2	218.2	<0.01	<0.01	219.2
Operational Emissions, Mobile	0	1,176.5	1,176.5	0.1	0	1,178.0
Operational Emissions, Waste	8.0	0	8.0	0.5	0	19.9
Operational Emissions, Water	1.8	35.8	37.5	0.2	<0.01	43.5
Total Project Emissions	**9.8**	**1,473.3**	**1,483.1**	**0.7**	**0**	**1,503.6**
					SCAQMD Tier 3 Threshold	**3,500**
					Significant?	No

Source: Compiled by LSA (May 2019).
Note: Column totals may not add up due to rounding.

Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = non-biologically generated CO_2
SCAQMD = South Coast Air Quality Management District

Plan Analysis. The County, as a lead agency, may assess the significance of GHG emissions by determining a project's consistency with a local GHG reduction plan or the County's CCAP that qualifies under Section 15183.5 of the *CEQA Guidelines*. The County has prepared and adopted the CCAP that is a long-range plan to reduce communitywide GHG emissions from activities within the County limits. If a project is consistent with a qualifying local greenhouse gas reduction plan such as the CCAP, it does not have significant greenhouse gas emissions.

The County's CCAP and ARB, SCAG, and SCAQMD goals and policies related to climate change were each used to respond to this threshold.

The Air Quality Element of the County's CCAP contains policies that are directed at managing the GHG emissions from projects in the County. Table O provides a discussion of these policies and demonstrates the proposed project would be consistent with the applicable policies in the County's Community Climate Action Plan. No mitigation is required.

Table O: Project Consistency with County CCAP Policies Related to Greenhouse Gas Emissions

Community Climate Action Plan	Project Consistency
Green Building Development. Promote and incentivize at least Tier 1 voluntary standards within CALGreen for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	**Consistent.** The 2019 Building and Energy Efficiency Standards will be effective January 1, 2020, and would be applicable to the proposed project. Pursuant to the County's Green Building Ordinance, residential buildings would be required to achieve the Tier 1 energy standards as outlined in the California Building and Energy Efficiency Code. The proposed project would meet or exceed Title 24 energy use requirements.
Solar Installations. Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	**Consistent.** The current Building and Energy Efficiency Standards mandate that new homes have solar panels. The proposed project would meet or exceed Title 24 energy use requirements.
Electric Vehicle Infrastructure. Install electric vehicle (EV) charging facilities at residence parking area and/or garages.	**Consistent.** The current Building and Energy Efficiency Standards now requires installation of electric vehicle charging spaces in new residential homes (2016 CALGreen). The proposed project would meet or exceed 2016 CalGreen requirements.

Source: County of Los Angeles. *Community Climate Action Plan* (2015).

In 2008, ARB approved a *Climate Change Scoping Plan* as required by AB 32. The *Climate Change Scoping Plan* proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health." The *Climate Change Scoping Plan* (2008) has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms (e.g., a cap-and-trade system), and an AB 32 implementation fee to fund the program. In November 2017, ARB released an *Update to the Climate Change Scoping Plan*. In the 2017 Update, nine key focus areas were identified: energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program. The proposed project's compliance with California Building and Energy Efficiency

Code would make the proposed project consistent with AB 32 and the 2008 *Climate Change Scoping Plan.*

In April 2016, the Regional Council of SCAG adopted the *2016–2040 Regional Transportation Plan/ Sustainable Communities Strategy* (RTP/SCS). The proposed project would support and be consistent with relevant and applicable GHG emission reduction strategies in SCAG's *Sustainable Communities Strategy*. These strategies include providing residences in an urban infill location and within a relatively short distance of existing transit stops.

While the SCAQMD does not have an adopted threshold for assessing the significance of GHG emissions, the draft screening value for residential use is 3,500 MT of CO_2e per year. As discussed in Response (a), the proposed project would result in operational and amortized construction GHG emissions of 1,504 MT of CO_2e per year, which is well below the suggested threshold of 3,500 MT of CO_2e per year. As a result, the proposed project would be consistent with SCAQMD's adopted plans and policies, which were determined by SCAQMD to be consistent with California's State-level plans, policies, and regulations related to GHG. Therefore, the proposed project is also consistent with State-level plans. Less than significant impacts would result from the proposed project and no mitigation is required.

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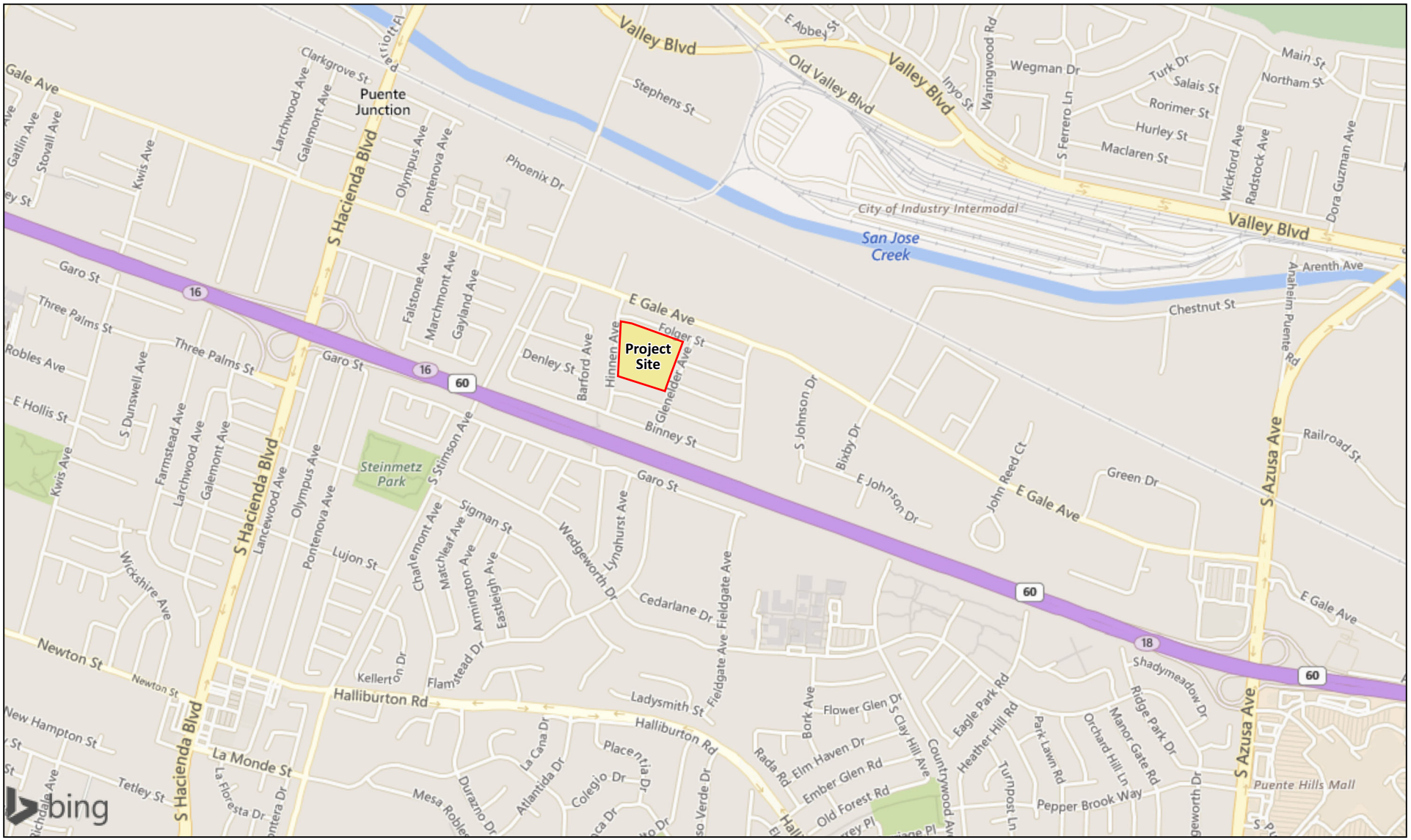
ATTACHMENTS

- Attachment A: Figures
- Attachment B: CalEEMod Modeling Runs

ATTACHMENT A

FIGURES



LSA

FIGURE 1

LEGEND

- Project Site

N

0 750 1500

FEET

SOURCE: Bing Maps

16234 Folger Street

Project Location

I:\LHC1802\G\Project Location.cdr (12/14/2018)

LSA

FIGURE 2

N

0 80 160

FEET

SOURCE: Lennar

Glenelder Residential Development

Site Plan

I:\LHC1802\G\Site Plan.cdr (5/14/2019)

ATTACHMENT B

CALEEMOD MODEL OUTPUT FILES

Glenelder Residential Project

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	4.36	Acre	4.36	189,921.60	0
Parking Lot	29.00	Space	0.26	11,600.00	0
Condo/Townhouse	86.00	Dwelling Unit	5.38	86,000.00	246

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule confirmed by project applicant.

Off-road Equipment - Estimated construction equipment confirmed by project applicant.

Off-road Equipment - One excavator confirmed.

Off-road Equipment - Two construction equipment dozers and 4 tractors/loaders/backhoes confirmed.

Demolition - Classroom buildings to be demolished - 32,614 sf

Grading - Site grading is 10 acres, with 1,400 cy of soil import.

Vehicle Trips - Trip rates for land use code 201 is 9.44 trips per dwelling unit.

Woodstoves - No wood stoves or fireplaces.

Construction Off-road Equipment Mitigation - All construction equipment with greater than 50 hp would utilize Tier 2 engines with level 1 diesel particulate filter. Fugitive dust emission would be control with on-site wtaering at least 3 times daily and cover ground of area disturbed.

Area Mitigation -

Water Mitigation - Project would implement CalGreen Building Code for water conservation measures such as low flow appliances and water efficient irrigation system.

Waste Mitigation - Project would comply with County's solid waste disposal program.

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblFireplaces	NumberWood	4.30	0.00
tblGrading	AcresOfGrading	75.00	10.00
tblGrading	MaterialImported	0.00	1,400.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblVehicleTrips	ST_TR	5.67	9.44
tblVehicleTrips	SU_TR	4.84	9.44
tblVehicleTrips	WD_TR	5.81	9.44
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.3481	49.5277	29.9378	0.0638	12.2454	2.0643	13.8895	6.6738	1.8993	8.1864	0.0000	6,240.2047	6,240.2047	1.8221	0.0000	6,285.7563
2021	4.0964	45.8701	28.7791	0.0637	6.7739	1.8875	8.6614	3.4530	1.7367	5.1897	0.0000	6,228.3658	6,228.3658	1.8213	0.0000	6,273.8969
2022	30.0292	11.1648	15.1379	0.0245	0.3242	0.5692	0.7369	0.0860	0.5237	0.5681	0.0000	2,372.4672	2,372.4672	0.7186	0.0000	2,390.4309
Maximum	**30.0292**	**49.5277**	**29.9378**	**0.0638**	**12.2454**	**2.0643**	**13.8895**	**6.6738**	**1.8993**	**8.1864**	**0.0000**	**6,240.2047**	**6,240.2047**	**1.8221**	**0.0000**	**6,285.7563**

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					
2020	1.7524	48.5657	34.0519	0.0638	4.6636	0.9056	5.2599	2.5062	0.9052	3.1024	0.0000	6,240.2046	6,240.2046	1.8221	0.0000	6,285.7563
2021	2.0354	48.4466	33.9770	0.0637	2.7571	0.9049	3.6621	1.3447	0.9046	2.2493	0.0000	6,228.3658	6,228.3658	1.8213	0.0000	6,273.8969
2022	30.0292	20.1546	17.8531	0.0245	0.3242	0.5015	0.6692	0.0860	0.5014	0.5459	0.0000	2,372.4672	2,372.4672	0.7186	0.0000	2,390.4309
Maximum	**30.0292**	**48.5657**	**34.0519**	**0.0638**	**4.6636**	**0.9056**	**5.2599**	**2.5062**	**0.9052**	**3.1024**	**0.0000**	**6,240.2046**	**6,240.2046**	**1.8221**	**0.0000**	**6,285.7563**

Glenelder Residential Project - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**12.10**	**-9.95**	**-16.28**	**0.00**	**59.96**	**48.86**	**58.81**	**61.45**	**44.44**	**57.71**	**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	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Energy	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
Mobile	1.4639	7.0088	19.9378	0.0725	5.8991	0.0585	5.9576	1.5787	0.0545	1.6332		7,382.2062	7,382.2062	0.3691		7,391.4327
Total	**3.8013**	**8.6764**	**27.7186**	**0.0830**	**5.8991**	**0.2259**	**6.1251**	**1.5787**	**0.2220**	**1.8007**	**0.0000**	**9,419.1160**	**9,419.1160**	**0.4202**	**0.0371**	**9,440.6795**

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	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Energy	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
Mobile	1.4639	7.0088	19.9378	0.0725	5.8991	0.0585	5.9576	1.5787	0.0545	1.6332		7,382.2062	7,382.2062	0.3691		7,391.4327
Total	**3.8013**	**8.6764**	**27.7186**	**0.0830**	**5.8991**	**0.2259**	**6.1251**	**1.5787**	**0.2220**	**1.8007**	**0.0000**	**9,419.1160**	**9,419.1160**	**0.4202**	**0.0371**	**9,440.6795**

	ROG	NOx	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/2/2020	11/27/2020	5	20	
2	Site Preparation	Site Preparation	11/30/2020	12/11/2020	5	10	
3	Grading	Grading	12/14/2020	1/22/2021	5	30	
4	Building Construction	Building Construction	1/27/2021	12/14/2021	5	230	
5	Paving	Paving	12/16/2021	1/12/2022	5	20	
6	Architectural Coating	Architectural Coating	1/13/2022	2/9/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.62

Residential Indoor: 174,150; Residential Outdoor: 58,050; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 12,091 (Architectural Coating – sqft)

OffRoad Equipment

Glenelder Residential Project - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	15.00	0.00	148.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	20.00	0.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	147.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					1.6052	0.0000	1.6052	0.2430	0.0000	0.2430			0.0000			0.0000
Off-Road	3.0671	30.7884	18.4854	0.0337		1.5418	1.5418		1.4343	1.4343		3,247.5865	3,247.5865	0.8962		3,269.9915
Total	**3.0671**	**30.7884**	**18.4854**	**0.0337**	**1.6052**	**1.5418**	**3.1470**	**0.2430**	**1.4343**	**1.6774**		**3,247.5865**	**3,247.5865**	**0.8962**		**3,269.9915**

3.2 Demolition - 2020

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	0.0646	2.1278	0.4715	5.8400e-003	0.1294	6.7900e-003	0.1362	0.0355	6.5000e-003	0.0420		633.3155	633.3155	0.0431		634.3932
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	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1337**	**2.1769**	**1.1283**	**7.6100e-003**	**0.2971**	**8.1900e-003**	**0.3053**	**0.0799**	**7.7900e-003**	**0.0877**		**809.7325**	**809.7325**	**0.0487**		**810.9492**

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					0.5947	0.0000	0.5947	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	1.0605	28.2481	20.7559	0.0337		0.5835	0.5835		0.5835	0.5835	0.0000	3,247.5865	3,247.5865	0.8962		3,269.9915
Total	**1.0605**	**28.2481**	**20.7559**	**0.0337**	**0.5947**	**0.5835**	**1.1782**	**0.0901**	**0.5835**	**0.6736**	**0.0000**	**3,247.5865**	**3,247.5865**	**0.8962**		**3,269.9915**

3.2 Demolition - 2020

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	0.0646	2.1278	0.4715	5.8400e-003	0.1294	6.7900e-003	0.1362	0.0355	6.5000e-003	0.0420		633.3155	633.3155	0.0431		634.3932
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	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1337**	**2.1769**	**1.1283**	**7.6100e-003**	**0.2971**	**8.1900e-003**	**0.3053**	**0.0799**	**7.7900e-003**	**0.0877**		**809.7325**	**809.7325**	**0.0487**		**810.9492**

3.3 Site Preparation - 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					
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	2.9970	31.0851	17.3820	0.0295		1.6424	1.6424		1.5110	1.5110		2,857.7591	2,857.7591	0.9243		2,880.8655
Total	**2.9970**	**31.0851**	**17.3820**	**0.0295**	**12.0442**	**1.6424**	**13.6866**	**6.6205**	**1.5110**	**8.1315**		**2,857.7591**	**2,857.7591**	**0.9243**		**2,880.8655**

3.3 Site Preparation - 2020

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	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

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					4.4624	0.0000	4.4624	2.4529	0.0000	2.4529			0.0000			0.0000
Off-Road	1.0006	26.4899	18.4295	0.0295		0.5946	0.5946		0.5946	0.5946	0.0000	2,857.7591	2,857.7591	0.9243		2,880.8655
Total	**1.0006**	**26.4899**	**18.4295**	**0.0295**	**4.4624**	**0.5946**	**5.0570**	**2.4529**	**0.5946**	**3.0475**	**0.0000**	**2,857.7591**	**2,857.7591**	**0.9243**		**2,880.8655**

3.3 Site Preparation - 2020

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	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

3.4 Grading - 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					
Fugitive Dust					6.3809	0.0000	6.3809	3.3492	0.0000	3.3492			0.0000			0.0000
Off-Road	4.2051	47.7849	28.6905	0.0568		2.0570	2.0570		1.8925	1.8925		5,505.7469	5,505.7469	1.7807		5,550.2636
Total	**4.2051**	**47.7849**	**28.6905**	**0.0568**	**6.3809**	**2.0570**	**8.4379**	**3.3492**	**1.8925**	**5.2417**		**5,505.7469**	**5,505.7469**	**1.7807**		**5,550.2636**

3.4 Grading - 2020

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	0.0510	1.6773	0.3717	4.6100e-003	0.1901	5.3500e-003	0.1955	0.0496	5.1200e-003	0.0547		499.2352	499.2352	0.0340		500.0848
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	0.0920	0.0655	0.8757	2.3600e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		235.2226	235.2226	7.4200e-003		235.4080
Total	**0.1430**	**1.7428**	**1.2474**	**6.9700e-003**	**0.4137**	**7.2200e-003**	**0.4209**	**0.1089**	**6.8400e-003**	**0.1157**		**734.4578**	**734.4578**	**0.0414**		**735.4927**

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					2.3641	0.0000	2.3641	1.2409	0.0000	1.2409			0.0000			0.0000
Off-Road	1.6094	46.8229	32.8046	0.0568		0.8983	0.8983		0.8983	0.8983	0.0000	5,505.7468	5,505.7468	1.7807		5,550.2636
Total	**1.6094**	**46.8229**	**32.8046**	**0.0568**	**2.3641**	**0.8983**	**3.2624**	**1.2409**	**0.8983**	**2.1392**	**0.0000**	**5,505.7468**	**5,505.7468**	**1.7807**		**5,550.2636**

3.4 Grading - 2020

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	0.0510	1.6773	0.3717	4.6100e-003	0.1901	5.3500e-003	0.1955	0.0496	5.1200e-003	0.0547		499.2352	499.2352	0.0340		500.0848
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	0.0920	0.0655	0.8757	2.3600e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		235.2226	235.2226	7.4200e-003		235.4080
Total	**0.1430**	**1.7428**	**1.2474**	**6.9700e-003**	**0.4137**	**7.2200e-003**	**0.4209**	**0.1089**	**6.8400e-003**	**0.1157**		**734.4578**	**734.4578**	**0.0414**		**735.4927**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3809	0.0000	6.3809	3.3492	0.0000	3.3492			0.0000			0.0000
Off-Road	3.9620	44.2464	27.6066	0.0569		1.8809	1.8809		1.7304	1.7304		5,506.8515	5,506.8515	1.7810		5,551.3772
Total	**3.9620**	**44.2464**	**27.6066**	**0.0569**	**6.3809**	**1.8809**	**8.2618**	**3.3492**	**1.7304**	**5.0796**		**5,506.8515**	**5,506.8515**	**1.7810**		**5,551.3772**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0486	1.5648	0.3669	4.5500e-003	0.1695	4.8000e-003	0.1743	0.0445	4.5900e-003	0.0491		493.7603	493.7603	0.0335		494.5980
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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.1344**	**1.6237**	**1.1724**	**6.8400e-003**	**0.3930**	**6.6100e-003**	**0.3996**	**0.1038**	**6.2500e-003**	**0.1101**		**721.5143**	**721.5143**	**0.0402**		**722.5198**

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					2.3641	0.0000	2.3641	1.2409	0.0000	1.2409			0.0000			0.0000
Off-Road	1.6094	46.8229	32.8046	0.0569		0.8983	0.8983		0.8983	0.8983	0.0000	5,506.8515	5,506.8515	1.7810		5,551.3771
Total	**1.6094**	**46.8229**	**32.8046**	**0.0569**	**2.3641**	**0.8983**	**3.2624**	**1.2409**	**0.8983**	**2.1392**	**0.0000**	**5,506.8515**	**5,506.8515**	**1.7810**		**5,551.3771**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0486	1.5648	0.3669	4.5500e-003	0.1695	4.8000e-003	0.1743	0.0445	4.5900e-003	0.0491		493.7603	493.7603	0.0335		494.5980
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	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.1344**	**1.6237**	**1.1724**	**6.8400e-003**	**0.3930**	**6.6100e-003**	**0.3996**	**0.1038**	**6.2500e-003**	**0.1101**		**721.5143**	**721.5143**	**0.0402**		**722.5198**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1277	4.0778	1.0660	0.0108	0.2689	8.3400e-003	0.2772	0.0774	7.9700e-003	0.0854		1,154.4987	1,154.4987	0.0680		1,156.1990
Worker	0.6301	0.4331	5.9208	0.0168	1.6431	0.0133	1.6564	0.4358	0.0122	0.4480		1,673.9917	1,673.9917	0.0493		1,675.2248
Total	**0.7578**	**4.5109**	**6.9868**	**0.0276**	**1.9120**	**0.0216**	**1.9336**	**0.5132**	**0.0202**	**0.5334**		**2,828.4903**	**2,828.4903**	**0.1173**		**2,831.4238**

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	1.2777	23.3730	18.0957	0.0269		0.6751	0.6751		0.6751	0.6751	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.2777**	**23.3730**	**18.0957**	**0.0269**		**0.6751**	**0.6751**		**0.6751**	**0.6751**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1277	4.0778	1.0660	0.0108	0.2689	8.3400e-003	0.2772	0.0774	7.9700e-003	0.0854		1,154.4987	1,154.4987	0.0680		1,156.1990
Worker	0.6301	0.4331	5.9208	0.0168	1.6431	0.0133	1.6564	0.4358	0.0122	0.4480		1,673.9917	1,673.9917	0.0493		1,675.2248
Total	**0.7578**	**4.5109**	**6.9868**	**0.0276**	**1.9120**	**0.0216**	**1.9336**	**0.5132**	**0.0202**	**0.5334**		**2,828.4903**	**2,828.4903**	**0.1173**		**2,831.4238**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8608**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.5002	0.5002		0.5002	0.5002	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5363**	**20.1146**	**17.2957**	**0.0228**		**0.5002**	**0.5002**		**0.5002**	**0.5002**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0643**	**0.0442**	**0.6042**	**1.7100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**170.8155**	**170.8155**	**5.0300e-003**		**170.9413**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7080**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.5002	0.5002		0.5002	0.5002	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5363**	**20.1146**	**17.2957**	**0.0228**		**0.5002**	**0.5002**		**0.5002**	**0.5002**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**29.9128**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1164**	**0.0772**	**1.0777**	**3.2000e-003**	**0.3242**	**2.5400e-003**	**0.3267**	**0.0860**	**2.3400e-003**	**0.0883**		**318.6266**	**318.6266**	**8.7900e-003**		**318.8464**

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	29.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**29.9128**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1164	0.0772	1.0777	3.2000e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		318.6266	318.6266	8.7900e-003		318.8464
Total	**0.1164**	**0.0772**	**1.0777**	**3.2000e-003**	**0.3242**	**2.5400e-003**	**0.3267**	**0.0860**	**2.3400e-003**	**0.0883**		**318.6266**	**318.6266**	**8.7900e-003**		**318.8464**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4639	7.0088	19.9378	0.0725	5.8991	0.0585	5.9576	1.5787	0.0545	1.6332		7,382.2062	7,382.2062	0.3691		7,391.4327
Unmitigated	1.4639	7.0088	19.9378	0.0725	5.8991	0.0585	5.9576	1.5787	0.0545	1.6332		7,382.2062	7,382.2062	0.3691		7,391.4327

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	811.84	811.84	811.84	2,774,181	2,774,181
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	811.84	811.84	811.84	2,774,181	2,774,181

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
NaturalGas Unmitigated	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564

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					
Condo/Townhouse	4047.08	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
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		**0.0436**	**0.3730**	**0.1587**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**		**476.1271**	**476.1271**	**9.1300e-003**	**8.7300e-003**	**478.9564**

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					
Condo/Townhouse	4.04708	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
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		**0.0436**	**0.3730**	**0.1587**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**		**476.1271**	**476.1271**	**9.1300e-003**	**8.7300e-003**	**478.9564**

6.0 Area Detail

6.1 Mitigation Measures Area

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	lb/day										lb/day					
Mitigated	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Unmitigated	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904

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	0.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1419	1.2126	0.5160	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,548.0000	1,548.0000	0.0297	0.0284	1,557.1990
Landscaping	0.2149	0.0820	7.1062	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7828	12.7828	0.0123		13.0914
Total	**2.2937**	**1.2946**	**7.6222**	**8.1100e-003**		**0.1373**	**0.1373**		**0.1373**	**0.1373**	**0.0000**	**1,560.7828**	**1,560.7828**	**0.0420**	**0.0284**	**1,570.2904**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1419	1.2126	0.5160	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,548.0000	1,548.0000	0.0297	0.0284	1,557.1990
Landscaping	0.2149	0.0820	7.1062	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7828	12.7828	0.0123		13.0914
Total	**2.2937**	**1.2946**	**7.6222**	**8.1100e-003**		**0.1373**	**0.1373**		**0.1373**	**0.1373**	**0.0000**	**1,560.7828**	**1,560.7828**	**0.0420**	**0.0284**	**1,570.2904**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Glenelder Residential Project

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	4.36	Acre	4.36	189,921.60	0
Parking Lot	29.00	Space	0.26	11,600.00	0
Condo/Townhouse	86.00	Dwelling Unit	5.38	86,000.00	246

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Glenelder Residential Project - Los Angeles-South Coast County, Winter

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule confirmed by project applicant.

Off-road Equipment - Estimated construction equipment confirmed by project applicant.

Off-road Equipment - One excavator confirmed.

Off-road Equipment - Two construction equipment dozers and 4 tractors/loaders/backhoes confirmed.

Demolition - Classroom buildings to be demolished - 32,614 sf

Grading - Site grading is 10 acres, with 1,400 cy of soil import.

Vehicle Trips - Trip rates for land use code 201 is 9.44 trips per dwelling unit.

Woodstoves - No wood stoves or fireplaces.

Construction Off-road Equipment Mitigation - All construction equipment with greater than 50 hp would utilize Tier 2 engines with level 1 diesel particulate filter. Fugitive dust emission would be control with on-site wtaering at least 3 times daily and cover ground of area disturbed.

Area Mitigation -

Water Mitigation - Project would implement CalGreen Building Code for water conservation measures such as low flow appliances and water efficient irrigation system.

Waste Mitigation - Project would comply with County's solid waste disposal program.

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblFireplaces	NumberWood	4.30	0.00
tblGrading	AcresOfGrading	75.00	10.00
tblGrading	MaterialImported	0.00	1,400.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblVehicleTrips	ST_TR	5.67	9.44
tblVehicleTrips	SU_TR	4.84	9.44
tblVehicleTrips	WD_TR	5.81	9.44
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.3595	49.5564	29.8875	0.0636	12.2454	2.0643	13.8895	6.6738	1.8994	8.1864	0.0000	6,217.8691	6,217.8691	1.8229	0.0000	6,263.4408
2021	4.1072	45.8956	28.7322	0.0635	6.7739	1.8876	8.6615	3.4530	1.7368	5.1898	0.0000	6,206.5085	6,206.5085	1.8220	0.0000	6,252.0592
2022	30.0427	11.1691	15.0892	0.0244	0.3242	0.5692	0.7369	0.0860	0.5237	0.5681	0.0000	2,362.8457	2,362.8457	0.7183	0.0000	2,380.8026
Maximum	**30.0427**	**49.5564**	**29.8875**	**0.0636**	**12.2454**	**2.0643**	**13.8895**	**6.6738**	**1.8994**	**8.1864**	**0.0000**	**6,217.8691**	**6,217.8691**	**1.8229**	**0.0000**	**6,263.4408**

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					
2020	1.7638	48.5944	34.0016	0.0636	4.6636	0.9056	5.2599	2.5062	0.9053	3.1024	0.0000	6,217.8691	6,217.8691	1.8229	0.0000	6,263.4408
2021	2.1126	48.4721	33.9301	0.0635	2.7571	0.9050	3.6622	1.3447	0.9047	2.2494	0.0000	6,206.5085	6,206.5085	1.8220	0.0000	6,252.0592
2022	30.0427	20.1588	17.8044	0.0244	0.3242	0.5015	0.6692	0.0860	0.5014	0.5459	0.0000	2,362.8457	2,362.8457	0.7183	0.0000	2,380.8026
Maximum	**30.0427**	**48.5944**	**34.0016**	**0.0636**	**4.6636**	**0.9056**	**5.2599**	**2.5062**	**0.9053**	**3.1024**	**0.0000**	**6,217.8691**	**6,217.8691**	**1.8229**	**0.0000**	**6,263.4408**

Glenelder Residential Project - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**11.92**	**-9.95**	**-16.32**	**0.00**	**59.96**	**48.86**	**58.81**	**61.45**	**44.44**	**57.71**	**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	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Energy	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
Mobile	1.4208	7.1810	18.8897	0.0690	5.8991	0.0587	5.9579	1.5787	0.0548	1.6335		7,027.0899	7,027.0899	0.3678		7,036.2844
Total	**3.7582**	**8.8485**	**26.6706**	**0.0795**	**5.8991**	**0.2262**	**6.1253**	**1.5787**	**0.2223**	**1.8010**	**0.0000**	**9,063.9997**	**9,063.9997**	**0.4189**	**0.0371**	**9,085.5313**

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	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Energy	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
Mobile	1.4208	7.1810	18.8897	0.0690	5.8991	0.0587	5.9579	1.5787	0.0548	1.6335		7,027.0899	7,027.0899	0.3678		7,036.2844
Total	**3.7582**	**8.8485**	**26.6706**	**0.0795**	**5.8991**	**0.2262**	**6.1253**	**1.5787**	**0.2223**	**1.8010**	**0.0000**	**9,063.9997**	**9,063.9997**	**0.4189**	**0.0371**	**9,085.5313**

	ROG	NOx	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/2/2020	11/27/2020	5	20	
2	Site Preparation	Site Preparation	11/30/2020	12/11/2020	5	10	
3	Grading	Grading	12/14/2020	1/22/2021	5	30	
4	Building Construction	Building Construction	1/27/2021	12/14/2021	5	230	
5	Paving	Paving	12/16/2021	1/12/2022	5	20	
6	Architectural Coating	Architectural Coating	1/13/2022	2/9/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.62

Residential Indoor: 174,150; Residential Outdoor: 58,050; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 12,091 (Architectural Coating – sqft)

OffRoad Equipment

Glenelder Residential Project - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	15.00	0.00	148.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	20.00	0.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	147.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					1.6052	0.0000	1.6052	0.2430	0.0000	0.2430			0.0000			0.0000
Off-Road	3.0671	30.7884	18.4854	0.0337		1.5418	1.5418		1.4343	1.4343		3,247.5865	3,247.5865	0.8962		3,269.9915
Total	**3.0671**	**30.7884**	**18.4854**	**0.0337**	**1.6052**	**1.5418**	**3.1470**	**0.2430**	**1.4343**	**1.6774**		**3,247.5865**	**3,247.5865**	**0.8962**		**3,269.9915**

3.2 Demolition - 2020

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	0.0662	2.1553	0.5011	5.7400e-003	0.1294	6.9000e-003	0.1363	0.0355	6.6000e-003	0.0421		622.4096	622.4096	0.0447		623.5265
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	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1429**	**2.2097**	**1.1026**	**7.4100e-003**	**0.2971**	**8.3000e-003**	**0.3054**	**0.0799**	**7.8900e-003**	**0.0878**		**788.5227**	**788.5227**	**0.0499**		**789.7704**

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					0.5947	0.0000	0.5947	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	1.0605	28.2481	20.7559	0.0337		0.5835	0.5835		0.5835	0.5835	0.0000	3,247.5865	3,247.5865	0.8962		3,269.9915
Total	**1.0605**	**28.2481**	**20.7559**	**0.0337**	**0.5947**	**0.5835**	**1.1782**	**0.0901**	**0.5835**	**0.6736**	**0.0000**	**3,247.5865**	**3,247.5865**	**0.8962**		**3,269.9915**

3.2 Demolition - 2020

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	0.0662	2.1553	0.5011	5.7400e-003	0.1294	6.9000e-003	0.1363	0.0355	6.6000e-003	0.0421		622.4096	622.4096	0.0447		623.5265
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	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1429**	**2.2097**	**1.1026**	**7.4100e-003**	**0.2971**	**8.3000e-003**	**0.3054**	**0.0799**	**7.8900e-003**	**0.0878**		**788.5227**	**788.5227**	**0.0499**		**789.7704**

3.3 Site Preparation - 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					
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	2.9970	31.0851	17.3820	0.0295		1.6424	1.6424		1.5110	1.5110		2,857.7591	2,857.7591	0.9243		2,880.8655
Total	**2.9970**	**31.0851**	**17.3820**	**0.0295**	**12.0442**	**1.6424**	**13.6866**	**6.6205**	**1.5110**	**8.1315**		**2,857.7591**	**2,857.7591**	**0.9243**		**2,880.8655**

3.3 Site Preparation - 2020

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	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

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					4.4624	0.0000	4.4624	2.4529	0.0000	2.4529			0.0000			0.0000
Off-Road	1.0006	26.4899	18.4295	0.0295		0.5946	0.5946		0.5946	0.5946	0.0000	2,857.7591	2,857.7591	0.9243		2,880.8655
Total	**1.0006**	**26.4899**	**18.4295**	**0.0295**	**4.4624**	**0.5946**	**5.0570**	**2.4529**	**0.5946**	**3.0475**	**0.0000**	**2,857.7591**	**2,857.7591**	**0.9243**		**2,880.8655**

3.3 Site Preparation - 2020

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	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

3.4 Grading - 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					
Fugitive Dust					6.3809	0.0000	6.3809	3.3492	0.0000	3.3492			0.0000			0.0000
Off-Road	4.2051	47.7849	28.6905	0.0568		2.0570	2.0570		1.8925	1.8925		5,505.7469	5,505.7469	1.7807		5,550.2636
Total	**4.2051**	**47.7849**	**28.6905**	**0.0568**	**6.3809**	**2.0570**	**8.4379**	**3.3492**	**1.8925**	**5.2417**		**5,505.7469**	**5,505.7469**	**1.7807**		**5,550.2636**

3.4 Grading - 2020

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	0.0522	1.6990	0.3950	4.5300e-003	0.1901	5.4400e-003	0.1956	0.0496	5.2000e-003	0.0548		490.6382	490.6382	0.0352		491.5186
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	0.1022	0.0725	0.8020	2.2200e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		221.4841	221.4841	6.9800e-003		221.6586
Total	**0.1544**	**1.7715**	**1.1970**	**6.7500e-003**	**0.4137**	**7.3100e-003**	**0.4210**	**0.1089**	**6.9200e-003**	**0.1158**		**712.1223**	**712.1223**	**0.0422**		**713.1772**

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					2.3641	0.0000	2.3641	1.2409	0.0000	1.2409			0.0000			0.0000
Off-Road	1.6094	46.8229	32.8046	0.0568		0.8983	0.8983		0.8983	0.8983	0.0000	5,505.7468	5,505.7468	1.7807		5,550.2636
Total	**1.6094**	**46.8229**	**32.8046**	**0.0568**	**2.3641**	**0.8983**	**3.2624**	**1.2409**	**0.8983**	**2.1392**	**0.0000**	**5,505.7468**	**5,505.7468**	**1.7807**		**5,550.2636**

3.4 Grading - 2020

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	0.0522	1.6990	0.3950	4.5300e-003	0.1901	5.4400e-003	0.1956	0.0496	5.2000e-003	0.0548		490.6382	490.6382	0.0352		491.5186
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	0.1022	0.0725	0.8020	2.2200e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		221.4841	221.4841	6.9800e-003		221.6586
Total	**0.1544**	**1.7715**	**1.1970**	**6.7500e-003**	**0.4137**	**7.3100e-003**	**0.4210**	**0.1089**	**6.9200e-003**	**0.1158**		**712.1223**	**712.1223**	**0.0422**		**713.1772**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3809	0.0000	6.3809	3.3492	0.0000	3.3492			0.0000			0.0000
Off-Road	3.9620	44.2464	27.6066	0.0569		1.8809	1.8809		1.7304	1.7304		5,506.8515	5,506.8515	1.7810		5,551.3772
Total	**3.9620**	**44.2464**	**27.6066**	**0.0569**	**6.3809**	**1.8809**	**8.2618**	**3.3492**	**1.7304**	**5.0796**		**5,506.8515**	**5,506.8515**	**1.7810**		**5,551.3772**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0498	1.5839	0.3890	4.4700e-003	0.1695	4.8800e-003	0.1744	0.0445	4.6600e-003	0.0492		485.2068	485.2068	0.0347		486.0741
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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1452**	**1.6492**	**1.1256**	**6.6200e-003**	**0.3930**	**6.6900e-003**	**0.3997**	**0.1038**	**6.3200e-003**	**0.1101**		**699.6570**	**699.6570**	**0.0410**		**700.6820**

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					2.3641	0.0000	2.3641	1.2409	0.0000	1.2409			0.0000			0.0000
Off-Road	1.6094	46.8229	32.8046	0.0569		0.8983	0.8983		0.8983	0.8983	0.0000	5,506.8515	5,506.8515	1.7810		5,551.3771
Total	**1.6094**	**46.8229**	**32.8046**	**0.0569**	**2.3641**	**0.8983**	**3.2624**	**1.2409**	**0.8983**	**2.1392**	**0.0000**	**5,506.8515**	**5,506.8515**	**1.7810**		**5,551.3771**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0498	1.5839	0.3890	4.4700e-003	0.1695	4.8800e-003	0.1744	0.0445	4.6600e-003	0.0492		485.2068	485.2068	0.0347		486.0741
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	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1452**	**1.6492**	**1.1256**	**6.6200e-003**	**0.3930**	**6.6900e-003**	**0.3997**	**0.1038**	**6.3200e-003**	**0.1101**		**699.6570**	**699.6570**	**0.0410**		**700.6820**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1340	4.0693	1.1792	0.0105	0.2689	8.6100e-003	0.2775	0.0774	8.2300e-003	0.0857		1,122.8512	1,122.8512	0.0725		1,124.6634
Worker	0.7009	0.4794	5.4134	0.0158	1.6431	0.0133	1.6564	0.4358	0.0122	0.4480		1,576.2091	1,576.2091	0.0464		1,577.3687
Total	**0.8350**	**4.5488**	**6.5926**	**0.0263**	**1.9120**	**0.0219**	**1.9339**	**0.5132**	**0.0205**	**0.5336**		**2,699.0603**	**2,699.0603**	**0.1189**		**2,702.0321**

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	1.2777	23.3730	18.0957	0.0269		0.6751	0.6751		0.6751	0.6751	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.2777**	**23.3730**	**18.0957**	**0.0269**		**0.6751**	**0.6751**		**0.6751**	**0.6751**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1340	4.0693	1.1792	0.0105	0.2689	8.6100e-003	0.2775	0.0774	8.2300e-003	0.0857		1,122.8512	1,122.8512	0.0725		1,124.6634
Worker	0.7009	0.4794	5.4134	0.0158	1.6431	0.0133	1.6564	0.4358	0.0122	0.4480		1,576.2091	1,576.2091	0.0464		1,577.3687
Total	**0.8350**	**4.5488**	**6.5926**	**0.0263**	**1.9120**	**0.0219**	**1.9339**	**0.5132**	**0.0205**	**0.5336**		**2,699.0603**	**2,699.0603**	**0.1189**		**2,702.0321**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8608**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.5002	0.5002		0.5002	0.5002	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5363**	**20.1146**	**17.2957**	**0.0228**		**0.5002**	**0.5002**		**0.5002**	**0.5002**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0715**	**0.0489**	**0.5524**	**1.6100e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2500e-003**	**0.0457**		**160.8377**	**160.8377**	**4.7300e-003**		**160.9560**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7080**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9311	20.1146	17.2957	0.0228		0.5002	0.5002		0.5002	0.5002	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5363**	**20.1146**	**17.2957**	**0.0228**		**0.5002**	**0.5002**		**0.5002**	**0.5002**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**29.9128**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1299**	**0.0854**	**0.9836**	**3.0100e-003**	**0.3242**	**2.5400e-003**	**0.3267**	**0.0860**	**2.3400e-003**	**0.0883**		**300.0251**	**300.0251**	**8.2600e-003**		**300.2317**

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	29.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**29.9128**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1299	0.0854	0.9836	3.0100e-003	0.3242	2.5400e-003	0.3267	0.0860	2.3400e-003	0.0883		300.0251	300.0251	8.2600e-003		300.2317
Total	**0.1299**	**0.0854**	**0.9836**	**3.0100e-003**	**0.3242**	**2.5400e-003**	**0.3267**	**0.0860**	**2.3400e-003**	**0.0883**		**300.0251**	**300.0251**	**8.2600e-003**		**300.2317**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4208	7.1810	18.8897	0.0690	5.8991	0.0587	5.9579	1.5787	0.0548	1.6335		7,027.0899	7,027.0899	0.3678		7,036.2844
Unmitigated	1.4208	7.1810	18.8897	0.0690	5.8991	0.0587	5.9579	1.5787	0.0548	1.6335		7,027.0899	7,027.0899	0.3678		7,036.2844

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	811.84	811.84	811.84	2,774,181	2,774,181
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	811.84	811.84	811.84	2,774,181	2,774,181

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
NaturalGas Unmitigated	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564

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					
Condo/Townhouse	4047.08	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
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		**0.0436**	**0.3730**	**0.1587**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**		**476.1271**	**476.1271**	**9.1300e-003**	**8.7300e-003**	**478.9564**

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					
Condo/Townhouse	4.04708	0.0436	0.3730	0.1587	2.3800e-003		0.0302	0.0302		0.0302	0.0302		476.1271	476.1271	9.1300e-003	8.7300e-003	478.9564
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		**0.0436**	**0.3730**	**0.1587**	**2.3800e-003**		**0.0302**	**0.0302**		**0.0302**	**0.0302**		**476.1271**	**476.1271**	**9.1300e-003**	**8.7300e-003**	**478.9564**

6.0 Area Detail

6.1 Mitigation Measures Area

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	lb/day										lb/day					
Mitigated	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904
Unmitigated	2.2937	1.2946	7.6222	8.1100e-003		0.1373	0.1373		0.1373	0.1373	0.0000	1,560.7828	1,560.7828	0.0420	0.0284	1,570.2904

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	0.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1419	1.2126	0.5160	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,548.0000	1,548.0000	0.0297	0.0284	1,557.1990
Landscaping	0.2149	0.0820	7.1062	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7828	12.7828	0.0123		13.0914
Total	**2.2937**	**1.2946**	**7.6222**	**8.1100e-003**		**0.1373**	**0.1373**		**0.1373**	**0.1373**	**0.0000**	**1,560.7828**	**1,560.7828**	**0.0420**	**0.0284**	**1,570.2904**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1419	1.2126	0.5160	7.7400e-003		0.0980	0.0980		0.0980	0.0980	0.0000	1,548.0000	1,548.0000	0.0297	0.0284	1,557.1990
Landscaping	0.2149	0.0820	7.1062	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7828	12.7828	0.0123		13.0914
Total	**2.2937**	**1.2946**	**7.6222**	**8.1100e-003**		**0.1373**	**0.1373**		**0.1373**	**0.1373**	**0.0000**	**1,560.7828**	**1,560.7828**	**0.0420**	**0.0284**	**1,570.2904**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Glenelder Residential Project

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	4.36	Acre	4.36	189,921.60	0
Parking Lot	29.00	Space	0.26	11,600.00	0
Condo/Townhouse	86.00	Dwelling Unit	5.38	86,000.00	246

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule confirmed by project applicant.

Off-road Equipment - Estimated construction equipment confirmed by project applicant.

Off-road Equipment - One excavator confirmed.

Off-road Equipment - Two construction equipment dozers and 4 tractors/loaders/backhoes confirmed.

Demolition - Classroom buildings to be demolished - 32,614 sf

Grading - Site grading is 10 acres, with 1,400 cy of soil import.

Vehicle Trips - Trip rates for land use code 201 is 9.44 trips per dwelling unit.

Woodstoves - No wood stoves or fireplaces.

Construction Off-road Equipment Mitigation - All construction equipment with greater than 50 hp would utilize Tier 2 engines with level 1 diesel particulate filter. Fugitive dust emission would be control with on-site wtaering at least 3 times daily and cover ground of area disturbed.

Area Mitigation -

Water Mitigation - Project would implement CalGreen Building Code for water conservation measures such as low flow appliances and water efficient irrigation system.

Waste Mitigation - Project would comply with County's solid waste disposal program.

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblFireplaces	NumberWood	4.30	0.00
tblGrading	AcresOfGrading	75.00	10.00
tblGrading	MaterialImported	0.00	1,400.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblVehicleTrips	ST_TR	5.67	9.44
tblVehicleTrips	SU_TR	4.84	9.44
tblVehicleTrips	WD_TR	5.81	9.44
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0779	0.8333	0.4958	1.0100e-003	0.1306	0.0382	0.1687	0.0611	0.0353	0.0964	0.0000	90.1196	90.1196	0.0244	0.0000	90.7288
2021	0.3507	2.9832	2.9959	6.8300e-003	0.2733	0.1319	0.4052	0.0861	0.1236	0.2098	0.0000	610.6268	610.6268	0.0936	0.0000	612.9673
2022	0.3074	0.0596	0.0887	1.6000e-004	3.8400e-003	3.1200e-003	6.9500e-003	1.0200e-003	2.9400e-003	3.9500e-003	0.0000	13.9038	13.9038	2.8500e-003	0.0000	13.9751
Maximum	**0.3507**	**2.9832**	**2.9959**	**6.8300e-003**	**0.2733**	**0.1319**	**0.4052**	**0.0861**	**0.1236**	**0.2098**	**0.0000**	**610.6268**	**610.6268**	**0.0936**	**0.0000**	**612.9673**

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					
2020	0.0296	0.7782	0.5525	1.0100e-003	0.0526	0.0152	0.0679	0.0238	0.0152	0.0390	0.0000	90.1195	90.1195	0.0244	0.0000	90.7287
2021	0.2582	3.7302	3.2282	6.8300e-003	0.2396	0.0904	0.3300	0.0691	0.0902	0.1593	0.0000	610.6264	610.6264	0.0936	0.0000	612.9669
2022	0.3067	0.0956	0.0995	1.6000e-004	3.8400e-003	2.8500e-003	6.6800e-003	1.0200e-003	2.8500e-003	3.8600e-003	0.0000	13.9038	13.9038	2.8500e-003	0.0000	13.9750
Maximum	**0.3067**	**3.7302**	**3.2282**	**6.8300e-003**	**0.2396**	**0.0904**	**0.3300**	**0.0691**	**0.0902**	**0.1593**	**0.0000**	**610.6264**	**610.6264**	**0.0936**	**0.0000**	**612.9669**

	ROG	NOx	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	**19.21**	**-18.78**	**-8.38**	**0.00**	**27.39**	**37.37**	**30.36**	**36.67**	**33.08**	**34.80**	**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	**11-2-2020**	**2-1-2021**	1.2754	1.1952
2	**2-2-2021**	**5-1-2021**	0.7844	0.9534
3	**5-2-2021**	**8-1-2021**	0.8083	0.9831
4	**8-2-2021**	**11-1-2021**	0.8097	0.9844
5	**11-2-2021**	**2-1-2022**	0.7455	0.9042
6	**2-2-2022**	**5-1-2022**	0.0901	0.0901
		Highest	1.2754	1.1952

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3821	0.0254	0.8947	1.4000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	19.0036	19.0036	1.7400e-003	3.2000e-004	19.1429
Energy	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	218.2234	218.2234	7.2700e-003	2.6400e-003	219.1905
Mobile	0.2528	1.3313	3.4886	0.0127	1.0529	0.0107	1.0636	0.2822	9.9300e-003	0.2922	0.0000	1,176.4691	1,176.4691	0.0605	0.0000	1,177.9813
Waste						0.0000	0.0000		0.0000	0.0000	8.0303	0.0000	8.0303	0.4746	0.0000	19.8948
Water						0.0000	0.0000		0.0000	0.0000	1.7777	35.7512	37.5288	0.1841	4.6200e-003	43.5060
Total	**0.6429**	**1.4247**	**4.4123**	**0.0133**	**1.0529**	**0.0223**	**1.0752**	**0.2822**	**0.0216**	**0.3038**	**9.8080**	**1,449.4472**	**1,459.2552**	**0.7281**	**7.5800e-003**	**1,479.7154**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3821	0.0254	0.8947	1.4000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	19.0036	19.0036	1.7400e-003	3.2000e-004	19.1429
Energy	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	218.2234	218.2234	7.2700e-003	2.6400e-003	219.1905
Mobile	0.2528	1.3313	3.4886	0.0127	1.0529	0.0107	1.0636	0.2822	9.9300e-003	0.2922	0.0000	1,176.4691	1,176.4691	0.0605	0.0000	1,177.9813
Waste						0.0000	0.0000		0.0000	0.0000	2.0076	0.0000	2.0076	0.1186	0.0000	4.9737
Water						0.0000	0.0000		0.0000	0.0000	1.4221	30.3391	31.7612	0.1473	3.7100e-003	36.5491
Total	**0.6429**	**1.4247**	**4.4123**	**0.0133**	**1.0529**	**0.0223**	**1.0752**	**0.2822**	**0.0216**	**0.3038**	**3.4297**	**1,444.0351**	**1,447.4648**	**0.3355**	**6.6700e-003**	**1,457.8375**

	ROG	NOx	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**65.03**	**0.37**	**0.81**	**53.93**	**12.01**	**1.48**

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	11/2/2020	11/27/2020	5	20	
2	Site Preparation	Site Preparation	11/30/2020	12/11/2020	5	10	
3	Grading	Grading	12/14/2020	1/22/2021	5	30	
4	Building Construction	Building Construction	1/27/2021	12/14/2021	5	230	
5	Paving	Paving	12/16/2021	1/12/2022	5	20	
6	Architectural Coating	Architectural Coating	1/13/2022	2/9/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.62

Residential Indoor: 174,150; Residential Outdoor: 58,050; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 12,091 (Architectural Coating – sqft)

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	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	15.00	0.00	148.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	20.00	0.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	147.00	42.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					0.0161	0.0000	0.0161	2.4300e-003	0.0000	2.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0307	0.3079	0.1849	3.4000e-004		0.0154	0.0154		0.0143	0.0143	0.0000	29.4616	29.4616	8.1300e-003	0.0000	29.6649
Total	**0.0307**	**0.3079**	**0.1849**	**3.4000e-004**	**0.0161**	**0.0154**	**0.0315**	**2.4300e-003**	**0.0143**	**0.0168**	**0.0000**	**29.4616**	**29.4616**	**8.1300e-003**	**0.0000**	**29.6649**

3.2 Demolition - 2020

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	6.5000e-004	0.0220	4.8400e-003	6.0000e-005	1.2700e-003	7.0000e-005	1.3400e-003	3.5000e-004	7.0000e-005	4.1000e-004	0.0000	5.7038	5.7038	4.0000e-004	0.0000	5.7137
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.6000e-004	6.1700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5320	1.5320	5.0000e-005	0.0000	1.5332
Total	**1.3400e-003**	**0.0225**	**0.0110**	**8.0000e-005**	**2.9100e-003**	**8.0000e-005**	**3.0000e-003**	**7.9000e-004**	**8.0000e-005**	**8.6000e-004**	**0.0000**	**7.2358**	**7.2358**	**4.5000e-004**	**0.0000**	**7.2470**

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					5.9500e-003	0.0000	5.9500e-003	9.0000e-004	0.0000	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.2825	0.2076	3.4000e-004		5.8400e-003	5.8400e-003		5.8400e-003	5.8400e-003	0.0000	29.4616	29.4616	8.1300e-003	0.0000	29.6648
Total	**0.0106**	**0.2825**	**0.2076**	**3.4000e-004**	**5.9500e-003**	**5.8400e-003**	**0.0118**	**9.0000e-004**	**5.8400e-003**	**6.7400e-003**	**0.0000**	**29.4616**	**29.4616**	**8.1300e-003**	**0.0000**	**29.6648**

3.2 Demolition - 2020

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	6.5000e-004	0.0220	4.8400e-003	6.0000e-005	1.2700e-003	7.0000e-005	1.3400e-003	3.5000e-004	7.0000e-005	4.1000e-004	0.0000	5.7038	5.7038	4.0000e-004	0.0000	5.7137
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.6000e-004	6.1700e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5320	1.5320	5.0000e-005	0.0000	1.5332
Total	**1.3400e-003**	**0.0225**	**0.0110**	**8.0000e-005**	**2.9100e-003**	**8.0000e-005**	**3.0000e-003**	**7.9000e-004**	**8.0000e-005**	**8.6000e-004**	**0.0000**	**7.2358**	**7.2358**	**4.5000e-004**	**0.0000**	**7.2470**

3.3 Site Preparation - 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					
Fugitive Dust					0.0602	0.0000	0.0602	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1554	0.0869	1.5000e-004		8.2100e-003	8.2100e-003		7.5600e-003	7.5600e-003	0.0000	12.9626	12.9626	4.1900e-003	0.0000	13.0674
Total	**0.0150**	**0.1554**	**0.0869**	**1.5000e-004**	**0.0602**	**8.2100e-003**	**0.0684**	**0.0331**	**7.5600e-003**	**0.0407**	**0.0000**	**12.9626**	**12.9626**	**4.1900e-003**	**0.0000**	**13.0674**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**4.2000e-004**	**3.4000e-004**	**3.7000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9192**	**0.9192**	**3.0000e-005**	**0.0000**	**0.9199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0223	0.0000	0.0223	0.0123	0.0000	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-003	0.1325	0.0922	1.5000e-004		2.9700e-003	2.9700e-003		2.9700e-003	2.9700e-003	0.0000	12.9626	12.9626	4.1900e-003	0.0000	13.0674
Total	**5.0000e-003**	**0.1325**	**0.0922**	**1.5000e-004**	**0.0223**	**2.9700e-003**	**0.0253**	**0.0123**	**2.9700e-003**	**0.0152**	**0.0000**	**12.9626**	**12.9626**	**4.1900e-003**	**0.0000**	**13.0674**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.7000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9192	0.9192	3.0000e-005	0.0000	0.9199
Total	**4.2000e-004**	**3.4000e-004**	**3.7000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9192**	**0.9192**	**3.0000e-005**	**0.0000**	**0.9199**

3.4 Grading - 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					
Fugitive Dust					0.0475	0.0000	0.0475	0.0238	0.0000	0.0238	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0294	0.3345	0.2008	4.0000e-004		0.0144	0.0144		0.0133	0.0133	0.0000	34.9631	34.9631	0.0113	0.0000	35.2458
Total	**0.0294**	**0.3345**	**0.2008**	**4.0000e-004**	**0.0475**	**0.0144**	**0.0619**	**0.0238**	**0.0133**	**0.0370**	**0.0000**	**34.9631**	**34.9631**	**0.0113**	**0.0000**	**35.2458**

3.4 Grading - 2020

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	3.6000e-004	0.0121	2.6700e-003	3.0000e-005	1.3000e-003	4.0000e-005	1.3400e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	3.1474	3.1474	2.2000e-004	0.0000	3.1528
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.2000e-004	5.7600e-003	2.0000e-005	1.5300e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.4299	1.4299	5.0000e-005	0.0000	1.4310
Total	**1.0100e-003**	**0.0127**	**8.4300e-003**	**5.0000e-005**	**2.8300e-003**	**5.0000e-005**	**2.8900e-003**	**7.5000e-004**	**5.0000e-005**	**8.0000e-004**	**0.0000**	**4.5773**	**4.5773**	**2.7000e-004**	**0.0000**	**4.5839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0176	0.0000	0.0176	8.8000e-003	0.0000	8.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.3278	0.2296	4.0000e-004		6.2900e-003	6.2900e-003		6.2900e-003	6.2900e-003	0.0000	34.9631	34.9631	0.0113	0.0000	35.2458
Total	**0.0113**	**0.3278**	**0.2296**	**4.0000e-004**	**0.0176**	**6.2900e-003**	**0.0239**	**8.8000e-003**	**6.2900e-003**	**0.0151**	**0.0000**	**34.9631**	**34.9631**	**0.0113**	**0.0000**	**35.2458**

3.4 Grading - 2020

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	3.6000e-004	0.0121	2.6700e-003	3.0000e-005	1.3000e-003	4.0000e-005	1.3400e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	3.1474	3.1474	2.2000e-004	0.0000	3.1528
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.2000e-004	5.7600e-003	2.0000e-005	1.5300e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.4299	1.4299	5.0000e-005	0.0000	1.4310
Total	**1.0100e-003**	**0.0127**	**8.4300e-003**	**5.0000e-005**	**2.8300e-003**	**5.0000e-005**	**2.8900e-003**	**7.5000e-004**	**5.0000e-005**	**8.0000e-004**	**0.0000**	**4.5773**	**4.5773**	**2.7000e-004**	**0.0000**	**4.5839**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0536	0.0000	0.0536	0.0271	0.0000	0.0271	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3540	0.2209	4.5000e-004		0.0151	0.0151		0.0138	0.0138	0.0000	39.9659	39.9659	0.0129	0.0000	40.2890
Total	**0.0317**	**0.3540**	**0.2209**	**4.5000e-004**	**0.0536**	**0.0151**	**0.0686**	**0.0271**	**0.0138**	**0.0409**	**0.0000**	**39.9659**	**39.9659**	**0.0129**	**0.0000**	**40.2890**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.9000e-004	0.0129	3.0100e-003	4.0000e-005	1.3300e-003	4.0000e-005	1.3700e-003	3.5000e-004	4.0000e-005	3.9000e-004	0.0000	3.5574	3.5574	2.5000e-004	0.0000	3.5636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	6.0500e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5823	1.5823	5.0000e-005	0.0000	1.5834
Total	**1.0800e-003**	**0.0135**	**9.0600e-003**	**6.0000e-005**	**3.0800e-003**	**5.0000e-005**	**3.1400e-003**	**8.2000e-004**	**5.0000e-005**	**8.7000e-004**	**0.0000**	**5.1397**	**5.1397**	**3.0000e-004**	**0.0000**	**5.1470**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0198	0.0000	0.0198	0.0100	0.0000	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.3746	0.2624	4.5000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	39.9658	39.9658	0.0129	0.0000	40.2890
Total	**0.0129**	**0.3746**	**0.2624**	**4.5000e-004**	**0.0198**	**7.1900e-003**	**0.0270**	**0.0100**	**7.1900e-003**	**0.0172**	**0.0000**	**39.9658**	**39.9658**	**0.0129**	**0.0000**	**40.2890**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.9000e-004	0.0129	3.0100e-003	4.0000e-005	1.3300e-003	4.0000e-005	1.3700e-003	3.5000e-004	4.0000e-005	3.9000e-004	0.0000	3.5574	3.5574	2.5000e-004	0.0000	3.5636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.4000e-004	6.0500e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5823	1.5823	5.0000e-005	0.0000	1.5834
Total	**1.0800e-003**	**0.0135**	**9.0600e-003**	**6.0000e-005**	**3.0800e-003**	**5.0000e-005**	**3.1400e-003**	**8.2000e-004**	**5.0000e-005**	**8.7000e-004**	**0.0000**	**5.1397**	**5.1397**	**3.0000e-004**	**0.0000**	**5.1470**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2186	2.0047	1.9062	3.1000e-003		0.1102	0.1102		0.1037	0.1037	0.0000	266.3829	266.3829	0.0643	0.0000	267.9895
Total	**0.2186**	**2.0047**	**1.9062**	**3.1000e-003**		**0.1102**	**0.1102**		**0.1037**	**0.1037**	**0.0000**	**266.3829**	**266.3829**	**0.0643**	**0.0000**	**267.9895**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4767	0.1292	1.2300e-003	0.0304	9.7000e-004	0.0314	8.7800e-003	9.3000e-004	9.7100e-003	0.0000	119.0579	119.0579	7.3000e-003	0.0000	119.2404
Worker	0.0727	0.0566	0.6393	1.8500e-003	0.1852	1.5300e-003	0.1868	0.0492	1.4100e-003	0.0506	0.0000	167.1764	167.1764	4.9200e-003	0.0000	167.2994
Total	**0.0877**	**0.5333**	**0.7685**	**3.0800e-003**	**0.2157**	**2.5000e-003**	**0.2182**	**0.0580**	**2.3400e-003**	**0.0603**	**0.0000**	**286.2343**	**286.2343**	**0.0122**	**0.0000**	**286.5398**

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	0.1469	2.6879	2.0810	3.1000e-003		0.0776	0.0776		0.0776	0.0776	0.0000	266.3826	266.3826	0.0643	0.0000	267.9892
Total	**0.1469**	**2.6879**	**2.0810**	**3.1000e-003**		**0.0776**	**0.0776**		**0.0776**	**0.0776**	**0.0000**	**266.3826**	**266.3826**	**0.0643**	**0.0000**	**267.9892**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4767	0.1292	1.2300e-003	0.0304	9.7000e-004	0.0314	8.7800e-003	9.3000e-004	9.7100e-003	0.0000	119.0579	119.0579	7.3000e-003	0.0000	119.2404
Worker	0.0727	0.0566	0.6393	1.8500e-003	0.1852	1.5300e-003	0.1868	0.0492	1.4100e-003	0.0506	0.0000	167.1764	167.1764	4.9200e-003	0.0000	167.2994
Total	**0.0877**	**0.5333**	**0.7685**	**3.0800e-003**	**0.2157**	**2.5000e-003**	**0.2182**	**0.0580**	**2.3400e-003**	**0.0603**	**0.0000**	**286.2343**	**286.2343**	**0.0122**	**0.0000**	**286.5398**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5300e-003	0.0775	0.0879	1.4000e-004		4.0700e-003	4.0700e-003		3.7400e-003	3.7400e-003	0.0000	12.0141	12.0141	3.8900e-003	0.0000	12.1112
Paving	3.6300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0112**	**0.0775**	**0.0879**	**1.4000e-004**		**4.0700e-003**	**4.0700e-003**		**3.7400e-003**	**3.7400e-003**	**0.0000**	**12.0141**	**12.0141**	**3.8900e-003**	**0.0000**	**12.1112**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5900e-003	0.1207	0.1038	1.4000e-004		3.0000e-003	3.0000e-003		3.0000e-003	3.0000e-003	0.0000	12.0141	12.0141	3.8900e-003	0.0000	12.1112
Paving	3.6300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.2200e-003**	**0.1207**	**0.1038**	**1.4000e-004**		**3.0000e-003**	**3.0000e-003**		**3.0000e-003**	**3.0000e-003**	**0.0000**	**12.0141**	**12.0141**	**3.8900e-003**	**0.0000**	**12.1112**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.0000e-004	3.4000e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8900	0.8900	3.0000e-005	0.0000	0.8907
Total	**3.9000e-004**	**3.0000e-004**	**3.4000e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8900**	**0.8900**	**3.0000e-005**	**0.0000**	**0.8907**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4100e-003	0.0445	0.0583	9.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	8.0110	8.0110	2.5900e-003	0.0000	8.0758
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8300e-003**	**0.0445**	**0.0583**	**9.0000e-005**		**2.2700e-003**	**2.2700e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**8.0110**	**8.0110**	**2.5900e-003**	**0.0000**	**8.0758**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.0900e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5725	0.5725	2.0000e-005	0.0000	0.5729
Total	**2.4000e-004**	**1.8000e-004**	**2.0900e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5725**	**0.5725**	**2.0000e-005**	**0.0000**	**0.5729**

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	3.7200e-003	0.0805	0.0692	9.0000e-005		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	8.0110	8.0110	2.5900e-003	0.0000	8.0758
Paving	2.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.1400e-003**	**0.0805**	**0.0692**	**9.0000e-005**		**2.0000e-003**	**2.0000e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**8.0110**	**8.0110**	**2.5900e-003**	**0.0000**	**8.0758**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.0900e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5725	0.5725	2.0000e-005	0.0000	0.5729
Total	**2.4000e-004**	**1.8000e-004**	**2.0900e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5725**	**0.5725**	**2.0000e-005**	**0.0000**	**0.5729**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2991**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.8000e-004	0.0101	3.0000e-005	3.1800e-003	3.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.7671	2.7671	8.0000e-005	0.0000	2.7690
Total	**1.1700e-003**	**8.8000e-004**	**0.0101**	**3.0000e-005**	**3.1800e-003**	**3.0000e-005**	**3.2000e-003**	**8.4000e-004**	**2.0000e-005**	**8.7000e-004**	**0.0000**	**2.7671**	**2.7671**	**8.0000e-005**	**0.0000**	**2.7690**

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	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.2991**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.8000e-004	0.0101	3.0000e-005	3.1800e-003	3.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.7671	2.7671	8.0000e-005	0.0000	2.7690
Total	**1.1700e-003**	**8.8000e-004**	**0.0101**	**3.0000e-005**	**3.1800e-003**	**3.0000e-005**	**3.2000e-003**	**8.4000e-004**	**2.0000e-005**	**8.7000e-004**	**0.0000**	**2.7671**	**2.7671**	**8.0000e-005**	**0.0000**	**2.7690**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2528	1.3313	3.4886	0.0127	1.0529	0.0107	1.0636	0.2822	9.9300e-003	0.2922	0.0000	1,176.4691	1,176.4691	0.0605	0.0000	1,177.9813
Unmitigated	0.2528	1.3313	3.4886	0.0127	1.0529	0.0107	1.0636	0.2822	9.9300e-003	0.2922	0.0000	1,176.4691	1,176.4691	0.0605	0.0000	1,177.9813

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	811.84	811.84	811.84	2,774,181	2,774,181
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	811.84	811.84	811.84	2,774,181	2,774,181

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

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	139.3952	139.3952	5.7500e-003	1.1900e-003	139.8939
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	139.3952	139.3952	5.7500e-003	1.1900e-003	139.8939
NaturalGas Mitigated	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	78.8282	78.8282	1.5100e-003	1.4500e-003	79.2966
NaturalGas Unmitigated	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	78.8282	78.8282	1.5100e-003	1.4500e-003	79.2966

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					
Condo/Townhouse	1.47718e+006	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	78.8282	78.8282	1.5100e-003	1.4500e-003	79.2966
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		**7.9700e-003**	**0.0681**	**0.0290**	**4.3000e-004**		**5.5000e-003**	**5.5000e-003**		**5.5000e-003**	**5.5000e-003**	**0.0000**	**78.8282**	**78.8282**	**1.5100e-003**	**1.4500e-003**	**79.2966**

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					
Condo/Townhouse	1.47718e+006	7.9700e-003	0.0681	0.0290	4.3000e-004		5.5000e-003	5.5000e-003		5.5000e-003	5.5000e-003	0.0000	78.8282	78.8282	1.5100e-003	1.4500e-003	79.2966
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		**7.9700e-003**	**0.0681**	**0.0290**	**4.3000e-004**		**5.5000e-003**	**5.5000e-003**		**5.5000e-003**	**5.5000e-003**	**0.0000**	**78.8282**	**78.8282**	**1.5100e-003**	**1.4500e-003**	**79.2966**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	433435	138.1016	5.7000e-003	1.1800e-003	138.5957
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4060	1.2936	5.0000e-005	1.0000e-005	1.2982
Total		**139.3952**	**5.7500e-003**	**1.1900e-003**	**139.8939**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	433435	138.1016	5.7000e-003	1.1800e-003	138.5957
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	4060	1.2936	5.0000e-005	1.0000e-005	1.2982
Total		**139.3952**	**5.7500e-003**	**1.1900e-003**	**139.8939**

6.0 Area Detail

6.1 Mitigation Measures Area

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	0.3821	0.0254	0.8947	1.4000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	19.0036	19.0036	1.7400e-003	3.2000e-004	19.1429
Unmitigated	0.3821	0.0254	0.8947	1.4000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	19.0036	19.0036	1.7400e-003	3.2000e-004	19.1429

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	0.0297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.7700e-003	0.0152	6.4500e-003	1.0000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	17.5540	17.5540	3.4000e-004	3.2000e-004	17.6583
Landscaping	0.0269	0.0102	0.8883	5.0000e-005		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	1.4496	1.4496	1.4000e-003	0.0000	1.4845
Total	**0.3821**	**0.0254**	**0.8947**	**1.5000e-004**		**6.1400e-003**	**6.1400e-003**		**6.1400e-003**	**6.1400e-003**	**0.0000**	**19.0036**	**19.0036**	**1.7400e-003**	**3.2000e-004**	**19.1429**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.7700e-003	0.0152	6.4500e-003	1.0000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	17.5540	17.5540	3.4000e-004	3.2000e-004	17.6583
Landscaping	0.0269	0.0102	0.8883	5.0000e-005		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	1.4496	1.4496	1.4000e-003	0.0000	1.4845
Total	**0.3821**	**0.0254**	**0.8947**	**1.5000e-004**		**6.1400e-003**	**6.1400e-003**		**6.1400e-003**	**6.1400e-003**	**0.0000**	**19.0036**	**19.0036**	**1.7400e-003**	**3.2000e-004**	**19.1429**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.7612	0.1473	3.7100e-003	36.5491
Unmitigated	37.5288	0.1841	4.6200e-003	43.5060

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	5.60325 / 3.53248	37.5288	0.1841	4.6200e-003	43.5060
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		**37.5288**	**0.1841**	**4.6200e-003**	**43.5060**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.4826 / 3.317	31.7612	0.1473	3.7100e-003	36.5491
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		**31.7612**	**0.1473**	**3.7100e-003**	**36.5491**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.0076	0.1186	0.0000	4.9737
Unmitigated	8.0303	0.4746	0.0000	19.8948

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	39.56	8.0303	0.4746	0.0000	19.8948
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.0303**	**0.4746**	**0.0000**	**19.8948**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	9.89	2.0076	0.1186	0.0000	4.9737
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.0076**	**0.1186**	**0.0000**	**4.9737**

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