AIR QUALITY ASSESSMENT

Avocado TSM
City of El Cajon, CA

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Project: 23-83 Avacodo TSM AQ

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EXECUTIVE SUMMARY

This air quality impact study has been completed to determine the air quality impacts associated with the construction and operation of the proposed Project. The project is a Tentative Subdivision Map (TSM) to subdivide the existing vacant 2.11-acre parcel into five lots for single-family residential units to be constructed. The Project site is located on the northwest corner of Cajon View Drive and Avocado Boulevard in the City of El Cajon.

If approved, the construction is anticipated to start in early 2025 and be completed as soon as one year later. The first full year of operations is expected in 2026. Earthwork for the five residential pads, driveways and onsite access roads would likely disturb most of the site and as much as 4,000 Cubic Yards of material will require export off-site.

Based upon the analysis of construction and operation activities for the proposed Project, a less than significant construction and operational air quality impact would be expected. In addition, a less than significant cumulative impact was found and would be expected for both construction and operations.

A construction health risk analysis was performed for diesel particulate matter (DPM) which may be expected during construction of the Project. The project will be under construction in 2025 and as a Project design feature (PDF), the Project would utilize Tier 4 equipment. Based on this analysis assuming this PDF, health risks during construction would be less than significant at the point of maximum exposure.

Odors from construction activities typically are noticed from construction equipment, paving activities and sometimes painting activities but are short-term. Based on this, though the Project would generate short-term odors, no long-term significant construction odor impacts would be expected. Operations of the residential uses would not generate odors typically considered objectionable. Because of this, a less than significant odor impact would be expected during the operations of the residential use.

As noted, the Project would include a PDF during construction and was assumed within this analysis and was analyzed as such. Because of this, the following PDF would be a condition to the Project.

> *PDF-1 - Project-related construction equipment shall use Tier 4 construction equipment as defined by United States Environmental Protection Agency (EPA) / California Air Resources Board (CARB) standards. The grading contractor shall submit a letter to the City of El Cajon committing to this requirement.*

The proposed project would not require any amendments to zoning designations to accommodate this project. Given this, no amendments to zoning designations or Special Area Regulations are needed to accommodate the project. Therefore, since the project is consistent with the General Plan and would have a less than significant direct air quality impact; a significant cumulative operational impact would not be expected. In addition, based on these findings, the project would be consistent with the Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP).

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential air quality impacts (if any) that may be created by construction from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to reduce impacts to the extent feasible.

1.2 Project Location

The Project site is located on the northwest corner of Cajon View Drive and Avocado Boulevard in the City of El Cajon. The general location of the Project is shown on the Vicinity Map, Figure 1-A.

1.3 Project Description

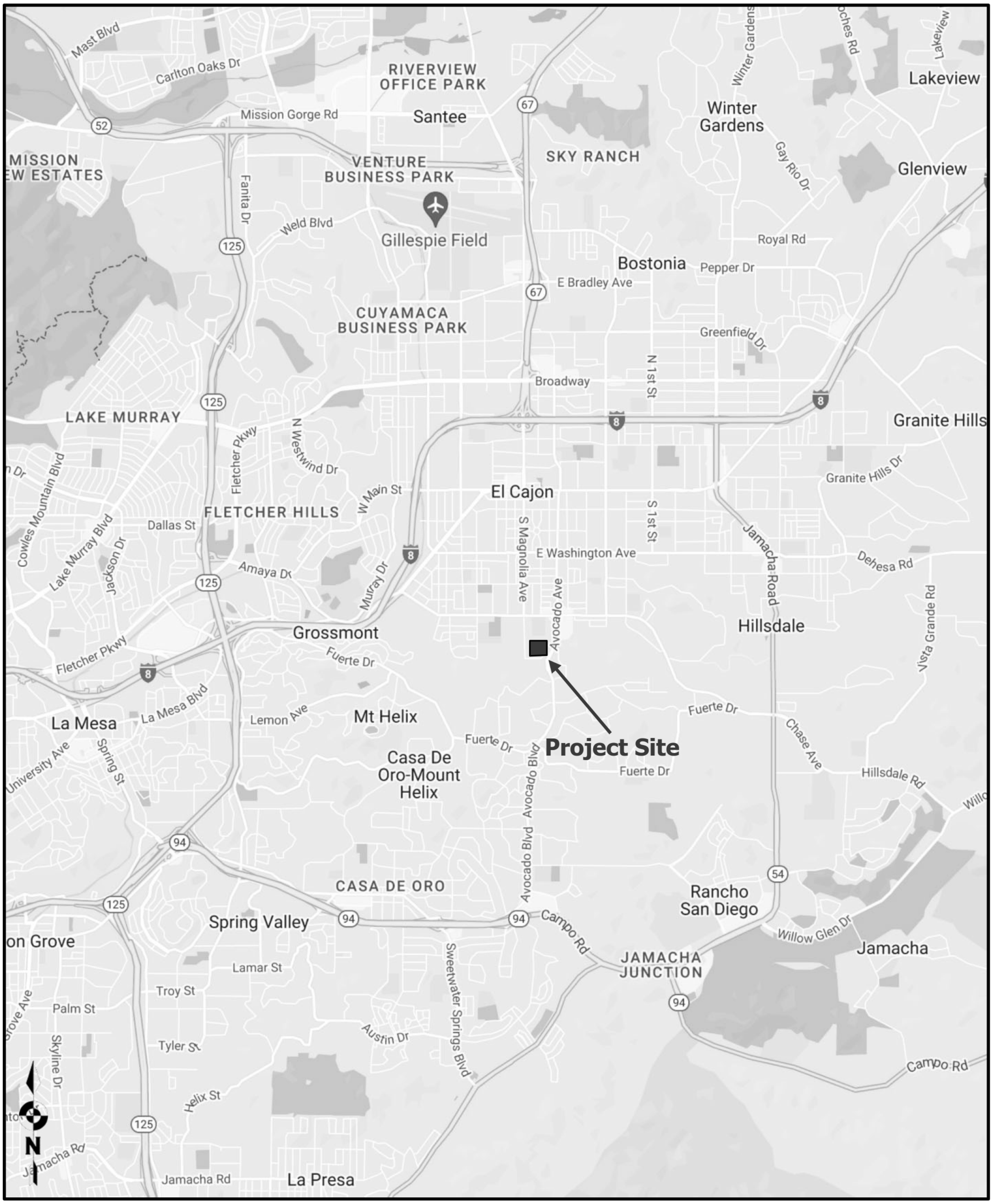
The project is a Tentative Subdivision Map (TSM) to subdivide the existing vacant 2.11-acre parcel into five lots for single-family residential units to be constructed. The Project site is located on the northwest corner of Cajon View Drive and Avocado Boulevard in the City of El Cajon.

If approved, the construction is anticipated to start in early 2025 and be completed as soon as one year later. The first full year of operations is expected in 2026. Earthwork for the five residential pads, driveways and onsite access roads would likely disturb most of the site and as much as 4,000 Cubic Yards of material will require export off-site.

During Construction, the Applicant would ensure that Tier 4 equipment is used onsite during grading and construction.

PDF-1 - Project-related construction equipment shall use Tier 4 construction equipment as defined by United States Environmental Protection Agency (EPA) / California Air Resources Board (CARB) standards. The grading contractor shall submit a letter to the City of El Cajon committing to this requirement.

Figure 1-A: Project Vicinity Map



Source: (Google, 2023)

Figure 1-B: Proposed Project Site Layout

Source: (Walsh Engineering and Surveying, INC., 2023)

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The site is Zoned RS-14 and the Project has been designed to conform to this Zoning. Elevations onsite range from between 530 and 630 feet above mean sea level (FAMSL).

2.2 Climate and Meteorology

Climate within the San Diego Air Basin (SDAB), is largely dominated by the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation throughout the year. The climatic classification for San Diego is a warm with dry summers and mild wet winters.

Meteorological trends within the El Cajon area generally show daytime highs ranging between 69.8 degrees Fahrenheit (ºF) in the winter to approximately 88.9ºF in the summer with August usually being the hottest month. Precipitation is generally about 12.4 inches per year (WRCC, 2016). Prevailing wind patterns for the area vary during any given month during the year and also vary depending on the time of day or night. The predominant pattern though throughout the year is usually from the west or westerly (WRCC, 2018).

2.3 Regulatory Standards

Regulatory Standards, which are made up of federal, state and local air quality standards, are set with the intention to reduce human health impacts from exposure to pollutants. Based on these air quality standards, regional and local impact determinations under the California Environmental Quality Act (CEQA) would also be assumed to reduce potential health impacts because they are tied to the higher regulations.

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. ***Primary Standards*** set limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. ***Secondary Standards*** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. ***Carbon Monoxide (CO):*** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.*
2. ***Lead (Pb):*** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.*
3. ***Nitrogen Dioxide (NO_2):*** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_2 is usually visible as a reddish-brown air layer over urban areas. NO_2 along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_2 above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.*
4. ***Particulate Matter (PM_{10} or $PM_{2.5}$):*** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM_{10} particles are 10 microns (µm) or less and $PM_{2.5}$ particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of*

visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.

5. ***Ozone (O_3)**: is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.*
6. ***Sulfur Dioxide (SO_2)**: is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.*

2.3.2 State Standards and Definitions

CARB sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) is similar to the NAAQS and also restricts four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. ***Visibility Reducing Particles**: Particles in the Air that obstruct the visibility.*
2. ***Sulfates**: are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.*
3. ***Hydrogen Sulfide (H_2S)**: is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 Parts per Million (ppm)) can cause a loss of consciousness and possibly death.*
4. ***Vinyl Chloride**: also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Average Time**	**California Standards[1]**		**Federal Standards[2]**		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.070 ppm (137 µg/m3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		-		
Fine Particulate Matter (PM2.5)[9]	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12.0 µg/m3	15 µg/m3	
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		-	-	-
Nitrogen Dioxide (NO_2)[10]	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3)[8]	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm[8] (188/ µg/m3)	-	
Sulfur Dioxide (SO_2)[11]	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm[10] (for Certain Areas)	-	Ultraviolet Flourescence; Spectrophotometry (Pararoosaniline Method)[9]
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm[10] (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3)	-	
Lead[12,13]	30 Day Average	1.5 µg/m3	Atomic Absorption	-		-
	Calendar Quarter	-		1.5 µg/m3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	-		0.15 µg/m3		
Visibility Reducing Particles	8 Hour	See footnote 14				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: (California Air Resources Board, 5/4/2016)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. California Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as "non-attainment areas" for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the $PM_{2.5}$ standard and many areas are in non-attainment for PM_{10} as well. The state therefore created the California SIP, which is designed to provide control measures needed for California Air basins to attain ambient air quality standards.

The San Diego Air Pollution Control District (SDAPCD) is the government agency which regulates sources of air pollution within the county. Therefore, the SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status for state ozone standards with control measures focused on VOCs and NO_X. Currently, San Diego is in "non-attainment" status for federal and state O_3 and state PM_{10} and $PM_{2.5.}$ An attainment plan is available for O_3. The RAQS was adopted in 1992 and has been updated as recently as 2022 which was the latest update incorporating minor changes to the prior 2016 update.

The 2022 update mostly summarizes how the 2016 update has lowered NO_X and VOCs emissions which reduces ozone and clarifies and enhances emission reductions by introducing for discussion three new VOC and four new NO_X reduction measures. NO_X and VOCs are precursors to the formation of ozone in the atmosphere. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years. A complete listing of the current attainment status for criteria pollutants with respect to both federal and state nonattainment status by pollutants for County is shown in Table 2.2 on the following page (SDAPCD, 2023).

The RAQS is largely based on population projections by the San Diego Association of Governments (SANDAG). SANDAG uses the General Plan land use maps as the basis for growth in the unincorporated area (County of San Diego, 2010). The USDRIP is no exception and since it was approved in 2000 and is part of the County's General Plan, it is part of SANDAGs growth projections. Projects that produce less growth than projected by SANDAG would generally conform to the RAQS. Projects that create more growth than projected by SANDAG may create a significant impact assuming the project produces unmitigable air quality emission in excess of regional air quality standards. Also, the project would be considered a significant impact if the project produces cumulative impacts.

Table 2.2: San Diego County Air Basin Attainment Status by Pollutant

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-Hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	Attainment *	Nonattainment
Carbon Monoxide	Attainment	Attainment
PM10	Unclassifiable **	Nonattainment
PM2.5	Attainment	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

** The federal 1-hour standard of 12 pphm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.*
*** At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.*
(SDAPCD, 2019)

2.4 California Environmental Quality Act Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines (California Natural Resources Agency, 2016) and are as follows:

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

A: Conflict with or obstruct implementation of the applicable air quality plan?
B: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
C: Expose sensitive receptors to substantial pollutant concentrations?
D: Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

It should be noted that the County's Air Quality guidelines from 2007 (County of San Diego, 2007) are outdated and are slightly different. Because of this, it is recommended to use the latest CEQA guidelines as are cited instead.

2.5 SDAPCD Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established recommended trigger levels in Rule 20.2 for new or modified stationary sources. The City has approved these trigger levels as Screening Level Thresholds[1] (SLTs) for use in determining CEQA air quality impacts. These SLTs can be used to evaluate if a project's total emissions would result in a significant impact as defined by CEQA. However, since SDAPCD does not have recommended trigger level for VOCs, the City accepts the South Coast Air Quality Management District's (SCAQMD's) VOC threshold for the Coachella Valley for use in the City.

Should emissions be found to exceed these SLTs, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These SLTs for construction and operational activities are shown in Table 2.3.

Table 2.3: Screening Level Thresholds for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Operational Emissions	
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75

[1] SLTs are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS. The federal and State ambient air quality standards, in turn, are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health.

Non-Criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the incremental cancer risk to over 10 in one million or a health hazard index (chronic and acute) greater than one since risks above. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

Under Federal law, 188 substances are listed as HAPs (EPA, 2022). State law has established the framework for California's TAC identification and control program, which is generally more stringent than the Federal program, and is aimed at HAPs that are a problem in California. The State has formally identified more than 200 substances as TACs and is adopting appropriate control measures for sources of these TACs. Per the County's air quality guidelines, for typical land use projects that do not propose source of emissions regulated by APCD, diesel fired particulates are the primary TAC of concern (County of San Diego, 2007).

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the San Diego Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The SDAPCD is responsible for monitoring and reporting monitoring data (SDAPCD, 2022). SDAPCD operates monitoring sites, which collect data on criteria pollutants. The proposed development project is closest to the El Cajon monitoring locations. Table 2.4 on the following page identifies the criteria pollutants monitored at the El Cajon monitoring location.

Table 2.4: Four-Year Ambient Air Quality Summary near the Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2020	2021	2022	Days Exceeded over 3 years
O_3 (ppm)	El Cajon Monitoring Station	1 Hour	0.09 ppm	No Standard	0.09	0.09	0.10	1
		8 Hour	0.070 ppm	0.070 ppm	0.08	0.08	0.09	19
PM_{10} ($\mu g/m^3$)		24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	55	40	44	N/A
		Annual Arithmetic Mean	20 $\mu g/m^3$	No Standard	23.5	22.0	21.6	N/A
$PM_{2.5}$ ($\mu g/m^3$)		24 Hour	No standard -	35 $\mu g/m^3$	38.2	30.2	26.4	N/A
		Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$	10.3	9.7	8.9	N/A
NO_2 (ppm)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.008	0.006	0.008	N/A
		1 Hour	0.18 ppm	0.100 ppm	0.044	0.038	0.036	N/A
CO (ppm)		1 Hour	20 ppm	35 ppm	1.5	1.2	1.4	N/A
		8 Hour	9 ppm	9 ppm	1.4	1.1	1.1	N/A
SO_2		24 Hour	0.04 ppm	No standard	0.000	0.000	0.000	N/A
		1 Hour	0.25 ppm	0.75 ppm	0.002	0.002	0.001	N/A
		Annual Arithmetic Mean	No Standard	0.030 ppm	0.000	0.000	0.000	N/A

Notes:
1. Days exceeded marked with "N/A" indicate no data available

3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air Quality impacts related to construction and daily operations were calculated using CalEEMod Version 2022.1 air quality model, which was developed by SCAQMD in 2022. The CalEEMod input/output model is shown in ***Attachment A*** to this report.

The AERSCREEN dispersion model will be used to determine the concentration for air pollutants at any location near the pollutant generator. Additionally, the model identifies the maximum exposure distance and concentrations. The notable toxic air contaminant from construction is diesel exhaust since exposure to diesel exhaust is known to cause cancer and acute and chronic health effects. Diesel exhaust emissions can be estimated using the annual PM_{10} exhaust emissions from onsite construction operations obtained from the annual CalEEMod model output by summing each onsite source for the construction duration. The AERSCREEN input/output files for the proposed Project are shown in ***Attachment B*** of this report.

Once the dispersed concentrations of diesel particulates are estimated in the surrounding air, they are used to evaluate estimated exposure to people. Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The cancer risk dose calculation is defined in Equation 1 (OEHHA, 2015):

Equation 1 $$Dose_{air}=C_{air}*(BR/BW)*A*EF*(1x10^{-6})$$

$Dose_{air}$	=	Dose through inhalation (mg/kg/d)
C_{air}	=	Concentration in air (µg/m^3) – dispersion models predict a 1-hr concentration and is corrected to an annual average concentration by multiplying the 1-hr average by 0.08 (US EPA, 1992)
BR/BW	=	Daily breathing rate normalized to body weight (L/kg BW-day). See Table I.2 (OEHHA, 2015) for the daily breathing rate for each age range.
A	=	Inhalation absorption factor (assumed to be 1)
EF	=	Exposure frequency (unitless, days/365 days)
1x10-6	=	Milligrams to micrograms conversion (10^{-3} mg/ µg), cubic meters to liters conversion (10^{-3} m^3/l)

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. The excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. Specific factors as modeled are shown within ***Attachment C*** to this report. The cancer risk calculation is defined in Equation 2 (OEHHA, 2015):

Equation 2

$$RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

$RISK_{inh\text{-}res}$	=	Residential inhalation cancer risk
$DOSE_{air}$	=	Daily inhalation dose (mg/kg-day)
CPF	=	Inhalation cancer potency factor $(mg/kg\text{-}day^{-1})$
ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless)

The Office of Environmental Health Hazard Assessment (OEHHA) recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). OEHHA also recommends that the 30-year exposure duration be used as the basis for public notification and risk reduction audits and plans. Exposure durations of 9-years and 70-years are recommended to be evaluated for the MEIR to show the range of cancer risk based on residency periods. If a facility is notifying the public regarding cancer risk, the 9-and 70-year cancer risk estimates are useful for people who have resided in their current residence for periods shorter and longer than 30 years. For the purposes of this analysis, a 70-year cancer risk was estimated.

Chronic Non-Cancer risks are also known with respect to diesel particulate matter (DPM) and are determined by the hazard index. To calculate hazard index, DPM concentration is divided by its chronic Reference Exposure Levels (REL). Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the Office of Environmental Health Hazard Assessment (OEHHA, 2015). Diesel Exhaust has a REL of 5 $\mu g/m^3$ and targets the respiratory system.

3.2 Construction Assumptions

CalEEMod Version 2022.1 was utilized for all construction emissions calculations for the proposed Hotel project and has been manually updated to reflect SDAPCD Rule 67 VOC paint standards only the remaining inputs are default settings within the model. The Project construction dates assumed default settings within the software and are shown in Table 3.1 below. It should be noted that the project will be required to incorporate requirements by default from the County's grading ordinance though are not specifically identified within this analysis. Based on the proposed Project description, the existing buildings will be demolished and removed from the site.

The California Air Resources Board (CARB) regulations require that – starting in 2012 – all off-road equipment produced needs to meet the basic requirements for Tier 4 compliance (Tier 4 Interim) (CARB, 2023). Offroad equipment fleets are managed by CARB and are typically based on total horsepower owned. Owners are limited to what types of equipment they must maintain as their fleet and can include equipment from rental companies. After 2023, no fleet owner can add equipment less than Tier 3 to their fleet (California Air Resouces Board, 2022). For this reason, PDF-1 would be achievable with minimal effort since most equipment operators maintain fleets consisting of mostly Tier 4 equipment.

Table 3.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Completion	Quantity
Site Preparation	1/1/2025	1/21/2025	
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			4
Grading	1/22/2025	2/11/2025	
Graders			1
Tractors/Loaders/Backhoes			3
Rubber Tired Dozers			1
Excavators			1
Building Construction	2/12/2025	11/18/2025	
Forklifts			3
Generator Sets			1
Welders			1
Tractors/Loaders/Backhoes			3
Building Construction	6/1/2025	6/9/2025	
Cranes			1
Paving	11/1/2025	11/14/2025	
Pavers			1
Paving Equipment			2
Rollers			2
Tractors/Loaders/Backhoes			1
Cement and Mortar Mixers			2
Architectural Coating	11/1/2025	11/18/2025	
Air Compressors			1
This equipment and durations were selected based on CalEEMod defaults in CalEEMod 2022.1			

3.3 Operational Emissions

Once construction is completed the proposed project would generate emissions from daily operations which would include sources such as Area, Mobile and Energy sources which are also calculated within CalEEMod. Area Sources include consumer products, landscaping and architectural coatings as part of regular maintenance. Energy sources would be from uses such as onsite natural gas use. Default settings in CalEEMod were assumed for this Project. The Operational model is shown in ***Attachment A*** at the end of this report.

3.4 Odor Impacts

Potential onsite construction odor generators would include short term construction odors from activities such as paving and possibly painting. Odors created from paving would include asphalt laying, which has a slight odor from the bitumen and solvents used within hot asphalt. Impacts associated with asphalt laying activities would be short term as shown in Table 3.1 above and are expected to be less than significant. The operations would consist of residential uses which do not typically generate offensive odors. Based on this, operational odor impacts would be less than significant odor impact.

4.0 FINDINGS

4.1 Construction Findings

Emissions from construction activities and equipment use, identified in Section 3.2, are presented in pounds per day and are shown in Table 4.1 below. Based on these numbers, the project would not exceed County SLTs and would have less than significant impacts to public health.

Table 4.1: Expected Maximum Daily Emissions– Pounds per Day (lb/day)

Year	VOC	NO_x	CO	SO_2	PM_{10} (Total)	$PM_{2.5}$ (Total)
2025	5.48	4.68	42.5	0.07	21.6	10.5
Screening Level Threshold (lb/day)	75	250	550	250	100	55
% lower than Standard	-92.69%	-98.13%	-92.27%	-99.97%	-78.40%	-80.91%
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

4.2 Health Risk

The proposed project will incorporate PDF 1 as noted in Section 1.3 above which includes the use of Tier 4 equipment during the grading and construction of the proposed project. Based upon the air quality modeling, worst-case PM_{10} from exhaust onsite during each of the construction tasks would cumulatively produce 0.0043 tons over the construction duration 321-days or an average of 0.0001 grams/second.

Utilizing the AERSCREEN dispersion model, we find that the worst-case annual concentration would be 0.0492 μg/m^3 during construction. Utilizing the risk equation identified above in Section 3.1, the inhalation cancer risk for the worst-case receptor was found to be 7.80 per one million exposed which would be considered a less than significant impact if T-BACT equipment is utilized. Since Tier 4 T-BACT equipment will be utilized as a design feature and as a condition of the Project, the Project construction activities would generate less than significant cancer health risks.

There are also known acute and chronic health risks associated with diesel exhaust which are considered non-cancer risks. These risks are calculated based on methods identified in Section 3.1 of this report. From this we find that the hourly and annual concentrations of 0.049 and 0.615 μg/m^3 divided by the Chronic REL of 5 μg/m^3 yields a Health Hazard Index of less than one or 0.01 or less. Therefore, no acute or chronic non-cancer risks are expected, and all health risks are considered less than significant.

4.3 Operational Findings

Project Buildout and full operations are expected in 2026. The expected daily pollutant generation is calculated in CalEEMod 2022.1 and is shown for the summer and winter scenarios in Tables 4.3 and 4.4 below. Based on these results, the project would have a less than significant impact in the County.

Table 4.3: Expected Summer Daily Pollutant Generation

	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile	0.18	0.12	1.21	< 0.005	0.25	0.06
Area	7.9	0.15	9.73	0.02	1.3	1.3
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005
Total (Unmitigated)	**8.09**	**0.31**	**11**	**0.02**	**1.55**	**1.36**
Screening Level Threshold (lb/day)	75	250	550	250	100	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Daily pollutant generation assumes trip distances within CalEEMod. The final numbers are all rounded within Excel and are reported as rounded numbers.						

Table 4.4: Expected Winter Daily Pollutant Generation

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Mobile	0.18	0.13	1.16	< 0.005	0.25	0.06
Area	7.87	0.15	9.45	0.02	1.3	1.3
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005
Total (Unmitigated)	**2.13**	**0.2**	**3.41**	**0.01**	**1.55**	**1.36**
Screening Level Threshold (lb/day)	75	250	550	250	100	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Daily pollutant generation assumes trip distances within CalEEMod. The final numbers are all rounded within Excel and are reported as rounded numbers.						

4.4 Cumulative Impact Findings

Cumulative impacts would exist when either there are direct air quality impacts or when multiple construction projects occur within the same area simultaneously. To illustrate this, if a Project was to produce air quality emissions simultaneous to a nearby construction project the addition of both project emissions to the environment could exceed significance thresholds. If a nearby Project was to be under construction at the same time, that Project would need to produce an additive amount of emissions close to the Project site such that emissions would exceed thresholds.

The Project is located in a mostly developed area of El Cajon and nearby construction activities are not expected near this Project. It should be noted however that after reviewing the expected emissions as identified in Table 4.1 above, the Project emissions are between approximately 79 and 99 percent lower than City's SLTs. So, even if an identical Project were constructed adjacent to the Project, cumulative construction impacts would not be likely. Given this, a less than significant cumulative construction impact would be expected.

The Project site has an RS-14 Zoning and would not require a zone modification to subdivide and construct the 5 single family homes. Given this, no amendments to zoning is needed to accommodate the project. Therefore, since the project is consistent with the General Plan and would have a less than significant direct air quality impact; a significant cumulative operational impact would not be expected. In addition, based on these findings, the project would also be consistent with the RAQS and SIP.

4.5 Conclusion of Findings

Based upon the analysis of construction and operation activities for the proposed Project, a less than significant construction and operational air quality impact would be expected. In addition, a less than significant cumulative impact was found and would be expected for both construction and operations.

A construction health risk analysis was performed for diesel particulate matter (DPM) which may be expected during construction of the Project. The project will be under construction in 2025 and as a Project design feature (PDF), the Project would ensure that construction equipment used onsite would be rated Tier 4. Based on this analysis assuming this PDF is implemented, health risks during construction would be less than significant at the point of maximum exposure.

Odors from construction activities typically are noticed from construction equipment, paving activities and sometimes painting activities but are short-term. Based on this, though the Project would generate short-term odors, no long-term significant construction odor impacts would be expected. Operations of the residential uses would not generate odors typically considered objectionable. Because of this, a less than significant odor impact would be expected during the operations of the residential use.

As noted, the Project would include a PDF during construction and was assumed within this analysis and was analyzed as such. Because of this, the following PDF would be a condition to the Project.

> *PDF-1 - Project-related construction equipment shall use Tier 4 construction equipment as defined by United States Environmental Protection Agency (EPA) / California Air Resources Board (CARB) standards. The grading contractor shall submit a letter to the City of El Cajon committing to this requirement.*

The proposed project would not require any amendments to zoning designations to accommodate this project. Given this, no amendments to zoning designations or Special Area Regulations are needed to accommodate the project. Therefore, since the project is consistent with the General Plan and would have a less than significant direct air quality impact; a significant cumulative operational impact would not be expected. In addition, based on these findings, the project would be consistent with the RAQS and SIP.

5.0 REFERENCES

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ATTACHMENT A

CalEEMod

Avacodo 5-Unit TSM Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Avacodo 5-Unit TSM
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	24.8
Location	Cajon View Dr, El Cajon, CA, USA
County	San Diego
City	El Cajon
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6586
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	5.00	Dwelling Unit	2.10	9,750	58,564	2.00	14.0	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	2.08	14.5	0.02	0.04	0.04	0.08	0.04	0.01	0.05	—	2,459	2,459	0.10	0.02	0.20	2,469
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.48	4.68	42.5	0.07	0.15	21.4	21.6	0.15	10.3	10.5	—	7,960	7,960	0.33	0.40	0.15	7,989
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.31	1.32	8.47	0.01	0.03	1.22	1.24	0.03	0.58	0.60	—	1,472	1,472	0.06	0.03	0.15	1,483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.06	0.24	1.54	< 0.005	< 0.005	0.22	0.23	< 0.005	0.11	0.11	—	244	244	0.01	< 0.005	0.02	245

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.18	0.12	1.21	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	287	287	0.01	0.01	0.96	292
Area	7.90	0.15	9.73	0.02	1.30	—	1.30	1.30	—	1.30	139	58.7	198	0.13	0.01	—	204
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.5	49.5	0.01	< 0.005	—	49.8
Water	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Waste	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	8.09	0.31	11.0	0.02	1.31	0.24	1.55	1.30	0.06	1.36	141	396	537	0.36	0.02	1.03	554
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.18	0.13	1.16	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	275	275	0.02	0.01	0.02	279
Area	7.87	0.15	9.45	0.02	1.30	—	1.30	1.30	—	1.30	139	57.9	197	0.13	0.01	—	203
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.5	49.5	0.01	< 0.005	—	49.8
Water	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Waste	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	8.06	0.31	10.6	0.02	1.31	0.24	1.55	1.30	0.06	1.36	141	383	524	0.36	0.02	0.09	540
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.12	1.13	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	271	271	0.01	0.01	0.40	275
Area	1.96	0.03	2.26	< 0.005	0.29	—	0.29	0.29	—	0.29	31.2	13.4	44.6	0.03	< 0.005	—	46.0
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.5	49.5	0.01	< 0.005	—	49.8
Water	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Waste	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	2.13	0.20	3.41	0.01	0.30	0.24	0.53	0.30	0.06	0.36	33.3	334	368	0.26	0.02	0.47	379

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.21	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.07	45.5
Area	0.36	0.01	0.41	< 0.005	0.05	—	0.05	0.05	—	0.05	5.16	2.22	7.38	< 0.005	< 0.005	—	7.61
Energy	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.19	8.19	< 0.005	< 0.005	—	8.24
Water	—	—	—	—	—	—	—	—	—	—	0.06	0.14	0.20	0.01	< 0.005	—	0.39
Waste	—	—	—	—	—	—	—	—	—	—	0.30	0.00	0.30	0.03	0.00	—	1.04
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.39	0.04	0.62	< 0.005	0.05	0.04	0.10	0.05	0.01	0.06	5.52	55.3	60.9	0.04	< 0.005	0.08	62.8

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	3.80	41.6	0.07	0.15	—	0.15	0.15	—	0.15	—	7,758	7,758	0.31	0.06	—	7,785
Dust From Material Movement	—	—	—	—	—	21.2	21.2	—	10.3	10.3	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.16	1.71	< 0.005	0.01	—	0.01	0.01	—	0.01	—	319	319	0.01	< 0.005	—	320
Dust From Material Movement	—	—	—	—	—	0.87	0.87	—	0.42	0.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.03	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	52.8	52.8	< 0.005	< 0.005	—	53.0
Dust From Material Movement	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.91	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	202	202	0.01	0.01	0.02	204
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	0.01	8.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	1.38	16.8	0.03	0.05	—	0.05	0.05	—	0.05	—	2,818	2,818	0.11	0.02	—	2,827
Dust From Material Movement	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	116	116	< 0.005	< 0.005	—	116
Dust From Material Movement	—	—	—	—	—	0.29	0.29	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.25	1.19	0.02	0.04	0.62	0.66	0.04	0.17	0.21	—	2,396	2,396	0.13	0.38	0.13	2,512
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.64	4.64	< 0.005	< 0.005	0.01	4.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.4	98.4	0.01	0.02	0.09	103
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.02	17.1

3.5. Building Construction (2025) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.60	10.0	0.02	0.03	—	0.03	0.03	—	0.03	—	1,531	1,531	0.06	0.01	—	1,536
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.60	10.0	0.02	0.03	—	0.03	0.03	—	0.03	—	1,531	1,531	0.06	0.01	—	1,536
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.88	5.50	0.01	0.01	—	0.01	0.01	—	0.01	—	839	839	0.03	0.01	—	842
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.16	1.00	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	139	139	0.01	< 0.005	—	139
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.06	17.3
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.03	14.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	< 0.005	16.3
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	< 0.005	14.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.92	8.92	< 0.005	< 0.005	0.02	9.05
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.33	7.33	< 0.005	< 0.005	0.01	7.66
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction Crane Use (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.43	4.27	0.01	0.02	—	0.02	0.02	—	0.02	—	867	867	0.04	0.01	—	870
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.7	23.7	< 0.005	< 0.005	—	23.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.93	3.93	< 0.005	< 0.005	—	3.94
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.06	17.3
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.03	14.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.51	8.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,351	1,351	0.05	0.01	—	1,355
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.0	37.0	< 0.005	< 0.005	—	37.1
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.13	6.13	< 0.005	< 0.005	—	6.15
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.95	4.95	< 0.005	< 0.005	0.01	5.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	5.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.39	4.39	< 0.005	< 0.005	—	4.40
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.45	6.45	< 0.005	< 0.005	< 0.005	6.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.18	0.12	1.21	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	287	287	0.01	0.01	0.96	292
Total	0.18	0.12	1.21	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	287	287	0.01	0.01	0.96	292
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.18	0.13	1.16	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	275	275	0.02	0.01	0.02	279
Total	0.18	0.13	1.16	< 0.005	< 0.005	0.24	0.25	< 0.005	0.06	0.06	—	275	275	0.02	0.01	0.02	279
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.02	0.21	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.07	45.5

Total	0.03	0.02	0.21	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.07	45.5

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.79	3.79	< 0.005	< 0.005	—	3.96
Total	—	—	—	—	—	—	—	—	—	—	—	3.79	3.79	< 0.005	< 0.005	—	3.96
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.79	3.79	< 0.005	< 0.005	—	3.96
Total	—	—	—	—	—	—	—	—	—	—	—	3.79	3.79	< 0.005	< 0.005	—	3.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.63	0.63	< 0.005	< 0.005	—	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	0.63	0.63	< 0.005	< 0.005	—	0.66

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.7	45.7	< 0.005	< 0.005	—	45.8
Total	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.7	45.7	< 0.005	< 0.005	—	45.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.7	45.7	< 0.005	< 0.005	—	45.8
Total	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.7	45.7	< 0.005	< 0.005	—	45.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.59
Total	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.57	7.57	< 0.005	< 0.005	—	7.59

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.65	0.15	9.45	0.02	1.30	—	1.30	1.30	—	1.30	139	57.9	197	0.13	0.01	—	203
Consumer Products	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.76	0.76	< 0.005	< 0.005	—	0.76
Total	7.90	0.15	9.73	0.02	1.30	—	1.30	1.30	—	1.30	139	58.7	198	0.13	0.01	—	204
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.65	0.15	9.45	0.02	1.30	—	1.30	1.30	—	1.30	139	57.9	197	0.13	0.01	—	203
Consumer Products	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7.87	0.15	9.45	0.02	1.30	—	1.30	1.30	—	1.30	139	57.9	197	0.13	0.01	—	203
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.31	0.01	0.39	< 0.005	0.05	—	0.05	0.05	—	0.05	5.16	2.15	7.32	< 0.005	< 0.005	—	7.55
Consumer Products	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	0.36	0.01	0.41	< 0.005	0.05	—	0.05	0.05	—	0.05	5.16	2.22	7.38	< 0.005	< 0.005	—	7.61

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Total	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Total	—	—	—	—	—	—	—	—	—	—	0.34	0.85	1.19	0.04	< 0.005	—	2.33
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.06	0.14	0.20	0.01	< 0.005	—	0.39
Total	—	—	—	—	—	—	—	—	—	—	0.06	0.14	0.20	0.01	< 0.005	—	0.39

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Total	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Total	—	—	—	—	—	—	—	—	—	—	1.79	0.00	1.79	0.18	0.00	—	6.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.30	0.00	0.30	0.03	0.00	—	1.04
Total	—	—	—	—	—	—	—	—	—	—	0.30	0.00	0.30	0.03	0.00	—	1.04

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/21/2025	5.00	15.0	Grubbing driveways, pads and access roads
Grading	Grading	1/22/2025	2/11/2025	5.00	15.0	Grading driveways, pads and access roads
Building Construction	Building Construction	2/12/2025	11/18/2025	5.00	200	Building 5 homes
Building Construction Crane Use	Building Construction	6/1/2025	6/13/2025	5.00	10.0	crane use is 2 days per home
Paving	Paving	11/1/2025	11/14/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	11/1/2025	11/18/2025	5.00	12.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.00	423	0.48
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction Crane Use	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Tier 4 Final	2.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	22.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	12.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	33.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.80	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	0.53	7.63	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.72	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Building Construction Crane Use	—	—	—	—
Building Construction Crane Use	Worker	1.80	12.0	LDA,LDT1,LDT2
Building Construction Crane Use	Vendor	0.53	7.63	HHDT,MHDT
Building Construction Crane Use	Hauling	0.00	20.0	HHDT
Building Construction Crane Use	Onsite truck	—	—	HHDT

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	19,744	6,581	0.00	0.00	—

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005

5.10. Operational Area Sources

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
19743.75	6,581	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	30,706	45.1	0.0330	0.0040	142,585

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	175,665	1,069,707

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	3.32	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

8. User Changes to Default Data

Screen	Justification
Land Use	5 Unit TSM
Construction: Construction Phases	no demolition will be required
Construction: Off-Road Equipment	Tier 4
Construction: Dust From Material Movement	4K CY export

ATTACHMENT B

AERSCREEN for DPM PM_{10}

AERSCREEN 21112 / AERMOD 22112 10/02/23
13:20:50

TITLE: AVOCADO TSM 5-UNIT

****************************** AREA PARAMETERS ****************************

SOURCE EMISSION RATE:	0.100E-03	g/s	0.794E-03	lb/hr
AREA EMISSION RATE:	0.117E-07	g/(s-m2)	0.928E-07	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	92.50	meters	303.48	feet
AREA SOURCE SHORT SIDE:	92.50	meters	303.48	feet
INITIAL VERTICAL DIMENSION:	2.15	meters	7.05	feet
RURAL OR URBAN:	RURAL			
FLAGPOLE RECEPTOR HEIGHT:	1.50	meters	4.92	feet
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

*********************** BUILDING DOWNWASH PARAMETERS **********************

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

************************** FLOW SECTOR ANALYSIS **************************
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	0.6145	45	75.0	WIN

* = worst case diagonal

```
---------------------------------------------------------------------------
*********************  MAKEMET METEOROLOGY PARAMETERS  ********************
---------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 01   1 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.16  0.043 -9.000  0.020 -999.   21.      5.4 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   250.0    2.0



---------------------------------------------------------------------------
*********************** AERSCREEN AUTOMATED DISTANCES ********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
---------------------------------------------------------------------------


                      MAXIMUM                             MAXIMUM
            DIST     1-HR CONC                 DIST     1-HR CONC
             (m)      (ug/m3)                   (m)      (ug/m3)
         ---------------------              ---------------------
```

1.00	0.3550
25.00	0.4786
50.01	0.5989
75.00	0.6145
100.00	0.5240
125.00	0.4407
150.01	0.3774
174.99	0.3277
200.00	0.2879
225.00	0.2556
250.00	0.2287
274.99	0.2062
300.00	0.1873
325.00	0.1711
350.00	0.1571
375.01	0.1450
400.00	0.1343
425.00	0.1249
450.00	0.1166
475.01	0.1092
500.00	0.1026
525.00	0.9659E-01
550.00	0.9115E-01
575.00	0.8623E-01
600.00	0.8176E-01
625.00	0.7769E-01
650.00	0.7395E-01
675.00	0.7049E-01
700.00	0.6729E-01
725.00	0.6434E-01
750.00	0.6161E-01
775.00	0.5908E-01
800.00	0.5672E-01
825.00	0.5452E-01
850.00	0.5246E-01
875.00	0.5054E-01
900.00	0.4872E-01
924.99	0.4701E-01
950.00	0.4542E-01
975.00	0.4391E-01
1000.00	0.4249E-01
1025.00	0.4113E-01
1050.00	0.3985E-01
1075.00	0.3864E-01
1100.00	0.3749E-01
1125.01	0.3641E-01
1150.00	0.3538E-01
1175.00	0.3439E-01
1200.00	0.3345E-01
1225.00	0.3256E-01

2525.00	0.1250E-01
2550.00	0.1234E-01
2575.00	0.1218E-01
2600.00	0.1202E-01
2625.00	0.1186E-01
2650.00	0.1171E-01
2675.00	0.1156E-01
2700.00	0.1142E-01
2725.00	0.1128E-01
2750.00	0.1114E-01
2775.00	0.1100E-01
2800.00	0.1087E-01
2825.00	0.1074E-01
2850.00	0.1061E-01
2875.00	0.1049E-01
2900.00	0.1037E-01
2925.00	0.1025E-01
2950.00	0.1013E-01
2975.00	0.1001E-01
3000.00	0.9902E-02
3025.00	0.9791E-02
3050.00	0.9682E-02
3075.00	0.9576E-02
3100.00	0.9471E-02
3125.00	0.9369E-02
3150.00	0.9268E-02
3174.99	0.9170E-02
3199.99	0.9073E-02
3225.00	0.8977E-02
3250.00	0.8884E-02
3275.00	0.8792E-02
3300.00	0.8702E-02
3325.00	0.8614E-02
3350.00	0.8527E-02
3375.00	0.8441E-02
3400.00	0.8357E-02
3425.00	0.8275E-02
3450.00	0.8193E-02
3475.00	0.8114E-02
3500.00	0.8035E-02
3525.00	0.7958E-02
3550.00	0.7882E-02
3575.00	0.7808E-02
3600.00	0.7734E-02
3625.00	0.7662E-02
3650.00	0.7591E-02
3674.99	0.7521E-02
3700.00	0.7452E-02
3724.99	0.7384E-02
3750.00	0.7318E-02

1250.00	0.3170E-01	3775.00	0.7252E-02
1275.00	0.3088E-01	3800.00	0.7187E-02
1300.00	0.3009E-01	3825.00	0.7124E-02
1325.00	0.2934E-01	3849.99	0.7061E-02
1350.00	0.2862E-01	3875.00	0.7000E-02
1375.00	0.2794E-01	3900.00	0.6939E-02
1400.00	0.2728E-01	3924.99	0.6879E-02
1425.00	0.2665E-01	3950.00	0.6820E-02
1450.00	0.2604E-01	3975.00	0.6762E-02
1475.00	0.2546E-01	4000.00	0.6705E-02
1500.00	0.2490E-01	4024.99	0.6648E-02
1525.00	0.2436E-01	4050.00	0.6593E-02
1550.00	0.2383E-01	4075.00	0.6538E-02
1575.00	0.2333E-01	4100.00	0.6484E-02
1600.00	0.2285E-01	4125.00	0.6431E-02
1625.00	0.2238E-01	4149.99	0.6378E-02
1650.00	0.2193E-01	4175.00	0.6326E-02
1675.00	0.2150E-01	4200.00	0.6275E-02
1700.00	0.2108E-01	4225.00	0.6225E-02
1725.00	0.2068E-01	4250.00	0.6175E-02
1750.00	0.2028E-01	4275.00	0.6126E-02
1775.00	0.1991E-01	4300.00	0.6078E-02
1800.00	0.1954E-01	4325.00	0.6031E-02
1825.00	0.1918E-01	4350.00	0.5984E-02
1850.00	0.1883E-01	4375.00	0.5937E-02
1875.00	0.1850E-01	4400.00	0.5892E-02
1900.00	0.1817E-01	4425.00	0.5846E-02
1925.00	0.1786E-01	4450.00	0.5802E-02
1950.01	0.1755E-01	4475.00	0.5758E-02
1975.00	0.1726E-01	4500.00	0.5715E-02
2000.00	0.1697E-01	4525.00	0.5672E-02
2025.00	0.1669E-01	4550.00	0.5630E-02
2050.00	0.1642E-01	4575.00	0.5588E-02
2075.00	0.1615E-01	4599.99	0.5547E-02
2100.00	0.1589E-01	4625.00	0.5506E-02
2125.00	0.1564E-01	4650.00	0.5466E-02
2150.00	0.1540E-01	4675.00	0.5426E-02
2175.00	0.1516E-01	4700.00	0.5387E-02
2200.00	0.1493E-01	4725.00	0.5349E-02
2225.00	0.1471E-01	4750.00	0.5310E-02
2250.00	0.1449E-01	4774.99	0.5273E-02
2275.00	0.1428E-01	4800.00	0.5235E-02
2300.00	0.1407E-01	4825.00	0.5199E-02
2325.00	0.1387E-01	4850.00	0.5162E-02
2350.00	0.1367E-01	4875.00	0.5126E-02
2375.00	0.1348E-01	4900.00	0.5091E-02
2400.00	0.1329E-01	4924.99	0.5056E-02
2425.00	0.1311E-01	4950.00	0.5021E-02
2450.00	0.1293E-01	4975.00	0.4987E-02
2475.00	0.1275E-01	5000.00	0.4953E-02

2500.00   0.1267E-01

********************* AERSCREEN MAXIMUM IMPACT SUMMARY ********************

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	0.6645	0.6645	0.6645	0.6645	N/A

DISTANCE FROM SOURCE   65.00 meters

IMPACT AT THE AMBIENT BOUNDARY	0.3550	0.3550	0.3550	0.3550	N/A

DISTANCE FROM SOURCE   1.00 meters

ATTACHMENT C

Health Risk Calculations

Air Quality Health Risk Calculations (Worst-Case)
Avocado TSM

From CalEE Annual Output	Emission per day (Ton/Total Construction Duration)	**0.0043**
	Construction Start	**1/1/2025**
	Construction Complete	**11/18/2025**
	Days	**321**
	Construction Emission per day (lb/day)	**0.026791277**
	Annual Duration (Days)	**365**
Used as an input to AERSCREEN	Annualized Emission Rate (Grams/Second)	**0.000140468**
	Project Site Size (Acres)	**2.11**
	Project Site Size (meters^2)	**8538.867051**
	Length of Smalles Side (meters)	**92.40599034**
	Concentration Hourly From AERSCREEN (Ug/M^3)	**1.65E-08**
From AERSCREEN Hourly * 0.08 to convert to annual	Concentration Annual (Ug/M^3)	**0.04916**

	Days	Days to years				
Duration	321	0.879452055				
Age (Years)	3rd Trimester (0.25)	0-2	2-9	2-16	16-30	16-70
Cair (annual) - From F15	0.04916	0.04916	0.04916	0.04916	0.04916	0.04916
Breathing Rate per agegroup BR/BW (Page 5-25)	361	1090	861	745	335	290
A (Default is 1)	1	1	1	1	1	1
Exposure Frequency = EF (days/365days)	0.96	0.96	0.96	0.96	0.96	0.96
10^-6 Microgram to Milligram / liters to m3	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
Dose-inh	0.00001704	0.00005144	0.00004063	0.00003516	0.00001581	0.00001369
Construction Days	321	0.879452055				
potency factor for Diesel	1.1	1.1	1.1	1.1	1.1	1.1
Age Sensitivity Factor	10	10	3	3	1	1
ED	0.25	0.879452055	0.879452055	0.879452055	0.879452055	0.879452055
AT	70	70	70	70	70	70
FAH	0.85	0.85	0.72	0.72	0.73	0.73
Risk for Each Age Group	5.6891E-07	6.04276E-06	1.21296E-06	1.04954E-06	1.59499E-07	1.38074E-07
Risk per million Exposed	0.568910421	6.042759976	1.21296096	1.049542294	0.159498862	0.138073641

Cancer Risk Per Million Duration	6.61
Cancer Risk Per Million 30-years	7.82
Cancer Risk Per Million 70-years	**7.80**